HARNESSING RESOURCES, CAPABILITIES, AND STRATEGIES FOR GROWTH: A FRAMEWORK FOR INNOVATION AND PERFORMANCE OF STARTUP COMPANIES IN KERALA

Thesis
submitted to the University of Calicut
for the award of the degree of

Doctor of Philosophy in Commerce

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April 2024

DECLARATION

I hereby declare that the work presented in the thesis entitled "**Harnessing Resources, Capabilities, and Strategies for Growth: A Framework for Innovation and Performance of Startup Companies in Kerala**" is based on the original work done by me under the guidance of Dr. K. Samsudheen, Assistant Professor, Research Department of Commerce and Management Studies, Farook College, and has not been included in any other thesis submitted previously for the award of any degree. The contents of the thesis are undergone plagiarism check using iThenticate software at C.H.M.K. Library, University of Calicut, and the similarity index found within the permissible limit. I also declare that the thesis is free from AI-generated contents.

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Dedication

To my Uppa, Moideen Koya N.P, the reason for what I have become today.

To my dear husband, Amjad Abbas CC, my mother, Fathima K, and my twin sister, Jumaina NP, for being the souls of courage and inspiration in my research journey.

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List of Abbreviations

AIM	Atal Innovation Mission
AMOS	Analysis of Moment Structure
ANOVA	Analysis of Variance
ATL	Atal Tinkering Labs
AVE	Average Variance Extracted
B2B	Business to Business
B2G	Business to Government
CB-SEM	Covariance - Based Structural Equation Modeling
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CIN	Company Identification Number
CR	Composite Reliability
DIC	District Industries centre
DIY	Do it Yourself
DPIIT	Department for Promotion of Industries and Internal Trade
EB	Entrepreneurial Bricolage
EO	Entrepreneurial Orientation
EN	European Nation
EU	European Union
FP	Financial Performance
FY	Financial Year
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFI	Goodness of Fit Indices
IC	Intellectual Capital
IEDC	Innovation and Entrepreneurship Development Cell

IPO	Initial Public Offering
KM	Knowledge Management
KSUM	Kerala Startup Mission
K SWIFT	Kerala Single Window Clearing System
LLP	Limited Liability Partner
LOA	Liability of Adolescence
LON	Liability of Newness
LOS	Liability of Smallness
MCA	Ministry of Corporate Affairs
M-SIPS	Modified Special Incentive Package Scheme
MDPI	Molecular Diversity Preservation International Journal
MGS	Multiplier Grants Scheme
MI	Market Information
MO	Market Orientation
MSME	Micro Small and Medium Enterprises
MSV	Maximum Shared Variance
MVP	Minimum Viable Product
MUDRA	Micro Units Development and Refinancing Agency
NASSCOM	National Association of Software and Service Companies
NBIA	National Business Incubation Association
NC	Networking Capabilities
NGOs	Non-Governmental Organization
NPV	Net Present Value
NRIs	Non-Resident Indians
PGFI	Parsimonious Goodness of Fit Index
PNFI	Parsimonious Normed Fit Index
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
R&D	Research and Development
RBVT	Resource-Based View Theory
RINK	Research Innovation Network Kerala
RMSEA	Root Mean Square Error of Approximation

ROC	Registrar of Company
ROI	Return on Investment
ROT	Resource Orchestration theory
SA	Startup Adaptiveness
SC	Scheduled Caste
SD	Standard Deviation
SETU	Self-Employment and Talent Utilization
SME	Small and Medium Enterprises
SN	Social Network
SPSS	Statistical Package for Social Science
ST	Scheduled Tribe
TBI	Technology Business Incubator
TIDE	Technology Incubation and Development of Entrepreneurs
TLI	Tucker–Lewis's index
TMT	Top Management Team
US	United States
USD	United States Dollar
VC	Venture Capital
VRIO	Valuable Rare Inimitable Organised

Harnessing Resources, Capabilities, and Strategies for Growth: A Framework for Innovation and Performance of Startup Companies in Kerala

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ABSTRACT

Startup companies are crucial for the nation's economic development, employment generation, and innovation processes. In other words, these are the businesses or short-term organisations created to find a repeatable and scalable business model. Due to the limited scale of operations and available infrastructure, startups are forced to concentrate on their intangible resources as a way to ensure competitiveness. A wide range of entrepreneurship theories, including resource-based view theories, resource orchestration theories, social network theory, real options theory, and the theory of liabilities of newness, are used to evaluate the factors that contribute to startup performance. Thus, the current study aims to understand the role of firm resources, entrepreneurial capabilities, and marketing strategies in contributing to startup performance and the ways of handling the liability of newness among startup companies. The study is descriptive and analytical in nature. Data originates from primary and secondary sources. Primary data was gathered by preparing a structured questionnaire distributed to startup founders registered with the Kerala Startup Mission. The study employed simple random sampling techniques and calculated the sample size using Krejcie and Morgan's (1970) formula. As a result, 310 respondents from newly established companies based in Kerala were chosen as sample respondents. The data analysis was performed with the help of statistical packages like IBM SPSS 26.0, AMOS 23.0, and the Stats Tools Package. The various tools like percentages, descriptive statistics, t-tests, ANOVA, correlation, CFA and CB-SEM, mediation (bootstrapping method) analysis, and multigroup analysis. The study found that the characteristics of the founder and the firm significantly influence the development of resources, capabilities, strategies, and various dimensions of startup performance. Financial performance and startup adaptiveness are affected by most of the founder characteristics, while innovation is not impacted. Further, it is confirmed that the accumulation of resources, capabilities, and strategies has a significant impact on reducing internal liabilities. Intellectual capital, entrepreneurial bricolage, dynamic capabilities, and networking capabilities have an impact on both financial

performance and entrepreneurial orientation. In addition to that, entrepreneurial orientation and marketing strategies are identified as contributors to innovation and startup adaptiveness. Moreover, the study revealed that there are significant differences between incubated and non-incubated startups in resources, capabilities, and strategies related to various dimensions of startup performance. The study has implications for founders, the general public, investors, aspiring entrepreneurs, and government bodies. Through this study, founders can engage heavily in building their resources and recognize the intangible assets that their companies possess.

Keywords: *Firm Resources, Entrepreneurial Capabilities, Marketing Strategies, startup Performance, Liability of Newness.*

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ഉറവിടങ്ങൾ, കഴിവുകൾ, വളർച്ചയ്ക്കുള്ള തന്ത്രങ്ങൾ എന്നിവ ഉപയോഗപ്പെടുത്തൽ: കേരളത്തിലെ സ്റ്റാർട്ടപ്പ് കമ്പനികളുടെ നവീകരണത്തിനും പ്രകടനത്തിനുമുള്ള ഒരു ഫ്രെയിംവർക്ക്

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സംഗ്രഹം

രാജ്യത്തിന്റെ സാമ്പത്തിക വികസനത്തിനും തൊഴിലവസരങ്ങൾ സൃഷ്ടിക്കുന്നതിനും നവീകരണ പ്രക്രിയകൾക്കും സ്റ്റാർട്ടപ്പ് കമ്പനികൾ നിർണായകമാണ്. മറ്റൊരു വിധത്തിൽ പറഞ്ഞാൽ, ആവർത്തിക്കാവുന്നതും അളക്കാവുന്നതുമായ (Repeatable and scalable) ബിസിനസ്സ് മോഡൽ കണ്ടെത്തുന്നതിനായി സൃഷ്ടിക്കപ്പെട്ട ബിസിനസുകളോ ഹ്രസ്വകാല ഓർഗനൈസേഷനുകളോ ആണ് ഇവ. പരിമിതമായ പ്രവർത്തനങ്ങളും ലഭ്യമായ അടിസ്ഥാന സൗകര്യങ്ങളും കാരണം, മത്സരക്ഷമത ഉറപ്പാക്കുന്നതിനുള്ള ഒരു മാർഗമെന്ന നിലയിൽ സ്റ്റാർട്ടപ്പുകൾ അവരുടെ അദൃശ്യമായ വിഭവങ്ങളിൽ ശ്രദ്ധകേന്ദ്രീകരിക്കാൻ നിർബന്ധിതരാകുന്നു. വിഭവങ്ങളിൽ അധിഷ്ഠിത വീക്ഷണസിദ്ധാന്തങ്ങൾ, റിസോഴ്സ് ഓർക്കസ്ട്രേഷൻ സിദ്ധാന്തങ്ങൾ, സോഷ്യൽ നെറ്റ്വർക്ക് സിദ്ധാന്തം, റിയൽ ഓപ്ഷൻ സിദ്ധാന്തം, പുതുമയുടെ ബാധ്യതകളുടെ സിദ്ധാന്തം എന്നിവയുൾപ്പെടെ വിപുലമായ സംരംഭകത്വ സിദ്ധാന്തങ്ങൾ സ്റ്റാർട്ടപ്പ് പ്രകടനത്തിന് സംഭാവന നൽകുന്ന ഘടകങ്ങളെ വിലയിരുത്താൻ ഉപയോഗിക്കുന്നു. അതിനാൽ, സ്റ്റാർട്ടപ്പ് പ്രകടനത്തിന് സംഭാവന നൽകുന്നതിൽ കമ്പനിയുടെ വിഭവങ്ങൾ, സംരംഭകത്വ കഴിവുകൾ, വിപണന തന്ത്രങ്ങൾ എന്നിവയുടെ പങ്ക് മനസിലാക്കാനും സ്റ്റാർട്ടപ്പ് കമ്പനികൾക്കിടയിലെ പുതുമയുടെ ബാധ്യത കൈകാര്യം ചെയ്യുന്നതിനുള്ള വഴികൾ മനസ്സിലാക്കാനും നിലവിലെ പഠനം ലക്ഷ്യമിടുന്നു. പഠനം വിവരണാത്മകവും വിശകലനാത്മകവുമാണ്. പ്രാഥമികവും ദ്വിതീയവുമായ ഉറവിടങ്ങളിൽ നിന്നാണ് ദത്തങ്ങൾ ഉത്ഭവിക്കുന്നത്. കേരള സ്റ്റാർട്ടപ്പ് മിഷനിൽ രജിസ്റ്റർ ചെയ്ത സ്റ്റാർട്ടപ്പ് സ്ഥാപകർക്ക് വിതരണം ചെയ്ത ഘടനാപരമായ ചോദ്യാവലി തയ്യാറാക്കിയാണ് പ്രാഥമിക വിവരങ്ങൾ ശേഖരിച്ചത്. പഠനം സിംപിൾ റാൻഡം സാമ്പിൾ ടെക്നിക്കുകൾ ഉപയോഗിക്കുകയും ക്രെജ്സി ആൻഡ് മോർഗന്റെ (1970) ഫോർമുല ഉപയോഗിച്ച് സാമ്പിളുകളുടെ എണ്ണം കണക്കാക്കുകയും ചെയ്തു. തൽഫലമായി, കേരളത്തിൽ സ്റ്റാർട്ടപ്പുകളിൽ നിന്നുള്ള 310 ആളുകളെ സാമ്പിളുകളായി തിരഞ്ഞെടുത്തു. IBM SPSS 26.0, AMOS 23.0, സ്റ്റാറ്റ്സ് ടൂൾസ് പാക്കേജ് തുടങ്ങിയ സ്റ്റാറ്റിസ്റ്റിക്കൽ പാക്കേജുകളുടെ സഹായത്തോടെയാണ് ദത്തങ്ങൾ വിശകലനം നടത്തിയത്. ശതമാനം, വിവരണാത്മക സ്ഥിതിവിവരക്കണക്കുകൾ (Descriptive statistics), ടി-ടെസ്റ്റ്, ANOVA, Correlation,

CFA, CB-SEM, മീഡിയേഷൻ (ബൂട്ട്സ്ട്രാപ്പിംഗ് രീതി) വിശകലനം, മൾട്ടിഗ്രൂപ്പ് വിശകലനം എന്നിങ്ങനെയുള്ള വിവിധ ഉപകരണങ്ങൾ ഉപയോഗിച്ച് ദത്തങ്ങൾ വിശകലനം ചെയ്തു. സ്ഥാപകന്റെയും സ്ഥാപനത്തിന്റെയും സവിശേഷതകൾ വിഭവങ്ങൾ, കഴിവുകൾ, തന്ത്രങ്ങൾ, സ്റ്റാർട്ടപ്പ് പ്രകടനത്തിന്റെ വിവിധ മാനങ്ങൾ എന്നിവയുടെ വികസനത്തെ ഗണ്യമായി സ്വാധീനിക്കുന്നതായി പഠനം കണ്ടെത്തി. സാമ്പത്തിക പ്രകടനവും സ്റ്റാർട്ടപ്പ് പൊരുത്തപ്പെടലും (adaptiveness) മിക്ക സ്ഥാപകസവിശേഷതകളെ ബാധിക്കുന്നു, അതേസമയം നവീകരണത്തെ ബാധിക്കില്ല. കൂടാതെ, വിഭവങ്ങൾ, കഴിവുകൾ, തന്ത്രങ്ങൾ എന്നിവയുടെ ശേഖരണം ആന്തരിക ബാധ്യതകൾ കുറയ്ക്കുന്നതിൽ കാര്യമായ സ്വാധീനം ചെലുത്തുന്നുവെന്ന് സ്ഥിരീകരിക്കുന്നു. ബൗദ്ധിക മൂലധനം, സംരംഭകത്വ ബ്രിക്കോളേജ്, ഡൈനാമിക് കഴിവുകൾ, നെറ്റ്വർക്കിംഗ് കഴിവുകൾ എന്നിവ സാമ്പത്തിക പ്രകടനത്തിലും സംരംഭകത്വ ഓറിയന്റേഷനിലും സ്വാധീനം ചെലുത്തുന്നു. അതിനുപുറമെ, സംരംഭകത്വ ഓറിയന്റേഷനും വിപണന തന്ത്രങ്ങളും നവീകരണത്തിനും സ്റ്റാർട്ടപ്പുകളുടെ പൊരുത്തപ്പെടലിനുമുള്ള സംഭാവനകളായി തിരിച്ചറിയപ്പെടുന്നു. മാത്രമല്ല, ഇൻകുബേറ്റഡ്, നോൺ-ഇൻകുബേറ്റഡ് സ്റ്റാർട്ടപ്പുകൾക്കിടയിൽ വിഭവങ്ങൾ, കഴിവുകൾ, സ്റ്റാർട്ടപ്പ് പ്രകടനത്തിന്റെ വിവിധ മാനങ്ങളുമായി ബന്ധപ്പെട്ട തന്ത്രങ്ങൾ എന്നിവയിൽ കാര്യമായ വ്യത്യാസങ്ങളുണ്ടെന്ന് പഠനം വെളിപ്പെടുത്തി. സ്ഥാപകർ, പൊതുജനങ്ങൾ, നിക്ഷേപകർ, വളർന്നുവരുന്ന സംരംഭകർ, സർക്കാർ സ്ഥാപനങ്ങൾ എന്നിവർക്ക് ഈ പഠനം ഉപയോഗപ്രദമാണ്. സ്ഥാപകർക്ക് അവരുടെ വിഭവങ്ങൾ കെട്ടിപ്പടുക്കുന്നതിൽ വളരെയധികം ഏർപ്പെടാനും അവരുടെ കമ്പനികളുടെ കൈവശമുള്ള അദൃശ്യമായ ആസ്തികൾ തിരിച്ചറിയാനും കഴിയും.

കീവേഡുകൾ: കമ്പനിയുടെ വിഭവങ്ങൾ, സംരംഭകത്വ കഴിവുകൾ, മാർക്കറ്റിംഗ് തന്ത്രങ്ങൾ, സ്റ്റാർട്ടപ്പ് പ്രകടനം, പുതുമയുടെ ബാധ്യത.

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Chapter 1
INTRODUCTION

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1.1. Background of the Study

In the contemporary and highly aggressive business realm, startups and new ventures are forced to engage in innovation as a crucial strategy for strengthening performance and ensuring survival (Ur Rehman et al., 2022). The pursuit of innovation by early-stage startups involves various approaches, such as implementing talent acquisition practices, leveraging social capital (Mukul & Saini, 2021), transitioning to digital platforms (Centobelli et al., 2022), and exploring diversification into different sectors (Chaudhari & Sinha, 2021), etc. Additionally, some startups are explicitly designed with a focus on addressing societal needs and tackling prevailing challenges (Rojas & Tuomi, 2022). Thus, the impact and benefits of startups extend beyond their founders and reach a diverse set of stakeholders, including investors, government entities, corporations, and the general public. Collectively, these stakeholders constitute what is known as the startup ecosystem (Chaudhari & Sinha, 2021). In other words, a startup ecosystem involves collaborative efforts among firms and relevant stakeholders to foster innovation and competitiveness (Flechas et al., 2023). Within this ecosystem, the government plays a crucial role in creating a conducive environment for startups. This involves the approval of incentive policies, the provision of funding, the establishment of business incubators, and the approval of various initiatives to promote entrepreneurship (Font-Cot et al., 2023). By actively participating in the startup ecosystem, the government contributes to shaping a favourable landscape that facilitates the growth and success of startups, ultimately driving economic development and addressing societal challenges.

Nowadays, an entrepreneurial ecosystem of startups and new ventures has emerged in different parts of the world. It should be highlighted that each ecosystem is unique due to a range of factors, including cultural imbalances, governmental regulations,

and the presence of infrastructure in the area (Foster et al., 2013). Among them are Silicon Valley and Brazil, which are distinguished by their success in entrepreneurship development and the use of various tactics for bringing about unforeseen changes in the startup ecosystem (Arruda et al., 2015). The Silicon Valley ecosystem has several distinguishing qualities, such as support from highly regarded universities, liberal government engagement, and the experience of investors and entrepreneurs, which are difficult to imitate (Pique et al., 2018). However, studies found that there is still a gap between developed economies and emerging economies in maintaining effective startup ecosystems due to several factors such as lack of networking capabilities, weak institutional policies, scarcity of resources, etc. (Qoriawan & Apriliyanti, 2022).

Today, India is considered one of the fastest-growing startup ecosystems in the world. In India, the number of startup companies has risen dramatically over just a few years, and they have significantly aided in the progress of the nation (Dinesh et al., 2019). To encourage entrepreneurship in the nation, the Indian government launched the "Startup India Programme" in 2016. It is the Government of India's flagship project, designed to create a robust ecosystem for fostering innovation and startups in the nation, which would foster long-term economic growth and create significant employment opportunities (Startup India, 2016). Startup enterprises gain from this programme in a variety of ways, including the formation of startup hubs for single-point contact, decreasing the regulatory burden of startups, relaxed norms for public procurement, and easy exit for the startups. Additionally, institutional support, fund-of-funds programmes, and support for incubation centres all aid in fostering the growth of their enterprises. Among these, the industry-academia connection brings together founders, educational institutions, business incubators, and innovators at a single point.

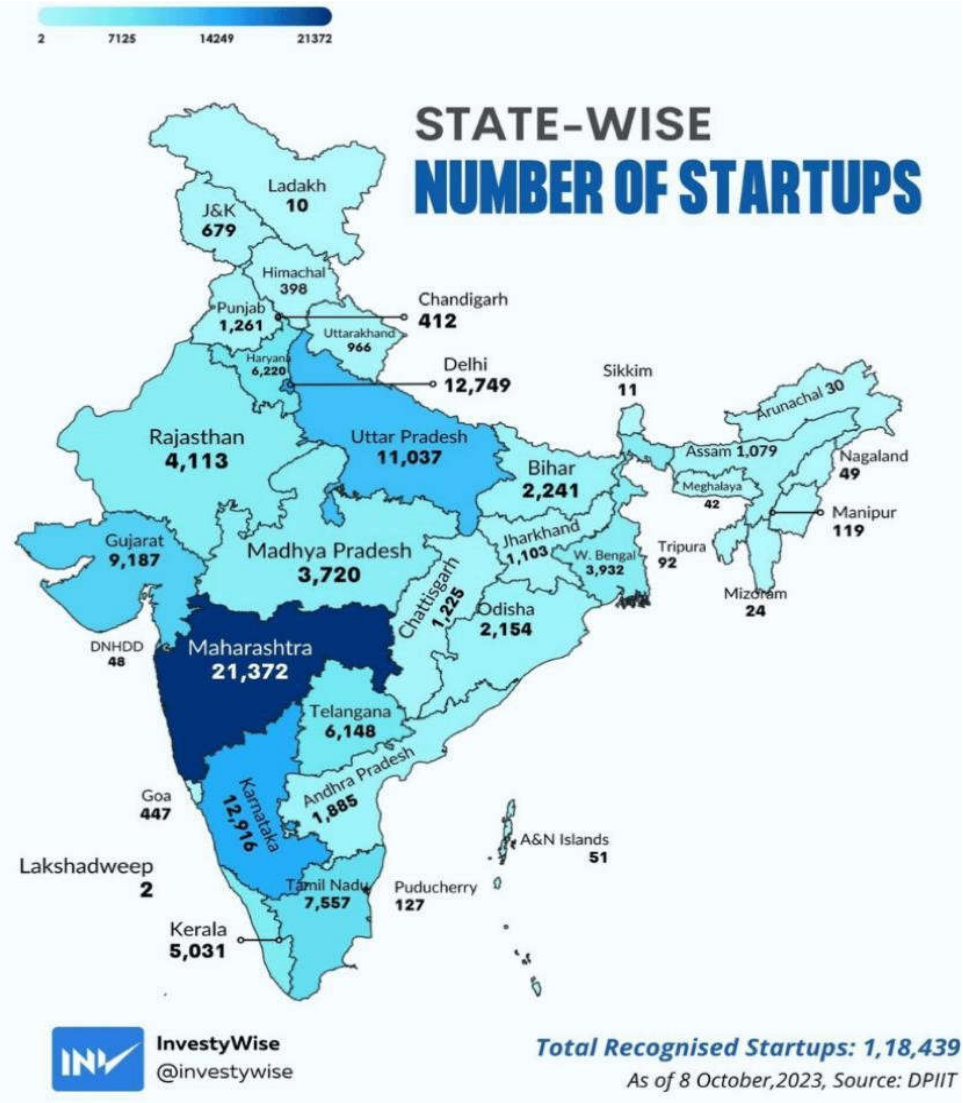
The Government of India has also introduced a range of entrepreneurship promotion programmes, including 'Make in India,' 'Invest India,' and initiatives to enhance the ease of doing business, all of which come under the purview of the Department for Promotion of Industries and Internal Trade (DPIIT). This department offers a unique identification system for startup registration, granting access to a range of facilities

such as tax incentives, liberalised compliance procedures, accelerated processing of intellectual property rights, and more. Indian startups have been showing strong growth potential. According to reports released by the DPIIT, the total number of startups that were recognised increased to 1,18,439 in October 2023 (as indicated in Figure 1.1).

As per the NASSCOM Report 2019, the Indian startup ecosystem has experienced consistent development over time and is ranked as the third-largest startup ecosystem in the world. This growth is prominently driven by the substantial investments received by the companies. Notably, in 2022, Indian startups set a new record by raising $38.3 billion in funding, representing a significant 50% increase compared to the previous year (Your Story Report, 2023). This funding is not only seen in the startup communities; it also creates a lot of employment opportunities, encourages sustainability, and helps businesses start in rural, Tier I, and Tier II regions. Unicorns (start-up businesses valued at over USD 1 billion) are also flourishing in a quick-paced and dynamic economy. Till FY 2016–17, one unicorn was added annually on average. Since the financial year 2017–18, this number has been rising rapidly, with an astounding 66% year-on-year growth in the number of new unicorns added each year. As of May 31, 2023, India is home to 108 unicorns with a total valuation of $ 340.80 billion (www.investindia.gov.in). As a result, the country's education system and the workforce's capacity to create software and information technology solutions both contribute to the growth of startups in India. Additionally, India has a thriving, dynamic, and inclusive startup culture. The different networking events, incubators, and accelerators for startups have promoted a spirit of cooperation, education, and mentoring. Major cities have developed into vibrant startup hubs, attracting talent from all over the country, notably Bengaluru, Mumbai, and Delhi-NCR.

Figure 1.1

Total number of registered startups in India



Source: DPIIT

Recently, the startup community has experienced substantial transformation because of the impact of artificial intelligence techniques and integrated technologies (Giuggioli & Pellegrini, 2022). Especially, robotics firms in India, including "*Genrobotics, Saastra Robotics,* and *Goodfellow,*" have experienced significant growth. These companies applied robotics to address various issues spanning agriculture, human well-being, and societal challenges. Furthermore, numerous examples exist where startups extend their operations into diverse sectors, such as

Meesho in online shopping, *Swiggy* in food delivery, *Entri* in education technologies, and *Phone Pay* in digital payment systems, etc. These businesses have become seamlessly embedded in our daily lives, demonstrating the widespread influence of technology-driven entrepreneurs in several industries.

As Kerala is considered, the Kerala Startup Mission is the most prominent agency of the Government of Kerala for fostering entrepreneurship in the state. They encourage aspiring entrepreneurs to expand their operations through a variety of activities, including investor connections, seed funding, pitching events, etc. Assistance is promised at every level, and most recently, a new programme was launched to establish connections with Kerala startups and other countries. With the help of these "startup infinity programmes," NRIs and entrepreneurs from Kerala can launch businesses in their home state and abroad. As a result, this kind of activity may be observed throughout Kerala's startup ecosystems. One of the Neo-banking platforms called "Open," which is included in the Unicorn list is the only firm from Kerala that has a valuation above 1 billion USD. Recently, quite a few firms received funding from angels and venture capitalists based on their ability to create value and uniqueness. One of them, a digital health company, was successful in raising Rs 16.50 crore in an early fundraising round to assist in the development of standardised and reasonably priced hospital networks. Like this, the ed-tech company Interval raised 2.25 crores during its pre-seed round of funding. The Interval can immediately expand its networks to at least 30 countries, including the GCC nations.

Therefore, it is evident from the above-mentioned details that Kerala and the startup environment globally are seeing significant advancements. This is the result of all the players in the startup ecosystem working together, particularly the founders or co-founders who contribute their skills, abilities, and strategies to help their businesses flourish. Therefore, it is crucial to study the numerous success criteria that determine a venture's likelihood of success as well as the unique hurdles that Kerala startups face.

1.2. Statement of Problem

Startup companies are crucial for the nation's economic development (Shim, 2020), employment generation (Toole et al., 2015), and innovation processes (Spender et al., 2017). The studies of Salamzadeh and Kawamorita (2017) embraced the well-known definition of Avnimelech and Teubal (2006), which characterises startups as young, high-tech businesses whose major activity is to deal with a new venture idea up to the initial sales period, which typically lasts between one and five years. In other words, these are the businesses or short-term organisations created to find a repeatable and scalable business model. However, a performance evaluation model for startup companies in current academic communities is essential. Due to the limited scale of operations and available infrastructure, startups are forced to concentrate on their intangible resources as a way to ensure competitiveness (Fang et al., 2021). A wide range of entrepreneurship theories, including resource-based view theories (Davis & DeWitt, 2021), resource orchestration theories (Pizzolitto & Verna, 2022), social network theory (Liu et al., 2017), real options theory (Hackett & Dilts, 2004), and the theory of liabilities of newness (Abatecola et al., 2012), are used to evaluate all the factors that contribute to startup performance. In the first section, the researcher evaluated the Resource-Based View Theory (RBVT) of entrepreneurship to comprehend how firm resources contribute to the success of startups. The resource-based view (RBV) offers a framework for examining how a firm's diverse resources contribute to the development and maintenance of competitive advantage. As a result, it is frequently employed to address the fundamental question of how entrepreneurial firms allocate their resources to gain competitive advantages (Zahra, 2021). In doing so, the researcher discovered two firm resources: entrepreneurial bricolage (Sivathanu & Pillai, 2019) and intellectual capital (Matricano, 2016). Therefore, the researcher looked into how these firm resources (intellectual capital and entrepreneurial bricolage) affected the new enterprises' financial performance and entrepreneurial orientation.

Second, the Resource Orchestration Theory (ROT) was added as an extension of the Resource-Based View, describing the founder’s or manager’s role in developing

capabilities and employing resources to obtain a competitive advantage. Managers' ability to transform resources into valuable products is thereby enhanced by resource orchestration theory (Sirmon et al., 2007). Because of this, the current study assumes that all these internal strategic resources, capabilities, and strategies are expanded through effective management, and that can ultimately lead to financial performance (Xu & Wang, 2018), innovation (Schoemaker et al., 2018), and adaptability (Yu et al., 2020). To do this, the researcher reviewed the literature and found two marketing strategies: market information acquisition strategies (Parry & Song, 2010) and market orientation strategies (Presutti et al., 2023). Three capabilities were also identified, including knowledge management capabilities (Ahmed et al., 2021), dynamic capabilities (Teixeira et al., 2021), and networking capabilities (Mu, 2013). Thus, we looked into whether capabilities and strategies affect startup adaptability, financial performance, and innovation. Third, the theory of social networking is predicated on the notion that recently founded businesses learn their values and information in a communal setting (Liu et al., 2017).

Fourth, real-option theories about business incubators are examined. According to this theory, business incubators are specialised organisations that assist enterprises in creating value by evaluating the operations of new companies at every step and guaranteeing their survival (Hackett & Dilts, 2004). Due to a lack of resources, start-up companies rely on their local community for essential resources for their development and expansion (Adel et al., 2020). Consequently, Mujahid et al. (2019) found that both external and internal factors are necessary for entrepreneurial endeavours to be successful. Internal factors include the founder's capabilities and business management strategies, while external factors include the entrepreneurial ecosystem. According to Ebbers (2014) and Wu et al. (2020), startups that are nurtured and incubated in business incubators have greater success rates because they facilitate networking with many stakeholders in the startup ecosystem. Incubators create innovation in start-up companies by offering them physical space, technical support, and investor connections (Sedita et al., 2018). Thus, the current study assessed whether the established model differs between Kerala startups that are incubated and those that are not to determine which groups are making greater contributions.

Finally, newly established enterprises confront numerous challenges known as the liability of newness. The academic literature widely acknowledges this theory of liability of newness (Dibrell et al., 2009; O'Toole & Ciuchta, 2019). The origin of LON comes from Schumpeter, who states that the liabilities may be internal or external. Therefore, overcoming these liabilities is essential for the development and launch of ventures. Consequently, it is feasible to evaluate the performance and liabilities of a new company from the perspective of its founders. Thus, the study will provide insights into how startup companies can manage the risks associated with being new, develop strategies for balancing resources, capabilities, and strategies to contribute to the success of their ventures, and investigate whether institutional involvement influences founders' strategies and capabilities. As a result, the following research questions can be derived from the literature review:

1. How do the demographic profile of founders and the characteristics of their startups impact firm resources, entrepreneurial capabilities, and marketing strategies, and how do these factors collectively influence the entrepreneurial orientation and overall performance of startup companies in Kerala?
2. How do the characteristics of founders and startups, entrepreneurial capabilities, firm resources, and marketing techniques affect startup companies' ability to mitigate the risk of being new?
3. To what extent do firm resources and entrepreneurial capabilities contribute to the entrepreneurial orientation and financial performance of startup companies in Kerala?
4. How is the inter-relationship of entrepreneurial orientation, firm resources, entrepreneurial capabilities, and financial performance, and whether there are any mediating effects?
5. To what extent do the entrepreneurial orientation and marketing strategies of startup founders contribute to innovation and startup adaptiveness?
6. Is there any group difference among firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performance among incubated and non-incubated startups in Kerala?

1.3. Significance of the Study

Nowadays, Kerala startups are attracting the world's attention. Kerala was named the top performer in the fourth edition of the States' Startup Ranking in January 2024. This is the third time Kerala has held this position. The reviewers highlight several factors that contributed to being the recipient of this award, including the involvement of rural areas in startup operations and the investor connector programmes launched by Kerala Startup Mission. Furthermore, between 2019 and 2022, the number of startup registrations is also rising, going from 2200 to 5000. As per the Kerala Startup Policy 2014, emphasis is placed on strengthening strategic technologies and fostering innovation by allocating resources towards research and development. Furthermore, public-private collaborations are maintained in incubation facilities through the establishment of business incubation centres (Kerala Startup Policy, 2014). Thus, to accomplish this objective, a strong startup ecosystem made up of competent human resources, their capabilities, and institutional backing is needed.

Strategic management scholars are constantly trying to figure out the strategies that startups and new ventures use to grow (Fiorentino et al., 2020; Fu et al., 2020). Numerous studies have determined the socioeconomic background of founders (Bandera & Thomas, 2019; Unger et al., 2011) and their capacity to foster innovation and competition. But in the modern era, market fluctuations happen more frequently than anticipated, and startup companies must adapt to such dynamic markets and future demands (Kongrode et al., 2023). Additionally, compared to more established businesses, newly established ventures sometimes lack the financial and other physical resources necessary to succeed. As a result, to survive in a competitive market, they may place a greater emphasis on intangible resources and capabilities (Mu, 2013; Schoemaker et al., 2018). The resource-based view literature was expanded by adding important new causal mechanisms, enriching the understanding of how founders' ability to utilise resources affects new venture growth. It is also important to identify the market information and marketing research done before the

implementation of their product to get a better insight into the market (Song et al., 2009).

Thus, the current study is expected to provide valuable insights for policymakers, startup founders, funding agencies, and aspiring entrepreneurs. The findings of this study can offer practical guidance to professionals and policymakers by illuminating the factors influencing the success of new ventures and how these factors interact with each other. These results can also serve as useful signals for business owners and managers who operate in rapidly changing and resource-constrained environments. By identifying the key factors influencing startup performance, venture capital firms and financial agencies can make more informed investment decisions. Finally, this study offers valuable insights to aspiring entrepreneurs, helping them to understand the essential process and action plan necessary for adaptability and innovation before launching their ventures.

1.4. Scope of the Study

The current study is built within the below-mentioned boundaries and scope:

1. The scope of the data used in the study includes primary data. For the primary data analysis, data was gathered from startup founders who registered in the Kerala Startup Mission between 2010 and 2020. Both incubated and non-incubated startups make up the respondents.

2. Those who responded on behalf of incubated startups comprised both those who were still in incubation and those who graduated from incubation centers. Startups that are not part of any incubation programmes are referred to as non-incubated startups.

3. The subject matter covered in the current study is broken down into four separate sessions. The first one deals with identifying the startup and founder characteristics that have an impact on the firm's resources, capabilities, marketing strategies, and various dimensions of startup performance. The second consists of

strategies for managing the risk of newness. The third consists of firm resources, capabilities, and marketing strategies that contribute to financial performance, innovation, and adaptiveness. The final component consists of the moderating impact of these models on startup communities in incubators and those outside of incubation centres.

4. Respondents in the study were only allowed to work in the software, hardware, ed-tech, and health-tech industries, and they had to register as private limited companies, limited liability partnerships, or partnership firms. They also had to be in the validation, early traction, and scaling stages of development, except for startups still in the ideation stage.

5. The scope of variables being studied encompasses intellectual capital and entrepreneurial bricolage as resources within firms, while knowledge management capabilities, dynamic capabilities, and networking capabilities are regarded as entrepreneurial capabilities. Additionally, marketing orientation and market information acquisition are considered strategies in marketing. These variables are all considered independent. Meanwhile, startup adaptability, innovation, and financial performance serve as the dependent variables, with entrepreneurial orientation acting as the intervening variable.

As a result, this research aims to determine how capabilities, resources, and marketing strategies affect key aspects of startup performance for startups in Kerala as a whole as well as separately for both incubated and non-incubated companies in Kerala.

1.5. Objectives

The primary goal of the current study is to analyse the numerous factors that influence startup performance and to handle the particular challenges that newly formed enterprises encounter. To achieve this fundamental objective, the following objectives have been established:

1. To investigate the impact of **firm and founder characteristics** on firm resources, entrepreneurial capabilities, marketing strategies, and various aspects of startup performance.

2. To assess the collective influence of founder and startup characteristics, firm resources, entrepreneurial capabilities, and marketing strategies on **handling the liability of newness** among startup companies.

3. To investigate the extent to which **firm resources and entrepreneurial capabilities** influence the entrepreneurial orientation and financial performance of startup companies.

4. To examine the mediating role of **entrepreneurial orientation** in the relationship between firm resources, capabilities, and financial performance among startups.

5. To identify the role of **entrepreneurial orientation** and **marketing strategies** and their contributions to fostering innovation and enhancing the adaptability of startup companies.

6. To predict the difference in a model on the effect of firm resources, capabilities, and marketing strategies on various aspects of startup performance among **incubated and non-incubated** startups in Kerala.

1.6. Variables Used for the Study

The main purpose of the study is to respond to the following fundamental question: What are the factors affecting startup performance, how may business incubators and entrepreneurial orientations moderate and mediate these relationships, and how do startup companies handle these liabilities? A detailed explanation of each variable taken into account in the current study is provided in Table 1.1.

Table 1.1

Variables Used for the Study

Purpose	Name of variable	Description
Firm resources	1. Intellectual capital	Intellectual capital is the sum of every resource and piece of knowledge used to gain an edge over competitors. It consists of human, relational, and structural capital (Nguyen, 2018)
	2. Entrepreneurial bricolage	Making use of resources that are already accessible to seize new possibilities (Ning et al., 2020)
Entrepreneurial capabilities	1. Knowledge Management	It involves integrating implicit and explicit knowledge into an organisational framework to achieve the desired outcome. According to Chiu and Chen (2016), both KM infrastructures and processes contribute to improved organisational performance.
	2. Dynamic capabilities	The company's capacity to respond to a competitive market environment is known as its dynamic capabilities (Schoemaker et al., 2018).
	3. Networking capabilities	The capacity of businesses to use networks and social ties for resource allocation, opportunity detection, and exploitation (Mu, 2013)
Marketing strategies	1. Market Information Acquisition	The process of gathering data about customers and competitors to improve business performance and make marketing decisions (Song et al., 2010)
	2. Marketing orientation	The firm can anticipate market changes and scan competitor action to contribute to superior performance(Kropp et al., 2006)
Intervening variable	1. Entrepreneurial orientation	Entrepreneurial orientation is the strategic action taken by the firm to make sound managerial decisions, and it is in the form of innovativeness, risk-taking, and pro-activeness (Musthofa et al., 2017)

Purpose	Name of variable	Description
Liability of newness	1. Internal liability of newness	New ventures experience internal and external challenges due to lacking resources and branding. (Ulvenblad et al., 2013)
	2. External liability of newness	New ventures experience internal and external challenges due to lacking resources and branding. (Ulvenblad et al., 2013)
Dimensions of Startup Performance	1. Financial performance	Financial performance (5-point Likert scale items)
	2. Startup adaptiveness	Startup adaptiveness (5-point Likert scale items)
	3. Innovation	Innovation (5-point Likert scale items)
Founder characteristics	1. Age	Age of respondents (Below 20,20-25,25-30,30-35 and above 35)
	2. Gender	Gender of the respondent (Male and Female)
	3. Educational qualification	Educational qualification (graduated from arts and science colleges, IITs/NITs, IIMs, and others.
	4. Previous experience	Previous experience (zero, 1-3, 3-5, and above 5)
Firm-level characteristics	1. Sector	Sector (information technology, Edu-tech, health-tech, hardware, and others)
	2. Year of establishment	Year of establishment (before 2015, 2015-16, 2016-17,2017-18, and after 2018)
	3. Legal form	Legal form (Private limited company, partnership firm, or limited liability partnership firm)
	4. Number of employees	Number of employees (Below 10, 10-20, 20-30, 30-40, 40-50, and above 50)
	5. Business incubation	Business incubation (Yes or No)
	6. Funding sources	Funding sources (Own funding, seed money, friends and family, and angel investment or VC)
	7. Motivation	Motivation (Job security, wealth maximization, creating income and serving the society)

Source: Primary

1.7. Operational Definition of the Terms Used.

The operational definitions of the various terms used in the study are provided in this section. In-depth justifications are provided below.

Startups and New Ventures

A startup refers to any business that meets the following criteria:

1. Incorporation as a Private Limited Company, Limited Liability Partner, or Partnership Firm

2. Annual turnover of less than 100 crores in any of the financial years;

3. Focus on product innovation or improvement and the creation of wealth and jobs.

Firm Resources

The numerous strategic and intangible resources that are available for the operation of newly formed companies are referred to as firm resources. In this study, firm resources consist of both entrepreneurial bricolage and intellectual capital.

Entrepreneurial Capabilities

Entrepreneurial capabilities in the current study consist of knowledge management capabilities, dynamic capabilities, and networking capabilities. These are essential for firms to create value and contribute to innovation.

Marketing Strategies

Marketing strategies consist of both market information acquisition practices and market orientation.

RBVT

The Resource-Based View Theory (RBVT) of entrepreneurship is based on the firm's capacity to produce distinctive and transferable resources that improve the performance and competitiveness of new ventures.

LON

The term "liability of newness" (LON) describes the early challenges that newly-found businesses experience in competing with established corporations. This theory offers an in-depth approach to estimating startup survival chances.

KSUM

It is the main government organisation responsible for fostering entrepreneurship in Kerala. It serves as a platform for putting startup policy into practice and distributes funds to different startup communities and beneficiaries.

Startup Performance

In this study, startup performance refers to a firm's ability to generate innovation, its financial performance, and its startup adaptability. In other words, these are the indicators used to measure the growth of new ventures.

Incubators

Incubators are specialised organisations that promote companies by providing resources, including physical space and library facilities, as well as coaching, legal counselling, and technical expertise, to help entrepreneurs launch their businesses.

1.8. Hypotheses

The following section describes the objective -wise hypotheses formulated for the study. A detailed explanation of each sub-hypothesis is explained in the analysis chapter 4.

Hypotheses for Examining the Impact of Firm and Founder Characteristics on Firm Resources, Capabilities, Strategies, and Various Aspects of Startup Performance

H1: There is a significant difference between male and female firm resources, entrepreneurial capabilities, and marketing strategies.

H2: There is a significant difference among age groups and firm resources, entrepreneurial capabilities, and marketing strategies.

H3: There is a significant difference between educational qualifications, firm resources, entrepreneurial capabilities, and marketing strategies.

H4: There is a significant difference between prior experience and firm resources, entrepreneurial capabilities, and marketing strategies.

H5: There is a significant difference between incubation based on firm resources, entrepreneurial capabilities, and marketing strategies.

H6: There is a significant difference between legal forms of business in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H7: There is a significant difference among the number of employees in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H8: There is a significant difference among sectors in firm resources, entrepreneurial capabilities, and marketing strategies.

H9: There is a significant difference among funding sources in firm resources, entrepreneurial capabilities, and marketing strategies.

H10: There is a significant difference between motivation and firm resources,

H11: There is a significant difference between males and females in innovation, financial performance, and adaptiveness.

H12: There is a significant difference among educational qualifications in innovation, startup adaptiveness, and financial performance.

H13: There is a significant difference among prior experience on innovation, startup adaptiveness, and financial performance.

H14: There is a significant difference between incubation and innovation, startup adaptiveness, and financial performance.

H15: There is a significant difference among the number of employees in terms of innovation, startup adaptiveness, and financial performance.

H16: There is a significant difference among sectors in innovation, startup adaptiveness, and financial performance.

H17: There is a significant difference among funding sources on innovation, startup adaptiveness, and financial performance.

H18: There is a significant difference between motivation for innovation, startup adaptiveness, and financial performance.

Hypotheses for Assessing the Collective Influence of Founder and Startup Characteristics, Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Handling the Liability of Newness Among Startup Companies.

H19: There is a significant difference between educational qualifications and internal and external liability for newness.

H20: There is a significant difference between prior experience and the internal and external liabilities of newness.

H21: There is a significant difference between business incubation and internal and external liability for newness.

H22: There is a significant difference between the year of establishment and the internal and external liabilities of newness.

H23: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the internal liability of newness.

H24: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the external liability of newness.

Hypotheses for Investigating the Extent to Which Firm Resources and Entrepreneurial Capabilities Influence the Entrepreneurial Orientation and Financial Performance of Startup Companies.

SM.H1: There is a positive relationship between intellectual capital and the financial performance of startup companies.

SM.H2: Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.

SM.H3: Knowledge management has a positive influence on the financial performance of startup companies.

SM.H4: The higher the dynamic capabilities of startup founders, the higher their financial performance.

SM.H5: There is a positive relationship between networking capabilities and the financial performance of startup companies.

SM.H6: There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.

SM.H7: Intellectual capital has a positive influence on the entrepreneurial orientation of startups.

SM.H8: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startups.

SM.H9: There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.

SM.H10: The higher the dynamic capabilities of startup founders, the higher the entrepreneurial orientation towards startups.

SM.H11: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards startups.

Hypotheses for Identifying the Role of Entrepreneurial Orientation and Marketing Strategies and Their Contributions to Fostering Innovation and Enhancing the Adaptability of Startup Companies.

SM.H12: The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.

SM.H13: Entrepreneurial orientation positively contributes to startup adaptiveness.

SM.H14: Marketing orientation positively contributes to innovation in startup companies.

SM.H15: There is a positive relationship between market orientation and startup adaptability.

SM.H16: The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.

SM.H17: The higher the market information acquisition, the higher the startup adaptability.

Hypotheses for Examining the Mediating Role of Entrepreneurial Orientation in the Relationship Between Firm Resources, Capabilities, and Financial Performance Among Startups.

MED.H1: Entrepreneurial orientation mediates the relationship between intellectual capital and the financial performance of startup companies.

MED.H2: Entrepreneurial orientation mediates the relationship between entrepreneurial bricolage and the financial performance of startup companies.

MED.H3: Entrepreneurial orientation mediates the relationship between knowledge management capabilities and the financial performance of startup companies.

MED.H4: Entrepreneurial orientation mediates the relationship between the dynamic capabilities and financial performance of startup companies.

MED.H5: Entrepreneurial orientation mediates the relationship between networking capabilities and the financial performance of startup companies.

Hypotheses for Predicting the Difference in a Model on the Effect of Firm Resources, Capabilities, and Marketing Strategies on Various Aspects of Startup Performance Among Incubated and Non-Incubated Startups in Kerala.

MG.H1: Business Incubation Has a Significant Impact on the Relationship among Firm Resources, Capabilities, Marketing Strategies, and Various Dimensions of Startup Performance

MG.H1a: Business incubation moderates the relationship between intellectual capital and entrepreneurial orientation.

MG.H1b: Business incubation moderates the relationship between entrepreneurial bricolage and entrepreneurial orientation.

MG.H1c: Business incubation moderates the relationship between knowledge management and entrepreneurial orientation.

MG.H1d: Business incubation moderates the relationship between networking capabilities and entrepreneurial orientation.

MG.H1e: Business incubation moderates the relationship between entrepreneurial bricolage and financial performance.

MG.H1f: Business incubation moderates the relationship between networking capabilities and financial performance.

MG.H1g: Business incubation moderates the relationship between knowledge management and financial performance.

MG.H1h: Business incubation moderates the relationship between dynamic capabilities and financial performance.

MG.H1i: Business incubation moderates the relationship between market information acquisition and startup adaptiveness.

MG.H1j: Business incubation moderates the relationship between market orientation and startup adaptiveness.

MG.H1k: Business incubation moderates the relationship between market information acquisition and innovation.

MG.H1l: Business incubation moderates the relationship between market orientation and innovation.

MG.H1m: Business incubation moderates the relationship between entrepreneurial orientation and financial performance.

MG.H1n: Business incubation moderates the relationship between entrepreneurial orientation and innovation.

MG.H1o: Business incubation moderates the relationship between entrepreneurial orientation and startup adaptiveness.

MG.H1p: Business incubation moderates the relationship between intellectual capital and financial performance.

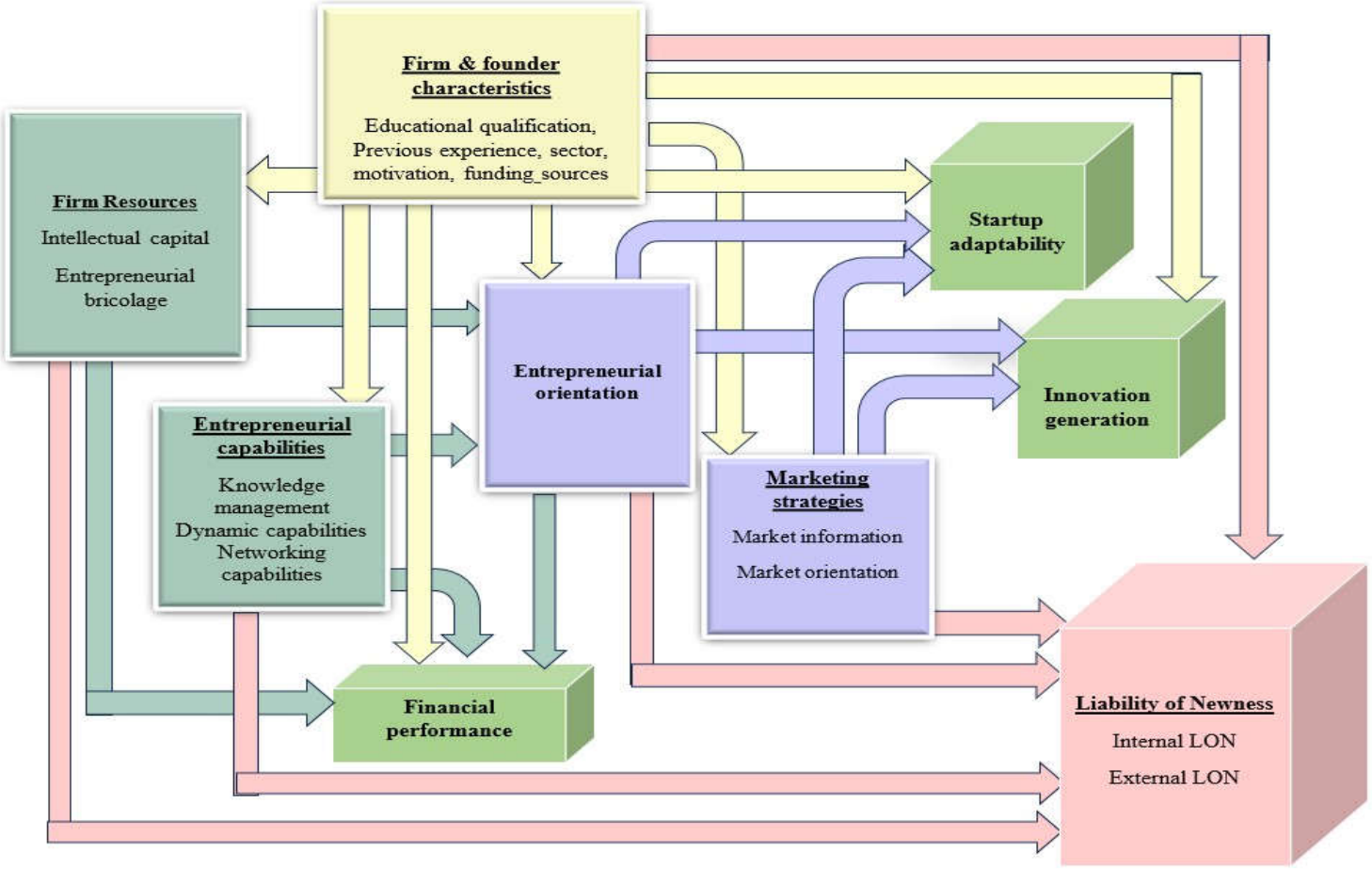
MG.H1q: Business incubation moderates the relationship between dynamic capabilities and entrepreneurial orientation.

1.9. Conceptual Framework

The following conceptual model is constructed based on prior research on entrepreneurship and new businesses. The theoretical framework and variables employed in the investigation are represented by a conceptual model. It illustrates how the independent, dependent, and intervening variables are related. The conceptual framework of the study is described in Figure 1.2.

Figure 1.2

Conceptual Framework



1.10. Research Methodology

Research methodology outlines the steps to be taken to explore, collect, and analyse data to address the research problem. It also outlines the study's various methodologies and limitations. The methodologies employed in the current study are as follows:

1.10.1. Research Design

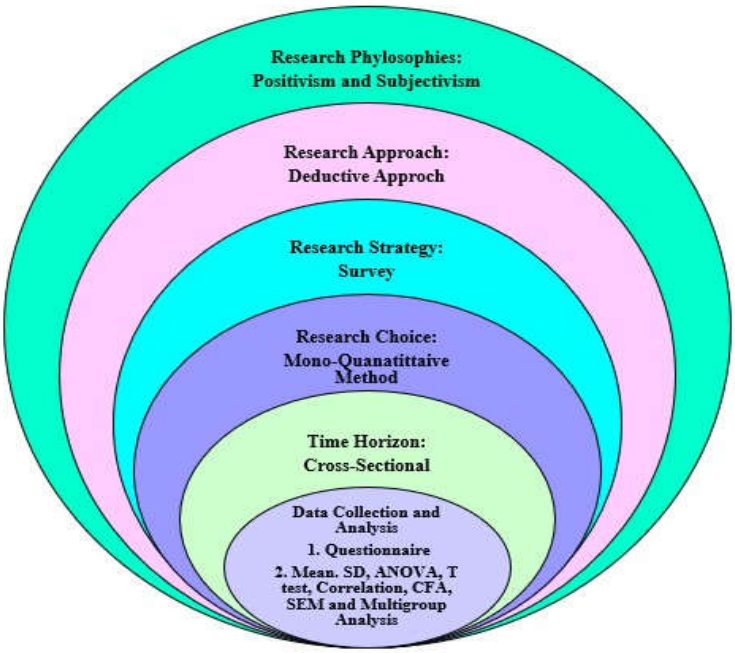
The current study is both descriptive and analytical. It is descriptive because it is fact-finding research that concentrates on specific aspects of the issue by assembling descriptive data. It is possible to classify the study as an analytical study because statistical techniques are used to analyze the quantitative data.

1.10.1.1. Research Onion

The research onion model of the current research is depicted in Figure 1.3, and the detailed explanation of each layer is explained in Table 1.2.

Figure 1.3

Research Onion



The research onion, introduced by Saunders et al., in 2009, serves as a systematic approach to conducting research. This framework summarises the necessary questions

that researchers must address throughout their research process. It comprises six layers, namely research philosophies, research approach, research strategies, research choices, time horizon, and procedures for data collection and analysis. In other words, research onion outlines the various stages passed by the researcher while conducting research.

Table 1.2

Layers of Research Onion

Sl. No.	Name of Layer	Explanation	Layer applicable to the current study
1	Research Philosophy	These are the assumptions or beliefs the researcher held while conducting the research. It consists of 1. **EPISTEMOLOGY**: Epistemology refers to the assumptions concerning human knowledge. In the research process, it responds to how. There are three approaches to epistemology: interpretivism, realism, and positivism. Testing theories or research questions drawn from the body of current knowledge is the foundation of **positivism**. However, **realism** contends that a continuous approach is necessary for the reliability of research and does not endorse the scientific method. Qualitative analysis is the foundation of **interpretivism.** 2. **ONTOLOGY:** it is a researcher's assumption about the nature of reality. There are two parts to it: subjectivism and objectivism. **Objectivism** explains a social event and carries multiple meanings for different individuals. **Subjectivism** is a social phenomenon that results from social actors' perceptions and actions. 3. **AXIOLOGY:** These assumptions concern what is important and worthwhile in the research, or how much the researcher's values impact the research process.	According to Saunders et al (2009)'s assessment of research philosophies, the current study is positivist from an epistemological perspective because it employs quantitative measurement, data collection, and hypothesis testing. Additionally, it assesses perception and falls under the category of an ontology-related subjective measure.

Sl. No.	Name of Layer	Explanation	Layer applicable to the current study
2	Research Approach	The approaches can be classified as either deductive or inductive. In the deductive method, the researcher first identifies theories, then develops hypotheses, chooses evidence, and draws conclusions. However, inductive approaches begin with data collection and proceed to develop theory.	In the current study, a deductive method is used; first, theories are identified, after which hypotheses are formulated, facts are chosen, and generalisations are made.
3	Research Strategy	The research strategy outlines the researcher's intended course of action. There are various research strategies, including case studies, ethnographies, action research, survey design, experimental design, and narrative inquiry.	In this study, a survey is carried out since the survey uses a deductive approach and answers questions such as what, how, where, and when.
4	Research Choice	**A. Mono Method**: single data collection method along with data analysis techniques. It may be either quantitative or Qualitative. **B. Multi-Method:** used various combinations of methods for gathering data **C. Mixed Method:** Consists of the combination of quantitative and qualitative methods.	In this study, the mono-quantitative approach was taken into consideration. Data was gathered once using a questionnaire, and quantitative methods were used for data analysis.
5	Time Horizon	There are two ways to categorize the time horizon: **longitudinal and cross-sectional.** In a cross-sectional study, the respondent is contacted by the researcher only once. Repeated data collection from the same respondents is done in longitudinal methods.	This study uses a cross-sectional temporal horizon, with the responder having a single point of contact.
6	Data Collection & Analysis Method	It comprises the methodology used by the researcher to collect and analyze data.	A questionnaire is utilized to collect data for the survey-based study. ANOVA, mean, SD, t-test, correlation, SEM, and multigroup analysis constitute the tools used.

Source: Researcher

1.10.2. Sources of Data

Data originate from the primary and secondary sources.

A. Primary Data

A structured questionnaire that was distributed to startup founders enrolled in the Kerala Startup Mission was used to gather primary data.

B. Secondary Data

The secondary data were gathered from a range of publications, including journals, websites, magazines, and reports. The various sources of secondary data are as follows:

- Linked in profiles
- Website of Kerala Startup Mission
- Startup India website
- Annual Report published by Kerala Startup Mission
- Inc42 Reports
- Magazines
- Blogs
- NASSCOM Report
- Research Dissertation and Theses
- Invest India Website
- Department for Promotion of Industries and Internal Trade (DPIIT) Website
- Crunchbase Database

1.10.3. Sampling Design

The proportionate stratified sampling method was used in this study. With this approach, every sample component has an equal chance of being used. As a result, randomness can be ensured.

1. **Population**

The population of the study consists of the startup enterprises registered in the Kerala Startup Mission (KSUM). As of March 31, 2021, 2287 startup companies were

operating in the selected sectors, according to information kept by the Kerala Startup Mission. Each year, the Kerala Startup Mission updates the details of startups registered in Kerala. Thus, it is considered a reliable source of data.

2. **Determination of Sample Size**

By using the US National Education Association Statistical Table and method by Krejcie and Morgan (1970), the sample size for startup companies is calculated. The following formula is used to determine the sample size;

$$S = \frac{\chi^2 NP(1-P)}{d^2(N-1) + \chi^2 P(1-P)}$$

Where, S = Sample size to be determined

N = Population Size

χ 2 = Chi-Square value (At 95% confidence level with 1 degree of freedom)

d = Margin of error (at 95% confidence level is 0.05)

P = Population Proportion (50% of the Population i.e., 0.5). Thus, the sample size of startup companies is as follows;

$$\frac{3.84 \times 1528 \times (1-0.5) \times 0.5}{(0.05)^2 \times (1528-1) + 3.84 \times 0.5 \times (1-0.5)}$$

$$\frac{1466.88}{0.0025 \times 1527 + 3.84 \times 0.25}$$

$$\frac{1466.88}{4.77}$$

307(Three Hundred and Seven)

3. Sampling Method and Procedure

The selection of sampling method and procedures are explained in the following three stages; the first stage involves selecting sample districts, followed by determining the number of samples from each district, and finally, selecting sample startup founders.

A. Selection of Sample Districts

Kerala has been divided into three zones, with the south comprising Idukki, Kottayam, Alappuzha, Pathanamthitta, Kollam, and Thiruvananthapuram; the central zone including Malappuram, Palakkad, Thrissur, and Ernakulum; and the north zone including Kasargod, Kannur, Wayanad, and Kozhikode. A sample district has been chosen from each zone. Following this, Thiruvananthapuram from the south, Ernakulum from the central, and Kozhikode from the north zone were chosen due to their dominance based on the number of startups registered in Kerala.

B. Selection of the Number of Samples from Each District

For this purpose, the researcher calculated the sample size using Krejcie and Morgan's (1970) formula. As a result, 310 respondents from newly established companies based in Kerala were chosen as sample respondents. For that, 101 startup entrepreneurs from the Thiruvananthapuram district (south zone) were chosen. Similar to this, 150 founders were chosen from the Ernakulum region (central zone). There are 59 people in the sample taken from the Kozhikode district (North Zone). Details about the sample that was selected from the population are shown in Table 1.3.

Table 1.3

Table Showing Sample Proportion

	Thiruvananthapuram	Ernakulam	Kozhikode	Total
Population	488	750	290	1528
Sample	101	150	59	310
Percentage	32.5	48.38	19.03	100

Source: Primary

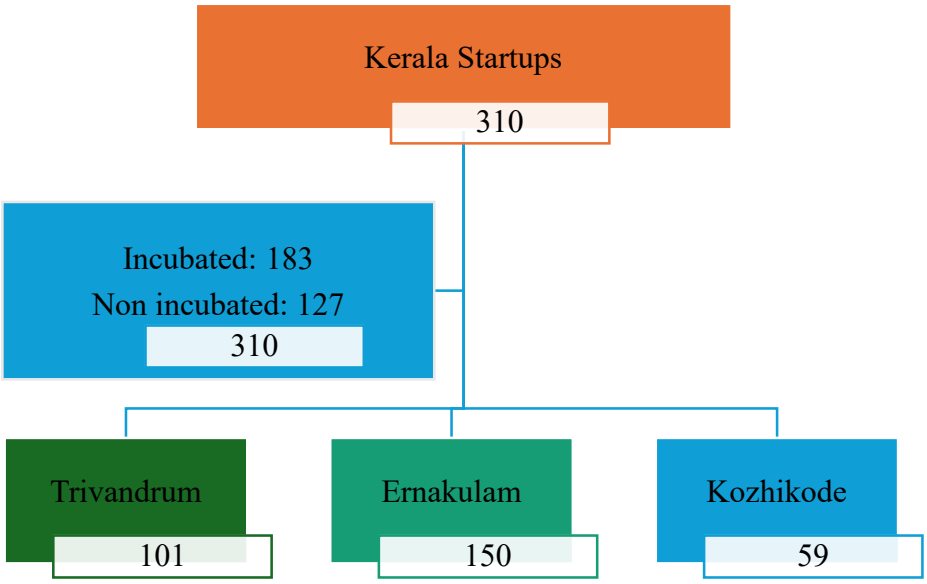
C. Selection of Sample Startup Founders

While selecting the sample respondents, special care was taken to give due representation to different startup companies. Given the size of the population, simple random sampling was used to choose samples by applying random numbers (created by Kendall & Smith, Fisher & Yates, and Tipper). Numbers were given to the total population of startup companies. The required number of samples was collected using

a simple random sampling method applying computer-generated random numbers. Microsoft Excel was used to generate the random numbers for the required sample of startup companies in each category individually for this purpose. The final sample for the study is shown in Figure 1.4.

Figure 1.4

Composition of the sample selected



1.10.4. Measurement of Research Instrument.

Following a review of the literature, it was discovered that a wide range of techniques, including a questionnaire and interview schedule, was utilised to collect data for the majority of academic studies on entrepreneurship and new enterprises. The current study used a questionnaire-based approach for data collection among these. The six objectives were all measured using first-hand information. The structured questionnaire was prepared with the help of previous studies and discussions with the managers of various business incubation centres and officials of the Kerala Startup Mission.

The questionnaire has been developed in eight parts: Part I: Demographic Profile of Startup Founders, Part II: Startup Characteristics, Part III: Firm Resources, Part IV: Entrepreneurial Capabilities; Part V: Marketing Strategies; Part VI: Entrepreneurial

Orientation; Part VII: Liability of Newness; and Part VIII: various kinds of startup performance A detailed specimen of the questionnaire is included in the appendix.

1.10.5. Scaling Technique

The operationalization of constructs is covered in this section. It is possible to translate a theoretical idea into a quantifiable variable or indication with the aid of the operationalization of the construct. After the constructs had been properly defined, they were scaled. The scale was either taken directly from previous studies, modified by the researcher, or a combination of both. Table 1.4 explains the source of the measurement scale adopted.

Table 1.4

Source of measurement scale adopted

Purpose	Constructs	Source	Measurement scale adopted	Questions
Firm resource	Intellectual capital	(Al-Jinini et al., 2019) (Nguyen, 2018)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	16.1-16.5
	Entrepreneurial bricolage	(Guo et al., 2016; Yu et al., 2020)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	16.6-16.10
Entrepreneurial capabilities	Knowledge Management	(Rafi et al., 2022)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	17.1-17.4
	Dynamic capabilities	(Teixeira et al., 2021; Wu, 2007)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	17.5-17.9
	Networking capabilities	(Anwar et al., 2018; Boso et al., 2013)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	17.10-17.13

Purpose	Constructs	Source	Measurement scale adopted	Questions
Marketing strategies	Market information	(Song et al., 2009, 2010)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	18.1-18.4
	Marketing orientation	(Kropp et al., 2006)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	18.5-18.8
Mediator	Entrepreneurial orientation	(Sedziniauskiene & Sekliuckiene, 2020; W. Wu et al., 2020)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	19.1-19.4
Startup Performance	Innovation	Ode, E., & Ayavoo, R. (2020).	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	19.5-19.8
	Financial performance	(Wang et al., 2021; W. Wu et al., 2020)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	20.1-20.4
	startup adaptiveness	(Yu et al., 2020)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	20.5-20.9
Liability of newness	Internal liability of newness	(Mireftekhari, 2017; Ulvenblad et al., 2013)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-strongly disagree)	21.1-21.4
	External liability of newness	(Mireftekhari, 2017; Ulvenblad et al., 2013)	Five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree)	21.5-21.8

Source: Primary

1.10.6. Pre-Testing and Revision of Instrument

Before the main data collection, the researcher conducted a preliminary test to refine the measurement instrument. This preliminary testing aimed to assess the face validity of the questionnaire. It encompassed various aspects of the instrument, such as the time it takes to complete, the clarity and potential mistakes in the sentences, the

presence of irrelevant questions, the flow and coherence of the questionnaire, and the wording of the questions. In this study, the pre-testing was carried out in three phases:

1. In the initial phase, two industry experts in the relevant field were involved. They were requested to provide suggestions for enhancing the instrument.

2. The second phase involved a critical revision of the instrument by three academic experts to validate the questionnaire. Based on their feedback, modifications, and revisions were made to the questionnaire.

3. The third phase of pre-testing targeted ten selected startup companies registered in Kozhikode district. Their feedback and responses were used to make adjustments to the questionnaire. These adjustments included minor changes to refine the instrument and assist the researcher in creating a more precise and content-focused questionnaire.

1.10.7. Pilot Study

A pilot study is a study conducted before the actual study so that the researcher gets sufficient insights regarding the nature of the study. Moreover, the researcher can also make sufficient corrections before the main study. The pilot study was conducted using 60 startup founders from Kozhikode districts, and it took around 3 months to complete the entire process. Consequently, the variable called digital marketing adoption was removed. Suitable modifications were made to the questionnaire after the pilot study for the final data collection.

1.10.8. Reliability and Validity

Reliability and validity are the fundamental concepts used to evaluate and confirm the accuracy and credibility of a scale or questionnaire.

Reliability

Reliability is the extent to which the items consistently measure the intended underlying construct. In other words, reliability measures the accuracy and consistency of a test, ensuring that it produces the same outcomes when measurements

are repeated. In this study, the reliability of the measurement instrument is evaluated using Cronbach's alpha tests. This coefficient typically falls within the range of zero to one. To meet the reliability criterion, a Cronbach's alpha value of 0.7 or above is deemed necessary (Nunnally, 1978). In the studies of Lance et al. (2006) and Hair et al. (2013), the lowest acceptable Cronbach's alpha value is set at 0.7. As shown in Table 1.4, the α ranges from 0.793 to 0.925, which is higher than the recommended threshold of α = 0.70 (Nunnally & Bernstein, 1994). Thus, all 13 constructs in the current research satisfy the Cronbach alpha, and the reliability in this study shows fair stability and consistency.

Validity

Validity examines how well an instrument measures what it is meant to measure. It relates to the extent to which the survey measures the right elements that need to be measured. Through the use of two methods—Construct Validity and Content or Face Validity—the current study assesses its validity.

1) Content or Face Validity

Content validity measures the degree to which a test or measurement instrument effectively evaluates the specific domain it is designed to measure. This form of validity is measured by experts in the relevant field who determine if the items or questions on a test are suitable for measuring the intended construct. It is often referred to as face validity. A panel of experts with expertise in the subject area is typically involved to ensure content and face validity. In this study, multiple experts conducted a comprehensive review of both the questionnaire and the research objectives, confirming the presence of content validity.

2) Construct Validity

Construct validity describes how well a test or measuring tool captures the theoretical construct it is intended to measure. Convergent validity and discriminant validity are two techniques that can be used to determine construct validity.

Convergent Validity

Convergent validity is the degree to which items that are supposed to measure a single construct meet each other. Convergent validity was tested by assessing factor loadings in the measurement model, composite reliability (CR), and average variance extracted (AVE) (Fornell & Larcker, 1981). These test results all met the cut-off values suggested by Fornell and Larcker (1981): the factor loadings ranged from 0.50 to 0.90, greater than the suggested cut-off value of 0.5. CRs ranged from 0.799 to 0.925, larger than the suggested cut-off value of 0.7. AVEs ranged from 0.507 to 0.756, greater than the cut-off value of 0.5. These results indicated that our model met the convergence validity criteria.

Table 1.5

Reliability Statistics

Sl. No.	Constructs	Number of items	C-Alpha
1	Intellectual capital	4	0.925
2	Entrepreneurial bricolage	4	0.793
3	Entrepreneurial orientation	4	0.800
4	Knowledge management	4	0.879
5	Dynamic capabilities	5	0.865
6	Networking capabilities	4	0.863
7	Market information acquisition	4	0.894
8	Market orientation	4	0.874
9	Innovative capabilities	4	0.870
10	Startup adaptiveness	4	0.877
11	Performance	5	0.903
12	Internal liability of newness	4	0.854
13	External liability of newness	4	0.880

Source: Primary

Discriminant Validity

The concept of discriminant validity, as popularised by Campbell and Fiske in 1959, comes into play when a study involves numerous constructs, and its purpose is to

ensure that each construct is distinct from one another. Discriminant validity assesses the degree to which factors intended to measure a specific construct do not predict unrelated constructs in a conceptual sense (Kline, 2010). In this study, we followed the approach established by Fornell and Larcker in 1981 to evaluate discriminant validity. This method necessitates that the Average Variance Extracted (AVE) for each construct should be more than the squared correlations between the constructs. The results of our study indicated that the square root of the AVE derived from all the components in the research exceeds the inter-construct correlation.

1.10.9. Normality

Normality tests are used to ensure whether the data set follows a normal distribution or not. The current research measured its normality by using two methods: the Kolmogorov-Smirnov test and the Skewness and Kurtosis measurement. The decision-making process in the normality test with the Kolmogorov-Smirnov test is based on the p-value.

- The data is normally distributed if the value of P> 0.05.
- The data is not normally distributed if the value is P< 0.05.

Since the p-value for each data point is less than 0.05, the test has shown that none of the data are normally distributed. The researcher then tested the normality by using skewness and kurtosis. Kurtosis shows where the distribution has a peak, whereas skewness assesses how flat it is. According to research by (Hair et al., 2006), data becomes normal when the values of Skewness and Kurtosis are between ±2.58 and ±1.96. Since all of the variables in the study fall within this range, the researcher applied the parametric test.

1.10.10. Tools for Analysis

The data analysis was performed with the help of statistical packages like IBM SPSS 26.0, AMOS 23.0, and Stats Tools Package. The following are the tools used for analysis.

1.10.10.1 Mean, Standard Deviation, and Percentage

The mean, often called the average, is the most frequently used measure of central tendency. It represents the typical value within a dataset and is determined by adding up all the values and dividing it by the total number of items. Furthermore, the standard deviation measures the extent of deviation or variation from the mean. It can also be denoted by the Greek letter sigma (σ). A higher standard deviation indicates a greater degree of variability, while a lower standard deviation shows less variability. Percentages are computed to enable comparisons with a base value of 100.

1.10.10.2 Independent Sample T-Test

The independent sample t-test is a parametric statistical test procedure applied to compare the means of two distinct and unrelated groups. While doing an independent sample t-test in SPSS, the independent variable needs to consist of two distinct categorical groups, and the dependent variable should be on an interval or ratio scale.

1.10.10.3 Levene's Test for Equality of Variance

Levene's test is a statistical test conducted to assess whether the variances of two samples are approximately equal. It is typically conducted as a component of an independent sample t-test. Its primary purpose is to examine the homogeneity of variance between the two groups.

1.10.10.4 One-way ANOVA

A one-way ANOVA (analysis of variance) is a parametric statistical test procedure applied to compare the means of two or more independent groups to determine whether there is a statistically significant difference in population means. When performing an ANOVA in SPSS, the independent variable should consist of three or more distinct categorical groups, and the dependent variable must be on an interval or ratio scale.

1.10.10.5 Post Hoc Analysis

The post hoc test indicates multiple comparisons between the groups. The current study used two post hoc tests, the Scheffe test and the Games-Howell test, based on

the homogeneity assumption. Scheffe's post hoc test is applied when the sample sizes are not equal and the homogeneity assumption of variance is met. Likewise, Game-Howell's post hoc test is applied for multiple comparisons when the sample sizes are unequal and the homogeneity assumptions are violated.

1.10.10.6 Correlation

Correlation is the application of statistical methods to identify the strength and direction of linear relationships between pairs of continuous variables. In other words, it is the analysis of the covariance between two or more variables. It only indicates the direction of the relationship and provides no evidence of causation. Correlation ranges from -1 to +1, where -1 indicates perfect negative correlation and +1 indicates perfect positive correlation.

1.10.10.7 Confirmatory Factor Analysis

To determine if the data conforms to the measurement model, confirmatory factor analysis (CFA) is utilized. In other words, it describes the relationship between measurement variables and constructs. Confirmatory factor analysis is typically used as the first step in structural equation modeling (Hoyle, 2000).

1.10.10.8 Covariance Based- Structural Equation Modeling (CB- SEM)

Structural equation modeling is a multivariate data analysis technique that is applied to analyzing connections between one or more dependent and independent variables. Typically, there are two methods applied for applying structural equation models. i.e., the covariance-based structural equation model (CB-SEM) and the partial least squares structural equation model (PLS-SEM).

1.10.10.9 Multigroup Analysis

Multigroup analysis in structural equation modeling (SEM) is used to determine if a model is consistent across various groups. It is performed with the help of measurement invariance tests and structural invariance methods.

1.10.10.10 Measurement Invariance

Measurement invariances determine the degree of similarity among the parameters that make up the measurement component of a Confirmatory Factor Analysis (CFA) or a complete structural equation model when comparing various groups. These parameters consist of the observed variables, which are directly measurable, and their relationships with the unobserved (latent) variables, which cannot be directly measured.

1.10.10.11 Chi-Square Difference test

One prominent method for assessing measurement invariance is the chi-square difference test. If the chi-square test has a p-value more than 0.05, the measurement models are invariant.

1.10.10.12 Structural Invariance test

In structural invariances, the unobserved variables are the main focus. Therefore, factor covariances, or the equality of relations among the components, are the focus of structural equivalency, which might also include factor variances and error residual covariances.

1.10.10.13 The Critical Ratio for Different Methods

The investigation of group differences will be done using the critical ratio, or z-score. The predicted path is significantly different for each group if the z values fall between -1.96 and +1.96.

1.10.11. Period of Study

The study's timeframe consists of the period from January 2019 to April 2024. Primary data was gathered by preparing a well-structured questionnaire, which was then distributed to startup founders located in three districts: Trivandrum, Kozhikode, and Ernakulam in the state of Kerala. This data collection process occurred from February 1, 2022, to December 31, 2022.

1.11. Limitations of the Study

1. In this study, the researcher evaluated the performance of startup companies from the viewpoint of their founders only.
2. To explore how resources, capabilities, and strategies affect new venture performance, the researcher utilized a cross-sectional research design. Thus, it's essential to note that this method does not establish causal relationships between these factors for a long period.
3. It's important to identify that our study was susceptible to sampling errors and potential biases in the questionnaire responses.
4. This study delves into the connection between resources, capabilities, and strategies on firm performance, with a particular focus on adaptability, innovation, and financial performance. The assessments of these constructs were based on the subjective judgments of founders rather than quantitative indicators like Return on Investment (ROI), profitability, or market value.
5. Since our data primarily relied on questionnaire responses, we encountered limitations in conducting in-depth and comprehensive analyses, especially when dealing with qualitative aspects.

1.12. Chapterisation.

The whole research report is divided into eight chapters.

Chapter 1: Introduction.

This chapter offers insight into the study. It contains details such as the background of the problem, the significance of the study, the statement of the problem, the objectives of the study, the operational definition, hypotheses, tools used, the research methodology adopted, and finally the limitation.

Chapter 2: Review of Literature

This chapter contains a review of the academic literature on entrepreneurship and startups. This section begins by dividing the entire literature review into ten sections based on the various constructs used in the study. The current study consists of ten different constructs that define the different objectives. Finally, the research gap found during the literature review process is also included at the end of this chapter.

Chapter 3: Theoretical Framework

This chapter is fully devoted to understanding the concepts related to startups, the startup ecosystem in India, Various types of startups, funding sources available, theories of startups and entrepreneurship, successful startups in Kerala, and support available to Kerala startups.

Chapter 4: Founder and Startup Characteristics on Resources, Capabilities, Marketing Strategies, and Dimensions of Startup Performance & Handling Liability of Newness

This section begins with a frequency analysis of founder and firm characteristics, descriptive statistics, reliability, and normality analysis. In addition to that, the relationship between the founder and firm characteristics on firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performances were analysed and interpreted. This section ends with an analysis of ways to handle the liability of newness among startup companies.

Chapter 5: Analysis of Resources, Capabilities, and Marketing Strategies on Financial Performance, Adaptiveness, and Innovation- Structural Equation Modeling

This chapter aims to develop a research model for the performance of startup companies in Kerala. It contains the development of hypotheses from the existing literature, confirmatory factor analysis (CFA) of the measurement model, structural equation modeling (SEM), and mediation analysis.

Chapter 6: The Effect of Resources, Capabilities, and Strategies on Dimensions of Startup Performance: A Multigroup Analysis Among Incubated and Non-Incubated Startups.

This chapter deals with multi-group moderation using AMOS. This chapter aims to develop a separate research model for incubated and non-incubated startups in Kerala, a comparative analysis of incubated and non-incubated startups, and at the end of this chapter, a summary of the hypotheses is presented.

Chapter 7: Summary, Findings and Conclusions

This chapter presents an overall summary of the study. The findings and conclusions are presented here. The findings of the study are presented according to the objectives of the study. The recommendations are given in the eighth chapter.

Chapter 8: Recommendation

This chapter deals with the recommendations and implications given by the researcher based on findings for the development of the startup ecosystem in the context of Kerala. The scope for further research is also presented at the end of this part.

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Chapter 2

REVIEW OF LITERATURE

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2.1 Introduction

The current study explores the impact of firm resources, entrepreneurial capabilities, and marketing strategies on various aspects of startup performance in Kerala. In addition to that, it intends to discover effective strategies to address the challenges associated with being a new startup. To contribute to the existing body of literature, the researcher conducted a thorough review of previous studies in entrepreneurship and startups, aiming to identify research gaps. Conducting a literature review analysis is an important step in the research process, and it guides the researcher from problem identification to theory development and instrumental design. Traditionally, literature reviews were organised thematically, but modern methods include bibliometric analysis, systematic literature reviews, and meta-analyses. In this study, the PRISMA method was used for the literature review analysis, and the systematic literature review is presented separately in the hypothesis development section. To optimise the existing literature, the researcher categorised relevant studies into ten distinct topics, including intellectual capital, entrepreneurial bricolage, knowledge management, dynamic capabilities, networking capabilities, entrepreneurial orientation, market information acquisition, market orientation, the liability of newness, and business incubation.

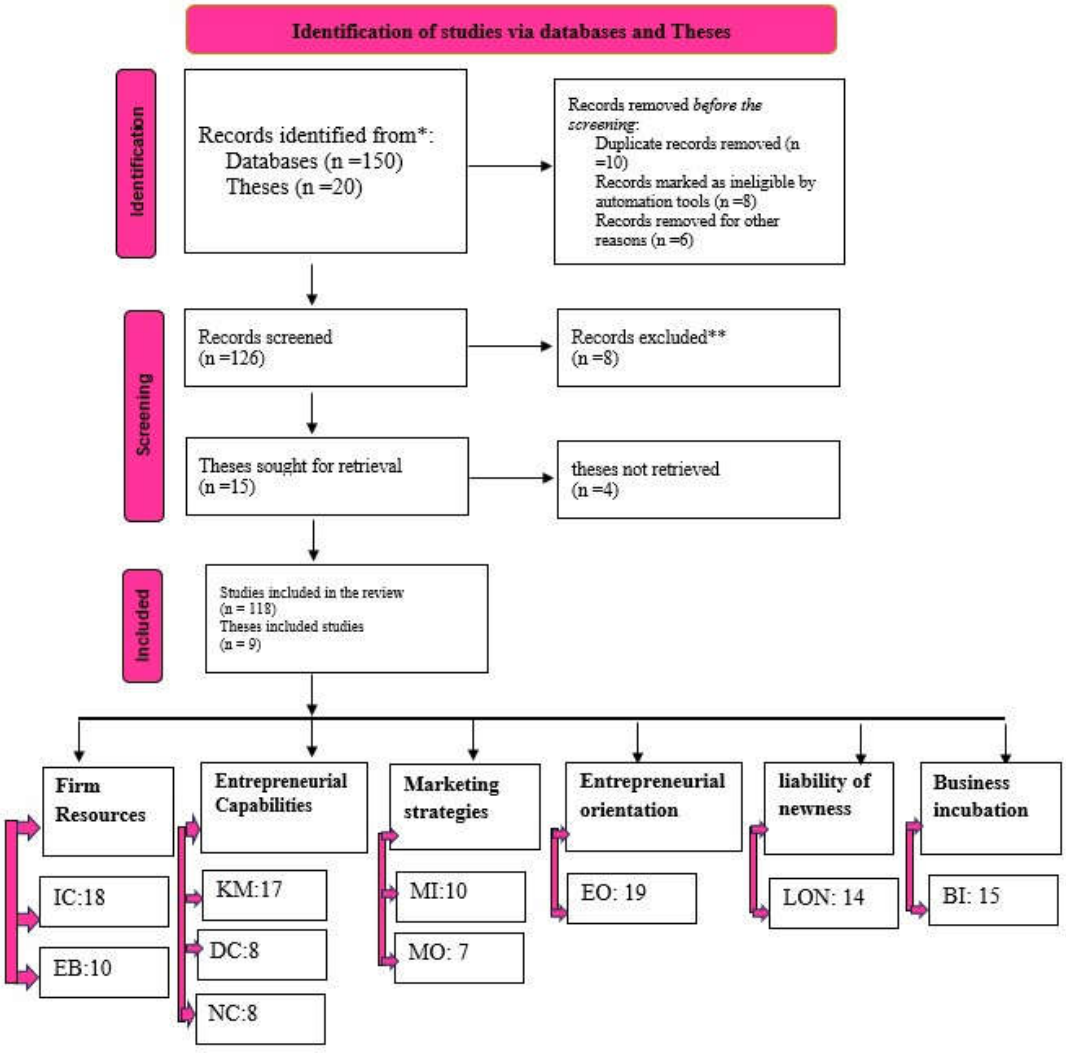
2.2 Sources of Literature

Figure 2.1 indicates the application of the PRISMA (Preferred Reporting Style for Systematic and Meta-analysis) method in conducting the literature review analysis. The PRISMA protocol involves a four-phase flow diagram outlining the process of identifying, screening, determining, and incorporating criteria for articles or papers falling within the limits of the existing body of literature. It also incorporates a checklist recommending criteria for elements such as title, abstract, introduction, methodology, findings, discussion, etc. Thus, both this flow diagram and checklist

serve as guides for researchers in conducting a thorough literature review analysis. In the current research, the researcher systematically assessed 150 databases and theses that generally delve into startups and new ventures. Following this, inclusion-exclusion criteria were applied, leading to the final selection of 127 relevant studies. These studies are organised based on the various constructs employed in the study.

Figure 2.1

PRISMA Literature Review



Source: Compiled by the Researcher

2.2.1. STUDIES ABOUT INTELLECTUAL CAPITAL

This section consists of a literature review analysis of the concept related to intellectual capital. The initial phase includes information about the author and the

database, presented in Table 2.1. Following that, the critical evaluation of each review is explained in detail.

Table 2.1

Literature on Intellectual Capital

Sl. No.	Title	Journal name	Database	Year
1	Impact of intellectual capital on firm performance: a study of emerging economies	Thesis	Shodhganga	2022
2	The Impact of Knowledge Management Process and Intellectual Capital on Entrepreneurial Orientation	Frontiers in psychology	Frontiers	2022
3	Intellectual capital and innovative performance: A Mediation Moderation perspective	Journal of intellectual capital	Emerald	2021
4	Relation between intellectual capital & firm's performance with Reference to Indian companies	Thesis	Shodhganga	2020
5	The structural capital, the innovation, and the performance of the industrial SMEs	Journal of Intellectual Capital	Emerald	2020
6	Intellectual capital, entrepreneurial orientation, and technical innovation in small and medium-sized enterprises	Knowledge Process Manag	Wiley and sons	2019
7	To study the effect of intellectual capital on Organizational performance and mediating role of organizational capabilities	Thesis	Shodhganga	2019
8	Intellectual Capital, Entrepreneurial Strategy, and New Ventures Performance: Mediating Role of Competitive Advantage	Business & Economic Review:	Research gate	2018
9	Intellectual capital and firm performance: the mediating role of innovation speed and Quality	The International Journal of Human Resource Management	Taylor and Francis	2018

Sl. No.	Title	Journal name	Database	Year
10	The Role of Knowledge Management Process and Intellectual Capital as Intermediary Variables between Knowledge Management Infrastructure and Organization Performance	Interdisciplinary journal of information, knowledge, and management	Research gate	2018
11	The impact of intellectual capital and knowledge flows on incremental and radical innovation: Empirical findings from a transition economy of Vietnam	Asia-Pacific Journal of Business Administration	Emerald	2018
12	Impact of intellectual capital on corporate performance: Evidence from the Arab region	Journal of Intellectual Capital	Emerald	2017
13	Effects of intellectual capital on innovative performance The role of knowledge-based dynamic capability	Management Decision	Emerald	2015
14	Intellectual Capital, Innovation and Performance: A Systematic Review of the Literature	Business& Economic Research	Macro think institute	2012
15	The role of intellectual capital in the success of new ventures	Int Entrep Manag J	Springer	2011
16	Intellectual capital and business performance in the pharmaceutical sector of Jordan	Management Decision	Emerald	2010
17	Promoting innovation through the accumulation of intellectual capital, social capital, and entrepreneurial orientation	R&D Management	Blackwell Publishing	2008
18	Intellectual capital and business startup success	Journal of Intellectual Capital	Emerald	2002

Source: Literature from various articles and theses compiled by the researcher

In the studies, **Smriti (2022)** reviewed the impact of intellectual capital on business performance and pinpointed the factors that affect IC performance when it comes to gender diversity in the BRICS countries. According to the study, the most crucial asset for ensuring competitive advantages in the company is intellectual capital, which is defined as the difference between book value and market value. The final sample included 710 companies that are listed on stock exchanges. Secondary data was

obtained from the Prowess database and the CMIE database. It was discovered that regardless of their sectors, intellectual capital has a considerable impact on Tobin's Q in both the manufacturing and service industries. In the same way, structural capital is crucial to the functioning of the service sector and may be lacking in the manufacturing sector due to lower R&D investment and underutilisation of firm resources. The study also pointed out that having more women on boards will improve business performance.

In their research, **Yu et al. (2022)** reviewed the effects of intellectual capital and knowledge management on innovation in the Pakistani software industry, with the mediating roles of entrepreneurial orientation and leader education. Partial least squares structural equation modeling (PLS-SEM) was used for the survey, which included 393 IT companies. The study presented several contributions, Firstly, it confirmed the positive influence of intellectual capital and knowledge management on innovation within IT companies. Secondly, it offered empirical support for the resource-based perspective theories by identifying various resources required for the survival of small and medium-sized enterprises. Thirdly, it emphasised that enterprises are boosting their innovation potential by recruiting highly skilled professionals. Finally, it highlighted the significance of investing in social capital as a means to explore market opportunities.

In their research, **Rehman et al. (2021)** reviewed the effect of innovative performance on SMEs by considering intellectual capital, innovative capability, and business strategy. The survey included 415 Malaysian SMEs, and the data were analysed using structural equation modeling. Michel Porter's cost leadership and differentiation approaches were employed to assess business strategy. The study found that intellectual capital has a significant effect on innovative performance. Similarly, SMEs can generate competitive advantages in their businesses by utilising cost advantages and differentiation methods. The findings of the current study align with the resource orchestration theory (ROT), which posits that organisations are considered bundles of resources along with effective capabilities developed by their

founders. Thus, the authors concluded that excellent resources are required for long-term success in firms.

Gupta (2020) explored the connection between intellectual capital on firm performance and its impact on market valuation while examining potential differences in the involvement of intellectual capital between service and manufacturing companies in India. The research was divided into two segments, involving the evaluation of value-added intellectual capital on financial performance and the collection of primary data through a structured questionnaire. Financial performance and market valuation were measured using indicators such as return on assets, profitability, and Tobin's Q. Both SPSS software and AMOS structural equation modeling were employed to analyse these relationships. The findings of the study indicated that the effective utilisation of human resources and their strategic orientation have a significant influence on firm performance and market valuation.

Beltramino et al. (2020) performed a survey to ascertain the impact of various structural capital dimensions and cutting-edge approaches on the success of new businesses. The study consisted of 259 recently founded businesses from Argentina. It revealed that structural capital could take different forms, such as knowledge management, processes, systems, culture, etc. The current study backs up the theories of intellectual capital, resource-based views, and human capital in entrepreneurship. Findings from the structural equation modeling explained that efficient management of these elements fosters creativity in new ventures. Furthermore, a flexible organisational culture fosters advantages in the marketplace and allows for quick and effective identification of mistakes. However, communication and cohesion wouldn't help their ventures be more innovative. The findings of the study promoted teamwork and employee participation in decision-making to guarantee updated knowledge.

Al-Jinini et al. (2019), the study intended to build a model that sheds light on the connection between different facets of intellectual capital and technical innovation, with the mediating role of entrepreneurial orientation. For this purpose, a survey was conducted involving 464 managers from small and medium-sized enterprises (SMEs) in Jordan. The results from the regression analysis indicated that each component of

intellectual capital significantly influences the creation of new technologies. Additionally, entrepreneurial orientation is found to be partially mediated by these relationships. The author also summarises that the establishment of relational capital within an organisation's framework plays a key role in enhancing core competencies and identifying new business opportunities. Furthermore, businesses with an entrepreneurial mindset are strongly inclined to invest in social networks and relational capital to leverage the important contributions that outside parties make to their team members within the startup ecosystem.

In his research, **Bharti (2019)** reviewed how different aspects of intellectual capital relate to organisational success in SMEs. AMOS CB-SEM was applied to determine the relationship, and the study provided the number of contributions. First, all the components of intellectual capital have a significant role in organisational performance, and among these components, structural capital contributes more. It is provided that firms with higher investment in research and development, employee training, and a flexible organisational culture contribute to higher performance. Second, the study examined the extent to which knowledge management, capacity for learning, and innovativeness play a mediating role in the relationship between intellectual capital and organisational success. Third, the study highlighted the numerous obstacles to integrating intellectual capital in SMEs, with financial management being the primary concern. Because of the many regulatory requirements, obtaining financing from different sources is still difficult. Finally, the study concluded that SMEs have numerous options to deploy intellectual capital through assistance programmes offered by governmental organisations, but businesses are unaware of these opportunities.

Anwar et al. (2018) studied the relationship between intellectual capital and entrepreneurial strategy, which influences new venture performance by mediating the role of competitive advantages. A total of 227 newly created Pakistani businesses took part in the survey. The regression method demonstrated that the combined influence of intellectual capital, entrepreneurial strategy, and competitive advantages has a significant connection with startup performance. According to the findings, the most

cost-effective strategy to improve the performance of new businesses is to invest in intellectual capital and entrepreneurial strategies. Similarly, these are the tools that allow newly founded businesses to stay in operation for a long time without relying on government payments and support. Along with these factors, the founders also believed that the performance of the enterprises was decided by the amount of money invested, qualified staff, and technological innovations. Lastly, the study found that pressure from external competitors and several internal issues hinder the growth of young companies. These initiatives, nevertheless, need to concentrate on growth and achievement, which can be improved by employing certain tactics and using intangible assets.

Wang et al. (2018), in their studies, examined the relationship between intellectual capital and business performance with the function of innovation speed and quality as a mediating factor. The study included 328 high-tech startups from China. According to the Structural Equation Model (SEM), all components of intellectual capital have a favourable effect on organisational innovation and, as a result, firm performance. The authors revealed that human and structural capital fully mediate financial performance, and relational capital partially mediates performance. Without taking innovation elements into account, there is no direct association between human and structural capital. Investments in intellectual capital can help managers address a wide range of problems, including project integration, external funding, and role clarity. Similar to this, investing in intellectual capital encourages a cooperative workplace where various parties work together to improve innovation. As a result, the authors concluded that organizations' operational and financial success are enhanced by both innovation quality and speed.

Abualoush et al. (2018) analysed the impact of organisational performance from the perspective of knowledge management and intellectual capital components. The survey included 134 Jordanian individuals working in the food industry. The structural equation model revealed that knowledge management and intellectual capital both lead to organisational performance. Similarly, firms with good infrastructure, information technology, and culture perform better. In addition, efficient knowledge

management allows for a collaborative framework and information sharing among employees. The authors also claimed that structural capital (databases, structures, and procedures) leads to innovative performance. Another way of enhancing performance is by switching to a flexible organisational structure and actively participating in human resources, which is considered an important knowledge resource. Every industry, including the food industry, may improve its operations by aggressively gathering employee and customer feedback. Ultimately, the investigators concluded that every element of intellectual capital contributes more value to the organisation.

In his research, **Nguyen (2018)** reviewed the effects of intellectual capital and knowledge flows that affect innovation practices in Vietnam. The data consisted of 95 firms from Vietnam, and the regression method was applied for data analysis. The study found that human capital positively contributes to both radical and incremental innovation. Human expertise is necessary for introducing innovation in the organisation. Individual creativity, the acquisition of learning, and employee expertise were necessary for implementing both radical and incremental innovation. Likewise, the study found that organisational capital leads to incremental innovation, and social capital leads to radical innovation. Firms with adequate databases, structures, and systems encourage innovation-oriented performance. The present study bolsters the ideas of social capital and knowledge management in entrepreneurship, which propose that an organisation can achieve both radical and incremental innovation by integrating knowledge resources inside the organization. Radical innovation involves huge investments in time, cost, and resources, whereas incremental innovation involves minor changes in existing technologies. Therefore, the author also concluded that to improve both radical and incremental innovation in their respective endeavours, technological advancements, employee interactions, and social links are all important.

Dženopoljac et al. (2017) examined the relationship between the components of intellectual capital and the corporate performance of Arab nations. The survey included 100 publicly traded Arab companies that were founded between 2011 and 2015. Efficiency, profitability, earnings, and market performance are all used to

evaluate the performance of the company. The regression method indicated that structural capital is important for improving earnings and profitability. Similarly, the physical capital displayed in Arab corporations has a significant impact on the return on assets. The authors concluded that human resource capabilities are the most essential factor in determining market performance. A strategic collaboration with Arabic corporations and investors is possible with better management of intellectual capital components. The value-added intellectual capital coefficient (VAIC) model was employed to identify the impact of intellectual capital components on corporate performance.

Han and Li (2015), in their research, focused on exploring the relationship between intellectual capital and knowledge-based capabilities on various dimensions of firm performance. The study consisted of 217 Chinese companies, and the data were analysed using the regression method. There are several key findings from this study. First, dynamic capabilities are crucial in the modern knowledge-based economy for integrating internal and external resources and responding to a changing corporate environment. To safeguard knowledge resources and grab opportunities for new companies, the combination of dynamic capabilities, intellectual capital, and knowledge management is being explored these days. It was discovered that the relationship between intellectual capital and business performance is thought to be facilitated by knowledge-based, dynamic capabilities. Secondly, the importance of intellectual capital is also reflected in emerging economies like China, even though they are characterised by weak laws, rapid-changing business environments, and unpredictable markets. The authors concluded that Chinese businesses were actively looking for ways to improve their innovativeness through staff motivation and training as well as through improving informal co-founder ties.

In this study, **Mention (2012)** systematically reviewed previously published literature on intellectual capital, innovation, and firm performance. Through this research, the author scrutinised peer-reviewed articles in the Scopus database. The study specifically emphasised academic research related to entrepreneurship, with organisational performance as the dependent variable. The author categorised the

studies into two main groups: objective-based, which concentrated on assessing intellectual capital through the value-added intellectual coefficient, and perception-based, which employed questionnaires for the same. Moreover, the concept of innovation was examined in terms of its types, scale, and reference points. In addition to that, the critical review of the literature revealed that studies on intellectual capital can be approached from both an individual perspective and through summated effects. In conclusion, it can be affirmed that the academic literature consistently highlights the significant role of intellectual capital in contributing to firm performance.

In their studies, **Hormiga et al. (2010)** reviewed the importance of intellectual capital in the development of new ventures. Through regression analysis, a strong association was observed between the success of new ventures and the intangible assets they occupied in their businesses. The factors contributing to intellectual capital identified were entrepreneur knowledge, relationships, motivation, self-efficacy, and innovation. The findings showed that relational and human capital played an important role in the success of these startups. Likewise, the startups are early-stage ventures, and they may find it difficult to enhance structural capital. Moreover, entrepreneurs who were motivated by external factors tended to have lower success rates. The authors also concluded that the brand name or reputation possessed by new ventures had an influential impact on their overall success.

Sharabati et al. (2010) examined the relationship between intellectual capital and business performance in the pharmaceutical sector of Jordan. The analysis was carried out using PLS structural equation modeling, considering 132 leading Jordanian enterprises. The study contributed several findings. First, it identified the vital role of relational capital in enhancing business performance. Second, it highlighted the capacity of human attributes to drive innovation within these businesses. As a result, it ought to be crucial that each company designate certain individuals as the promoters of intellectual capital. Last, it emphasises that the relationship between suppliers and clients plays a pivotal role in enhancing overall performance. Therefore, it can be concluded that the pharmaceutical industry in Jordan effectively managed its intellectual capital components. The study uniquely identified that the application of

intellectual capital in Jordan is rare, and the organisation wanted to take several steps, such as appointing chief intellectual capital officials, publishing intellectual capital reports, providing some training to officials, etc.

Wu et al. (2008) developed a model by integrating social capital, entrepreneurial orientation, intellectual capital, and innovation by incorporating 179 Taiwanese firms. It was found that intellectual capital has an important role in enhancing competitive advantage. Further, it showed that higher investment in intellectual capital and social capital provides an opportunity for networking with different parties in the entrepreneurial ecosystem. Another significant aspect explored in this research is social capital, which is posited by the authors as a means of fostering connections among employees within the organization and building relationships with external communities. The study ultimately indicated that patents and proprietary knowledge are exchanged between nations such as the United States and China through strategic partnerships, with innovation emerging as a consequence of collaboration between these entities.

Peña (2002) examined the relationship between intellectual capital and new venture performance. For that, 114 founders from Spain participated in the survey. The study stressed the importance of intellectual capital on job creation, growth in sales, and profitability. It is also important that business incubation centres are considered the prime agency for enhancing the intangible assets of firms. These organisations rely heavily on the way these business incubators support entrepreneurs in surviving their endeavours and are not primarily focused on physical resources. Furthermore, fostering entrepreneurship through public policy is crucial for creating effective intellectual capital. Moreover, the entrepreneur's prior experience, education, and motivation play a significant role in the startup's performance. Thus, the study concluded that intellectual capital acts as one of the important factors contributing to startup performance.

2.2.2. **STUDIES ON ENTREPRENEURIAL BRICOLAGE**

The list of studies on the concept of entrepreneurial bricolage—which is essential for new businesses and startups—is shown in Table 2.2.

Table 2.2

Literature on Entrepreneurial Bricolage

Sl. No.	Title	Journal name	Database	Year
1	Entrepreneurial Bricolage and New Product Development Performance in New Ventures: The Contingent Effects of Founding Team Involvement	Entrep. Res. J.	De Gruyter	2023
2	The Impact of Resource Bricolage on Entrepreneurial Orientation in Start-ups: The Moderating Roles of TMT Heterogeneity and TMT Behavioural Integration	Frontiers in Psychology	Frontiers	2022
3	The effects of entrepreneurial bricolage and alternative resources on new venture capabilities: Evidence from China	Journal of Business Research	Elsevier	2021
4	Insights on entrepreneurial bricolage and frugal innovation for sustainable performance	Business standard development	Wiley	2020
5	Entrepreneurial bricolage, ambidexterity structure, and new venture growth: Evidence from the hospitality and tourism sector	International Journal of Hospitality Management	Elsevier	2020
6	Entrepreneurial bricolage and its effects on new venture growth and adaptiveness in an emerging economy	Asia Pacific Journal of Management	Springer	2020
7	An empirical study on entrepreneurial bricolage behavior for sustainable enterprise performance of startups: Evidence from an emerging economy	Journal of Entrepreneurship in Emerging Economies	Emerald	2020

Sl. No.	Title	Journal name	Database	Year
8	Farm management skills, entrepreneurial bricolage and market orientation	Journal of Agribusiness in Developing and Emerging Economies	Emerald	2020
9	Business model innovation: The effects of exploratory orientation, opportunity recognition, and entrepreneurial bricolage in an emerging economy	Asia Pac J Manag	Springer	2015
10	Bricolage and growth strategies: effects on the Performance of Palestinian women-led firms	Journal of Developmental Entrepreneurship	World Scientific Publishing	2014

Source: Literature from various articles and theses compiled by the researcher

Wang et al. (2023) explored the impact of entrepreneurial bricolage on the process of developing new products among Chinese new ventures. Additionally, it examined the moderating influence of team diversity and team management. The findings of this study lend support to the resource-based theory of entrepreneurship by explaining the significance of introducing distinctive resources into startup companies to facilitate the introduction of superior products. Additionally, the study agreed that the capacity for bricolage, along with the presence of effective team members, plays a crucial role in a firm's ability to contribute innovative products to the market. Nevertheless, the study also revealed that when team members are heavily involved in decision-making strategies, it can potentially hurt the effectiveness of bricolage strategies.

Xiaobao et al. (2022), in their research, probed how bricolage plays a crucial role in enhancing entrepreneurial orientation within startup companies. Besides, it established the moderating influence of top management team (TMT) heterogeneity and behavioural integration on the relationship between bricolage and entrepreneurial orientation relationships. For that, a total of 295 startup firms participated in the survey. The study strongly affirmed that bricolage significantly impacts entrepreneurial orientation. Startups that prioritised bricolage contributed in various ways, including the ability to maintain adaptability, make informed decisions, and

better understand market dynamics. Another critical aspect of the study is to understand the influence of bricolage on TMT heterogeneity. It becomes evident that differences in the educational backgrounds, knowledge, and capabilities of top management teams contribute positively to innovation, thus enhancing a moderating relationship between bricolage and the performance of startup companies. However, TMT behavioural integration was found to have a negative moderating effect on these relationships.

The studies of **X. Yu and Wang (2021)** elaborated on the theory of resource orchestration perspective in entrepreneurship by emphasising the importance of integrating firm resources and capabilities for the successful growth of a new venture. To evaluate this, a survey was conducted involving 207 new ventures in China. The research revealed that the effective use of available resources is crucial for new ventures to identify new opportunities and combine resources. However, there are differences in the network centrality of the firms. Specifically, firms with a strong emphasis on networks tend to rely less on their internal resources and concentrate more on external resources. In such cases, bricolage does not have any significant effect. Additionally, the study highlighted that diverse team members who possess different capabilities are well-suited to adapt to the business environment.

In their study, **Iqbal et al. (2020)** examined the nexus between sustainable leadership and sustainable performance while considering the mediating role of frugal innovation and the moderating role of entrepreneurial bricolage. The study revealed that firms possessing bricolage capabilities excel at integrating the various resources available to them. Furthermore, the study made it evident that sustainable leaders act as agents for adapting to changes in their ventures. Such leaders demonstrate the ability to comprehensively evaluate the business environment, boost revenue, and curtail costs. Accordingly, it can be inferred that the interplay between sustainable leadership, frugal innovation, and bricolage has a positive connection with sustainable performance. This accumulation results from these firms competing with multinational companies that may possess more abundant resources in their ventures than newly established ventures.

Fu et al. (2020) explored the connection between entrepreneurial bricolage and the growth of new ventures, using a sample of 345 Chinese startups in the tourism and hospitality sectors. The findings of the study indicated a strong link between the degree of bricolage and the performance of these new ventures. Likewise, the study highlighted that this relationship is mediated by the concept of organizational ambidexterity. Additionally, the research argued that newly established ventures often face challenges related to their newness and small size, primarily due to limited resources. In such resource-constrained environments, the utilisation of bricolage and ambidexterity can play a crucial role in enabling these ventures to compete effectively.

In a study conducted by **X. Yu et al. (2020),** the role of entrepreneurial bricolage in facilitating the growth and adaptability of new ventures in emerging economies was evaluated. The research showed the various ways in which bricolage reflected these new ventures, including its contributions to innovation, limiting resource constraints, and accepting initial challenges and liabilities. In addition to that, the study argued that institutional voids play a significant moderating role in these relationships. When firms encounter serious institutional voids, it becomes crucial for them to focus on bricolage as a means of quickly adapting to their challenging environment. Generally, institutional voids are represented by the absence of well-defined laws and difficulties in identifying governing authorities, while bricolage represents the ability of firms to make the resources available to them. In conclusion, the research found that institutional voids positively affect the relationship between bricolage and the adaptability of new ventures, emphasising the importance of bricolage in navigating challenging institutional voids.

The studies of **Tindiwensi et al. (2020)** reviewed the interconnection of firm management skills, entrepreneurial bricolage, and market orientation of small farms. For that purpose, 378 firms participated, and structural equation modeling was applied for data analysis. The study suggested that the effective utilisation of resources and the challenges associated with financial assets can be reduced through a combination of firm management skills and the extent of market orientation exhibited by small farmers. The study evaluated the bricolage theory of entrepreneurship, which holds

that businesses with limited resources focus primarily on the resources that are readily available to them, combine all of the resources at their disposal, and then use them efficiently to achieve their market orientation.

Sivathanu and Pillai (2020) scrutinised the factors affecting the sustainable performance of startups in emerging economies in their study. Sustainable performance was noticed in three dimensions: economic, social, and environmental. The study aimed to establish the relationship between various factors, including entrepreneurial bricolage, entrepreneurial orientation, technology orientation, sustainable orientation, and trust, and their effect on sustainable performance. The study was conducted by including 285 participants and using PLS-SEM for analysis. The study adhered to several entrepreneurship theories, including the upper echelon, resource-based view, and entrepreneurial bricolage theories, and it made numerous contributions. First, it was shown that technological orientation and entrepreneurial orientation both greatly contribute to the sustainable performance of startups; therefore, technology-oriented enterprises should prioritise innovation and research and development methods. Second, they found that entrepreneurial bricolage was presented as a mediator in the relationship between performance, technological orientation, and entrepreneurial orientation. In addition to that, entrepreneurial bricolage is a crucial component in resolving societal or economic problems that society faces. Ultimately, it was discovered that trust and sustainable orientation had little bearing on performance.

Guo et al. (2015) developed a model by integrating business model innovation, exploratory orientation, opportunity recognition, and business model innovation into Chinese new ventures. Exploratory orientation and business model innovation are mediated by entrepreneurial bricolage. The study argued that companies that prioritise an exploratory orientation are better equipped to efficiently handle their business resources, address market demands, maximise sales potential, and ultimately boost their revenue.

The studies by **Bojica et al. (2014)** looked at the connection between entrepreneurial bricolage and the performance of enterprises run by Palestinian women entrepreneurs.

It showed a significant relationship between bricolage and performance. However, this relationship was influenced by the kinds of strategies employed by these enterprises. When businesses aim to introduce new products and are highly growth-oriented, it hurts their performance. Conversely, for firms seeking to expand their operations, bricolage behaviour was a favourable choice for them. So, the research focused exclusively on women entrepreneurs who faced substantial constraints in terms of financial resources, infrastructure, and technical support.

2.2.3. **STUDIES ABOUT KNOWLEDGE MANAGEMENT CAPABILITIES**

The list of studies on the concept of knowledge management—which is essential for new businesses and startups—is shown in Table 2.3

Table 2.3

Literature On Knowledge Management Capabilities

Sl. No.	Title	Name of Journal	Database	Year
1	An investigation on the impact of business intelligence on the performance of startup companies according to innovation and KM as a mediator	Mathematical problems in engineering	Hindawi	2022
2	Knowledge management is software industry: Creating value through knowledge application	Journal of Creating Value	Sage	2020
3	Knowledge management practices in small and medium enterprises	Thesis	Shodhganga	2020
4	Knowledge management in startups to scale up through innovation	The international journal of analytical and experimental model	Research gate	2020
5	Knowledge management process and performance: The impact of ownership of public sector organization	International journal of public sector management	Emerald	2019

Sl. No.	Title	Name of Journal	Database	Year
6	The mediating role of knowledge application in the relationship between knowledge management practices and innovation	Journal of innovation and knowledge	Elsevier	2019
7	Impact of knowledge management on organizational performance: An application of structural equation modelling	VINE journal of information and knowledge management system	Emerald	2019
8	Barriers, Practices, Methods, and knowledge management tools in startups	Journal of Knowledge Management	Emerald	2019
9	The study of knowledge management capability and organizational effectiveness in Taiwanese public utility: the mediator role of organizational commitment	Springer plus	Springer	2016
10	Investigating the success of knowledge management: An empirical study of small and medium enterprises	Asia Pacific Management review	Elsevier	2016
11	Developing capabilities in new ventures: A knowledge management approach	Knowledge management research and practice	University of Padova, Italy	2016
12	The role of knowledge-oriented leadership in knowledge management practices and innovation	Journal of Business Research	Elsevier	2015
13	The linkage between knowledge management and manufacturing performance: a structural equation modelling	Journal of Knowledge Management	Emerald	2015
14	Knowledge Management Performance Measurement in micro small and medium enterprises: An exploratory study	Business information review	SAGE	2015

Sl. No.	Title	Name of Journal	Database	Year
15	The role of knowledge in business startup activities	International Small Business Journal	Sage	2006
16	The critical success factor for implementing knowledge management in small and medium enterprises	Industrial Management and Data systems	Emerald	2005
17	Knowledge management: an organizational capabilities perspective	Journal of Management Information System	Routledge	2001

Source: Literature from various articles and theses compiled by the researcher

Nazari et al. (2022), in their study, the impact of business intelligence on the performance of new businesses was evaluated, with a focus on the mediating roles of innovation and knowledge management. The study applied PLS structural equation modeling and involved 108 experts from Iranian startup companies. The study found that various factors, such as business intelligence, knowledge management, and innovation, influence the performance of startup companies. Furthermore, the study found that the relationship between business intelligence and startup performance is mediated by both knowledge management and innovation. Moreover, knowledge management was highlighted as important for adapting to changes in consumer demand and business opportunities, while leveraging diverse technologies in business was seen as a catalyst for innovation, particularly in enhancing manufacturing processes.

Valacherry and Pakkeerappa (2020) conducted a study to evaluate the role of knowledge management in Indian software industries, applying structural equation modeling to explore the relationship between management support for knowledge application and successful implementation. The study highlighted various contributions and evaluated the mediating effect of project knowledge application. The authors argue that prioritising intangible resources over tangible ones can lead to a competitive advantage and value creation. Moreover, the software sector exhibits diverse team leadership and management styles, indicating effective intergroup interaction and idea exchange. This form of knowledge management enhances the

development of unique ideas through interactions with team members and the absorption of their expertise. The study concluded that effective knowledge management is crucial for innovation development and that project application partially mediates the link between efficient implementation and project knowledge management.

The study by **Anbalagan (2020)** focused on examining the influence of knowledge management strategies on operational performance, innovation, and customer satisfaction within small and medium-sized businesses (SMEs) in India. Using AMOS structural equation modeling, the study encompassed 616 Indian SMEs. The study presented several notable contributions, asserting that the effective application of knowledge management results from various organisational practices, ultimately enhancing performance in the MSME sector. Moreover, the government's strategic role in fostering competitiveness is highlighted through the implementation of diverse initiatives. In conclusion, the study found that knowledge management processes and facilitators significantly impact the innovation capacity and operational performance of MSMEs.

The study by **Viswanathan and Arunima (2020)** created a conceptual framework for the application of knowledge management in startup businesses, examining each stage of the startup life cycle and its impact on knowledge management adoption. The findings evaluated the critical importance of knowledge management strategies, starting from the bootstrapping stages, for assessing market potential, managing finances, and overseeing team dynamics. As the business grows, these strategies are essential for mapping market potential and demand. The study also highlighted the value that startup businesses gain by actively engaging with various stakeholders within the startup ecosystem. The authors concluded that the main constraints to knowledge management implementation in startup businesses include a lack of prioritisation, a deficiency in proactive knowledge management, and challenges in effectively managing pivots.

Balasubramanian et al. (2019) conducted a study to assess the impact of the knowledge management process on overall performance, including quality,

innovation, and operational aspects. The study also examined whether ownership structures, such as federal, state, or semi-government, influenced the relationship between knowledge management and performance in UAE-based companies. The study consisted of 268 companies. Data analysis techniques, including structural equation modeling, ANOVA, and multi-group analysis, were employed to differentiate between various ownership structures and explore the connections between knowledge management and performance. The study revealed that the federal organisational structure exhibited a well-established knowledge management process and a stronger correlation between knowledge management and performance. The author concluded that these findings are particularly significant for federal government agencies, given that the national innovation policy of the UAE is more focused at the federal level.

Ode and Ayavoo (2019) identified the connection between knowledge management practices and innovation in Nigerian service industries by taking knowledge application as the mediating variable. By applying AMOS SEM to the data, it was discovered that there are both direct and indirect links between innovations and knowledge management techniques. The study discovered that small service sectors are producing innovation as a means of looking for opportunities. Similarly, a company can eliminate errors and redundancies in its operations by applying knowledge correctly. This is also a signal to quicken administrative processes and new product development. Hence, it follows that knowledge management is crucial for stimulating innovation in the service sector.

Payal et al (2019) explored how the knowledge management process mediates the relationship between knowledge management strategy and company performance. A study of 346 Indian businesses included in the NASSCOM database was conducted, with IT managers serving as the study's respondents. Structural equation modeling was used for data analysis. According to the study, there are primarily two categories of KM strategy: system strategy and human strategy. Human strategies are obtained by human tactics and expertise, whereas system strategies are created by the availability of information technology. Similarly, efficient knowledge management

depends on several enablers, including corporate collaboration, culture, and technology. All of the enablers have a vital role in the process and effectiveness of knowledge management in this way. The author claimed that the KM process mediates the relationship between knowledge management strategy and firm performance.

In the studies, **Oliva and Kotabe (2019)** reviewed the knowledge management techniques, tools, and challenges faced by startup enterprises in Sao Paulo. 108 startups participated in the survey, which included desk research, bibliographic research, and expert interviews. The study makes several contributions. First, it identified many obstacles to knowledge management implementation in start-up businesses, including a lack of funding and time constraints. Also, knowledge management techniques have broad use in startup operations, like holding internal meetings, evaluating the market or specialists, consulting with mentors, etc. A variety of applications are used, including Dropbox and Microsoft Office. The study concluded that several actors in the startup ecosystem contribute to the creation of new ideas, and they should take timely action in this dynamic environment.

Chiu and Chen (2016) examined organisational effectiveness in the context of Taiwanese industries' knowledge management processes and capabilities. The study also examined the role of organisational commitment in mediating links between knowledge management and organisational effectiveness. To determine the relationship, structural equation modelling and the bootstrapping approach were used, and the study contains several contributions. The first finding of the study is that both knowledge management infrastructure and competencies have a substantial impact on organisational effectiveness. Contrary to expectations, organisational commitment plays a minor role in the relationships between the effectiveness of the knowledge infrastructure. The author also stated that a strong team dynamic and collaborative environment are essential for the adoption of knowledge management to succeed. Similarly, the author claimed that each team member must oversee all of the knowledge resources before they can be used.

In their studies, **M. Wang and Yang (2016)** explored the effectiveness of knowledge management strategies in small and medium-sized businesses. Structural equation

modeling was used with 277 SMEs from Taiwan, and it was discovered that both technological and human factors contribute to the success of each knowledge management initiative. Additionally, it has been discovered that there is a direct association between KM usage, quality, and successful implementation. The most crucial predictor of success among these is system quality. The authors also summarised that users of various knowledge facilities should have a basic understanding of how to apply and implement knowledge management.

In their study, **Bettiol et al. (2016)** outlined how newly founded enterprises acquire knowledge resources and how the networking, dynamic environment, and founder traits of these ventures affect the development of capabilities in the new ventures. The analysis is based on 430 newly launched businesses that were registered between 2005 and 2007 and were still operating in 2013. Logit regression was used in the study, and it makes several contributions. First, it indicated how someone with a higher level of education and academic background can develop dynamic talents by training and learning from them. So, each company should develop a partner selection strategy that is successful and can produce dynamic capabilities. Second, networking is a powerful tool for knowledge creation. People can work together with various partners in the startup ecosystem through networking processes. So, they ought to adopt a proactive networking style. The study also showed no differences in capability improvement by sector.

Donate and Sánchez de Pablo (2015) evaluated the role of knowledge-oriented leadership and innovation in the technology industry by considering the mediating role of knowledge management practices in Spain. Smart PLS software was used to determine the structural relationships, and it has been found that the leadership style of the executives can effectively manage the knowledge resources. In addition, knowledge-driven leaders act as role models by creating a flexible platform for employees. In this way, employees can generate work through learning from mistakes, better training, and attractive incentives. The study also argued that knowledge-driven leaders play a significant role in the knowledge-creation process by conducting research and development practices before implementing innovation. Likewise, the

study showed that some of the components of knowledge management are irrelevant to the relationship between knowledge-based leadership and innovation. Finally, an organisation with an efficient management style, communication, and motivation further encourages innovation in its production process.

Tan and Wong (2015) The goal of the study was to understand the relationship between three knowledge management practices, including knowledge resources, knowledge management processes, knowledge factors, and performance. The study included 206 Malaysian manufacturing enterprises, and structural equation modeling was used to analyse the data. The study made several contributions. The first is that human capital has a substantial impact on manufacturing performance. Second, all aspects of knowledge management affect employee engagement, performance, and innovation. In addition, the author noted that organisations must have the necessary management support and infrastructure to foster innovation for knowledge to be implemented effectively. Eventually, companies that have implemented knowledge management in the manufacturing process can access up-to-date information and quality at every level of the production process.

Lee and Wong (2015) In their study, they focused on analysing the knowledge resources, procedures, and factors that affected the performance of micro, small, and medium-sized businesses in the Malaysian region; the study was only applicable to the consulting industry. The survey included 105 participants, and a two-way ANOVA was used to analyse the data. The study discovered that micro and small businesses place a greater emphasis on human experience and knowledge to improve firm performance. Medium-sized businesses, however, increase value through tangible resources. The size of the organisation also affects the amount that can be set aside for a financial and time budget. Also, the vast majority of authors concurred that knowledge management can improve competitive advantages by reducing errors by monitoring the repository. Moreover, knowledge management is seen as a tool for increasing innovation and minimising duplication in their work. So, the authors concluded that knowledge management is necessary for all businesses, regardless of size, to survive in today's cutthroat environment.

De Clercq and Arenius (2006), in their study, assessed how knowledge affects a person's capacity to launch new ventures. The information was acquired from the Global Entrepreneurship Monitor, specifically from individuals in Finland and Belgium. The research used rare event logistic regression to determine the influence of knowledge on the choice to launch a business. Similar to this, education, self-efficacy, and a real role model in the entrepreneurship community all influence a company's decision to become an entrepreneur. Also, the survey concluded that the primary deterrent to entrepreneurship is fear of failure. The study also compares startup activities between the two nations and concludes that people from Belgium are more able to participate in startup activities than people from Finland.

Wong (2005) evaluated the critical success factors in the implementation of knowledge management in MSMEs, and for the analysis, 11 CSFs were identified. The study has provided several contributions. First, the support provided by the managers and leaders has a direct impact on the knowledge management activities. The author distilled the idea that managers should serve as role models for influencing decision-making. Through this, SMEs can search for new knowledge. Likewise, culture, infrastructure, and motivational aids also influence the implementation of knowledge management. The author concluded that these aspects should be taken into account to improve performance while applying the knowledge.

The studies of **Gold et al. (2001)** assessed the impact of infrastructure and knowledge management capabilities on organisational effectiveness. The survey included 323 senior executives, and the LISREL tool was used to determine how knowledge management infrastructure and competencies affect organisational effectiveness. According to the study, organisational effectiveness is achieved by combining all of the capabilities of the infrastructure, such as technology, culture, and structure, and all of the capabilities of the processes, such as acquisition, conversion, and protection. The study also assessed the KM framework from the perspectives of social capital and knowledge integration. It has been discovered that businesses use networking effectively to generate knowledge. As a result, all the managers are looking for training programmes that help enhance the KM process and infrastructure.

2.2.4. **STUDIES ON DYNAMIC CAPABILITIES**

The list of studies on the concept of dynamic capabilities—which is essential for new businesses and startups—is shown in Table 2.4.

Table 2.4

Literature on Dynamic Capabilities

Sl. No.	Title	Name of Journal	Database	Year
1	The role of business accelerators in generating dynamic capabilities within startups	Int. J. Entrepreneurship and Innovation Management	Inder science	2022
2	The influence of dynamic capabilities on startup growth	RAUSP Management	Emerald	2021
3	Innovation, Dynamic Capabilities, and Leadership	California Management Review	Sage	2018
4	Dynamic capabilities at IBM: driving strategy into action	California management review	California management review	2007
5	Dynamic capabilities and operational capabilities: A knowledge management perspective	Journal of Business Research	Science Direct	2007
6	Entrepreneurial resources, dynamic capabilities, and start-up performance of Taiwan's high-tech firms	Journal of Business Research	Science Direct	2007
7	Understanding dynamic capabilities through knowledge management	Journal of Knowledge Management	Emerald	2006
8	Dynamic capabilities and new product development in high Technology ventures: An empirical analysis of new Biotechnology firms	Journal of Business Venturing	Elsevier	2000

Source: Literature from various articles and theses compiled by the researcher

In their studies, **Polo García-Ochoa et al. (2022)** conducted a qualitative analysis to examine the impact of business accelerators on the development of dynamic capabilities. This research particularly focused on the part of Y Combinator, a prominent accelerator known for supporting newly established ventures by providing resources and fostering various capabilities. The study revealed notable differences in the performnce of companies that participated in the acceleration programme compared to those that did not. Moreover, it highlighted that the firms that engaged in these acceleration programmes gained distinct advantages, which significantly benefited their businesses. These benefits included the integration of valuable resources, the ability to understand the environment, and the ability to outperform their competitors.

In the studies of **Teixeira et al. (2021),** they explored the influence of dynamic innovative capabilities in newly established Brazilian companies. The research employed a stepwise regression tool and involved 137 startup firms. The results explained that understanding customer needs plays a vital role in driving startup growth. This study supported the idea that, in resource-constrained environments, individuals tend to seek collaboration with external parties to acquire resources and sustain their businesses. In addition to that, the study concluded that the dimensions of scaling and stretching within dynamic capabilities are important, particularly as they pertain to human involvement. Scaling concentrates on delivering products through various channels in a consistent manner, while stretching is the process of expanding brand reach.

Schoemaker et al. (2018) developed a model by integrating business model innovation, dynamic capabilities, and leadership to evaluate the impact on the growth of business enterprises operating in highly volatile and dynamic environments. The study revealed that all the components of dynamic capabilities, including seizing opportunities, environmental scanning, and organisational structural change, played an important role in the growth of new ventures. Especially firms with a strong capacity for innovation were better positioned to achieve superior performance and

create unique business models. Thus, the study concluded that the development of dynamic capabilities necessitates a substantial investment of time and resources, along with effective leadership skills.

In their study, **Harreld et al. (2007)** conducted a critical evaluation of the significance of dynamic capabilities in maintaining the growth of IBM companies. They explored a case study-based approach to understand the main factors responsible for establishing dynamic capabilities. Among these factors, the study explained the pivotal role of effective leadership in creating core competencies. The authors also emphasised that the growth and success of these ventures depend on their ability to seize business opportunities, shaping their business activities accordingly. In conclusion, the authors revealed that the growth of IBM companies is primarily attributed to the idea that dynamic capabilities, combined with various other core competencies, significantly impact the performance of these business ventures.

The studies of **Cepeda-Carrión and Vera (2007)** explored the interplay between dynamic capabilities, knowledge management processes, and operational capabilities in information technology companies located in Spain. The study showed that firms that actively develop knowledge management and dynamic capabilities were better equipped to identify and understand knowledge gaps within their enterprises. Furthermore, the research supported the idea that the competitive advantages of these firms heavily relied on their ability to effectively manage available resources and establish diverse capabilities. Additionally, the study identified the importance of combining knowledge resources, capabilities, and organisational learning to enhance operational capabilities in the organisation.

L. Wu (2007) evaluated the interconnection of firm resources, dynamic capabilities, and new venture performance of Taiwanese firms. This study supported the resource-based view theory of entrepreneurship, which states that effective management of firm resources contributes to the performance of new ventures. In addition, the research highlighted that firms with wide resources tend to actively identify opportunities to

expand their networks, allowing them to better manage competitive environments. Furthermore, the study emphasised that these external networks aid firms in developing various capabilities, including dynamic capabilities. In conclusion, the research findings suggested that the dynamic capabilities and strategies can help them acquire resource configuration capabilities, integration capabilities, and learning capabilities and finally enhance their overall performance.

Nielsen (2006) evaluated how dynamic capabilities can be created through knowledge management activities within an organization. The conceptual evaluation from this research clearly explained the vital role of dynamic capabilities for organisations to attain and maintain competitive advantages in business enterprises. Moreover, it highlighted the significant interconnection between dynamic capabilities and knowledge management activities. Knowledge management should be seamlessly integrated into every aspect of a business organization. Recognising and evaluating the potential of knowledge management across the organisation can help not only in building dynamic capabilities but also in developing a sustainable competitive advantage in a dynamic and competitive business environment.

Deeds et al.'s (2000) study examined the impact of different elements of dynamic capabilities on the ability of biotechnology firms to introduce new products. The ordinary least squares method was applied for the data analysis, which contributed to several important findings. Firstly, the study clearly showed that firms situated in various geographic regions exhibited distinct results. These regional differences were explained by aspects such as the firm's ability to capitalise on market opportunities, access to knowledge sharing, and infrastructure facilities. Moreover, the study indicated that the capacity of team members to effectively understand research and development activities also played a significant role in influencing new product development capabilities.

2.2.5 STUDIES ON NETWORKING CAPABILITIES

The list of studies on the concept of networking capabilities—which is essential for new businesses and startups—is shown in Table 2.5.

Table 2.5

Literature on Networking Capabilities

Sl. No.	Name of article	Journal	Database	Year
1	The impact of networks on the innovative and financial performance of more entrepreneurial versus less entrepreneurial farmers in West Java	NJAS - Wageningen Journal of Life Sciences	Elsevier	2019
2	Entrepreneurial alertness and new venture performance: Facilitating roles of networking capability	International Small Business Journal	Sage	2018
3	Networking and New Venture's Performance: Mediating Role of Competitive Advantage	International Journal of Emerging Markets	Emerald	2018
4	Impact of network capability on small business performance	Management decision	Emerald	2015
5	Entrepreneurial orientation, market orientation, network ties, and performance: Study of entrepreneurial firms in a developing economy	Journal of Business Venturing	Elsevier	2013
6	Networking capability, new venture performance, and entrepreneurial rent",	Journal of Research in Marketing and Entrepreneurship	Emerald	2013

Sl. No.	Name of article	Journal	Database	Year
7	Exploring the effects of network configurations on entrepreneurial orientation and firm performance: an empirical study of new ventures and small firms	Annals of Innovation & Entrepreneurship	Taylor and Francis	2010
8	New Venture Growth in International Markets: The Role of Strategic Adaptation and Networking Capabilities	International Entrepreneurship	Emerald	2005

Source: Literature from various articles and theses compiled by the researcher

Etriya et al. (2019) conducted a study to assess the performance of farms and their capacity to adapt to market changes. Also, the impact of networking and entrepreneurial degrees on performance is assessed. The survey included responses from 262 vegetable farmers. OLS regression was used, and it has contributed in several ways. To start, entrepreneurial farmers are better able to network with other parties and are highly risk-averse. Firms can employ a variety of innovations in the farming process through the use of heterogeneous networking techniques, which improves the performance of the organization. In addition, networks upstream and downstream are developed for information access. The authors concluded that firm size affects innovation practices as well. Firms with large spaces can use these facilities to conduct experiments.

Adomako et al. (2018), in their investigations, used the moderating effect of networking abilities to assess the impact of entrepreneurial alertness on the performance of new ventures. The study involved 203 startup businesses in Gana, and hierarchical regression was used to analyse the data. The study revealed that networking abilities and new venture performance are both impacted by an increasing level of entrepreneurial attitude. The notion of resource-based view theory and networking abilities in entrepreneurship literature on the success of new businesses

were also integrated into the study. Also, the degree of alertness is influenced by the volatility and uncertainty of the market. When businesses only have a limited amount of government backing, the authors suggested that they should focus more on resources.

In their studies, **Anwar, Rehman, et al. (2018)** explored the impact of several forms of networking, such as business, financial, and political networking, on the success of new businesses. Furthermore, the mediating function of competitive advantages is also assessed. 319 newly created ventures in Pakistan were the subject of the study. Structural equation modeling was used for the analysis, and it makes several contributions. First, the study applied the resource-based view theory of entrepreneurship and the social networking theory of entrepreneurship, both of which are significant in the literature on entrepreneurship. Second, to comprehend the market and regulatory elements, newly founded companies are primarily focused on maintaining political networks. In a similar vein, managers with connections to industry organisations can quickly obtain financial resources. The study concluded that the corporation can utilise both financial and non-financial resources via networking with various parties.

Zacca et al. (2015), in their investigations, assessed how networking abilities affected the success of small and medium-sized businesses in the United Arab Emirates. PLS structural equation modeling was applied for the analysis, and it was also determined whether innovativeness and competitive aggressiveness played a mediating effect. According to the study, networking capabilities have a big impact on how innovative a company is and how well it performs. These skills also serve as a mediator between these two factors. Firms can improve their technical expertise through the process of knowledge creation, which enhances their value to customers. Similar to this, competitive aggressiveness guarantees that the company will adapt its current product offering to changing market conditions.

Fernhaber and McDougall (2005) carried out a conceptual analysis of the impact of networking and strategic adoption on the performance of the global market. In the entrepreneurial literature, the study has produced information on the risks associated

with novelty and foreignness. The authors' diverse contributions include the following: First, international new ventures could focus more on existing resources to manage the liability of newness. The founders' networking skills also play a role in how well these resources are used. The authors concluded that businesses expanding for the global market should have sufficient resources, competitive tactics, and networking.

Boso et al. (2013) conducted a study to determine the impact of marketing orientation and entrepreneurial orientation on the success of recently created businesses in Gana and to determine whether there is any significant difference between the presence of social and professional network linkages. 203 businesses engaged in the data analysis, and structural equation modeling was applied using LSREL software. The study has made several contributions, the first of which is that the performance of new enterprises is significantly influenced by both entrepreneurial orientation and market orientation. Because Gana's infrastructure, supply chain, and commercial rules are still in their infancy, the study contends that businesses need a substantial amount of entrepreneurial orientation. Also, a strong marketing focus is essential for identifying marketing opportunities.

Mu (2013) established a theoretical model connecting networking skills, networking resources, entrepreneurial rent, and new venture performance. The study makes numerous contributions and develops a thorough understanding of networking potential and new venture performance. According to the research, the author argued that businesses require sufficient social connections and networking skills to foster innovation in new ventures. Moreover, networking abilities allow businesses to launch unique products by spotting marketing possibilities and current industry trends. A company should have a distinctive business model with the ability to scale its products before conducting marketing research and networking. Several types of entrepreneurial rent, including Coleman, Burt, Schumtarian, and Ricardian, have been introduced by the study. All these are generated as a result of synergy among various parties in the ecosystem.

Parida et al. (2010), in their investigations, focused on the impact of network configuration and entrepreneurial mindset on the success of new ventures and startups. Multiple regression was used to determine the link between the variables, and distinct sample strategies would be used for both new enterprises and small businesses. The study has produced a variety of contributions. Furthermore, due to the value chain's excessive reliance on customers and suppliers, networking setup has no bearing on the performance of startups. The study further supported the resource-based perspective theory by claiming that the development of networking capabilities can be viewed as a means of overcoming operational and internal efficiency constraints. Thus, it can be concluded that networking capabilities play a significant role in the growth of startup companies. It is considered the critical factor for implementing resources and capabilities within the new ventures. As a result, person with an entrepreneurial mindset always looking for ways to enhance their competitiveness in their respective newly established ventures.

2.6. STUDIES ON MARKET INFORMATION ACQUISITION STRATEGIES

The list of studies on the concept of market information acquisition—which is essential for new businesses and startups—is shown in Table 2.6.

Table 2.6

Literature on Market Information Acquisition Strategies

Sl. No.	Title	Name of journal	Database	Year
1	The acquisition and utilization of market information in new venture development and the contingent nature of new venture organizing	Journal of Strategic Marketing	Routledge	2012
2	New Venture Performance in China, Japan, and the United States: The Impact of Formalized Market Information Processes*	J prod innovation management	Research Gate	2012

Sl. No.	Title	Name of journal	Database	Year
3	Market Information Acquisition, Use, and New Venture Performance	J prod innovation management	PDMA	2010
4	Do market information processes improve new venture performance	Journal of Business Venturing	Elsevier	2010
5	Market Information and New Venture Performance: Differences Between Established and Emerging Technology Standards	IEEE Transactions on engineering management	Research Gate	2010
6	The impact of formal processes for market information acquisition and utilization on the performance of Chinese new ventures	Intern. J. of Research in Marketing	Elsevier	2009
7	The effects of entrepreneurial orientation and marketing information on the performance of SME	Journal of business venturing	Elsevier	2006
8	The Information Needs and Information Seeking Behaviors of SME Managers in Botswana	Libri	Research Gate	2006
9	Market Information Scanning Activities and Growth in New Ventures" A Comparison of Service and Manufacturing Businesses	Journal of Business Research	Elsevier	1996
10	Information Acquisition Activities: A Study of Global Start-Up Exporting Companies	Journal of International Marketing	Research Gate	2000

Source: Literature from various articles and theses compiled by the researcher

Hopp (2012) explored the impact of acquiring and applying market information on the growth and development of new ventures. The effectiveness of new ventures is measured in terms of profitability, reaching the break-even point (BEP), and achieving

specific sales targets. This study involved the participation of 850 nascent entrepreneurs. The findings of the study were clear: businesses that had gathered market information from both their customers and competitors tended to achieve more favourable results. Furthermore, the study emphasised the significance of both acquiring and effectively utilising market information as crucial determinants in recognising market opportunities, formulating a solid business plan, and capitalising on these identified opportunities. In summary, businesses actively engaged in collecting and applying market information are better engaged in establishing themselves as strong competitors within their respective markets.

Kawakami et al. (2012), in their investigations, focused on the significance of market information on the performance of new ventures and whether the formalisation process has an impact on the relationships between these aspects. 453 new companies in the US, China, and Japan are the subject of a study to determine whether there are any cultural differences between them. According to structural equation modelling, market information affects how new businesses perform across all nations. Additionally, an ANOVA is conducted to see whether there are any differences in the formalisation process between other nations, and it is discovered that the US is the only country where the formalisation process has an impact on the market information process, with the other two countries being unaffected. As a result, the authors concluded that cultural disparities exist between the formalisation processes of various regions.

The studies by **Parry and Song (2010)** scrutinised the importance of collecting and utilising market information for the success of newly established 222 Chinese ventures. Through the use of ordinary least squares regression analysis, the study agreed that enhancing competitive advantages depends on the acquisition and utilisation of market information. In addition to that, the research indicated that organisations with a technology focus are more responsive to market information compared to those with market-oriented firms. This study made a valuable contribution to existing knowledge by demonstrating that the achievements of startup

companies are notably affected by both formal and informal methods of acquiring market-related information.

Song, Di Benedetto, et al. (2010) explored the impact of market information on the success of new ventures while taking into account prevailing technological norms in their studies. A survey of 222 new businesses in China is being done. The OLS regression showed that the formal method of acquiring and utilising market information has a major impact on how well new ventures perform. Thus, every firm can determine its strategies and establish connections with diverse stakeholders. In contrast to established companies, the authors discovered that new companies require market information. Similar to this, the author claimed that companies with higher technical standards do better financially than those without them. Because of their resource constraints, new companies continue to use market information.

Song, Wang, et al. (2010) conducted research to determine how the process of obtaining market information impacts the performance of newly established ventures. The main objective of the study was to determine the relationship that exists between the level of customer interaction, the acquisition of market information, and the performance of these startups. A total of 224 newly established firms in the United States participated in our survey. This study provided several contributions: Firstly, it highlighted the significant role that acquiring and utilising market information plays in enhancing the performance of new ventures. Secondly, it explained that the significance of market information is greater for established markets compared to emerging markets. Contrary to our expectations, our findings revealed that customer interaction and market information do not exhibit any differences and do not significantly affect the performance of startups.

M. Song et al. (2009) recognised how crucial it is to acquire and then use marketing information to assess the success of new enterprises. A survey of 222 Chinese startups was undertaken. According to hierarchical regression, the success of their projects depends on how well the market supports their information-gathering efforts. According to the study, if the market is still in its infancy, new businesses might use this knowledge to boost their chances of success. Similar to this, market information

is essential in established markets. This information is a weapon for creating business plans, making strategic choices, and assessing project outcomes.

The studies by **Keh et al. (2007)** explained the relationship between entrepreneurial orientation (EO) and the influence of new venture performance. Their study found that EO directly affects how market information is collected and utilised, ultimately leading to innovation in their ventures. To identify this relationship, they conducted a survey involving 294 small and medium-sized enterprises (SMEs) in Pakistan. The authors argued that individuals with innovative and risk-taking abilities are more likely to evaluate customer needs effectively. They emphasised that the process of acquiring and utilising market information holds great importance for implementing a successful marketing strategy.

Jorosi (2006) carried out a study based on the information-seeking habits of SME managers in the Botswana region. A total of 216 SME managers took part in the study, which made several contributions. First, managers are investing more effort in information collection. In a similar vein, information gathered from customers and competitors is seen as a valuable source of information. Managers also use both public and private information sources, depending only on their availability. The study concluded that information acquired from multiple sources can be used to inform strategic choices.

The studies of Yeoh (2000) explored the effectiveness of international startups based on information-seeking behaviour. The study is carried out in the US and focuses on three types of data, including private, quasi-government, and documentation sources. The study offered several contributions. First off, global startup enterprises relied more on personal and quasi-governmental sources for their information. Second, unless the founders have prior foreign business experience, international company success is exceedingly risky. In addition, businesses also obtain clients through the Internet and personal networking. In light of this, the author concluded that spending more time on networking, information collection, and flexible government policies may have an impact on startup performance.

In the research conducted by **Peters and Brush (1996),** they identified the significance of market information within contemporary business environments. The primary objective of their study was to ascertain how market information scanning influenced the performance of newly established businesses. Furthermore, they aimed to evaluate whether any disparities existed in the scanning practices among service-based and manufacturing companies. To analyse their data, the researchers employed the multiple-stepwise regression method. The findings of the study revealed that manufacturing firms utilised a diverse range of market information to enhance the success of their ventures. Moreover, they discovered that informal methods of gathering market information were particularly effective in maintaining networking with external parties.

2.2.7. **STUDIES ON MARKET ORIENTATION**

This section consists of a literature review analysis of the concept related to market orientation. The initial phase includes information about the author and the database, presented in Table 2.7. Following that, the critical evaluation of each review is explained in detail.

Table 2.7

Literature on Market Orientation

Sl. No.	Title	Name of Journal	Database	Year
1	Market orientation, innovation, and firm performance—an analysis of Albanian firms	Journal of Innovation and Entrepreneurship	Springer	2017
2	Market orientation, innovation capability, and business performance: Insights from the global financial crisis	Baltic Journal of Management	Emerald	2014
3	Market orientation, alliance orientation, and business performance in the biotechnology industry	Journal of Commercial Biotechnology	Research gate	2014

Sl. No.	Title	Name of Journal	Database	Year
4	The Effect of a Market Orientation, Entrepreneurial Orientation, and Technological Capability on Innovativeness: A Study of Young Biotechnology Ventures in the United States and Scandinaviajsbm_274 331.369	Journal of Small Business Management	Research gate	2009
5	Market-based capabilities and financial performance of firms: insights into marketing's contribution to firm value	J. of the Acad. Mark. Sci.	Academy of Marketing Science	2008
6	The effect of market orientation and its components on innovation consequences: a meta-analysis	J. of the Acad. Mark. Sci.	Academy of Marketing Science	2007
7	Entrepreneurial, market, and learning orientations and international entrepreneurial business venture performance in South African firms	International Marketing Review	Emerald	2006

Source: Literature from various articles and theses compiled by the researcher

Prifti and Alimehmeti (2017) studied the intricate connections between market orientation, innovation, and the financial performance of firms located in Albanian regions. Their study revealed the presence of sectoral differences in these relationships, indicating that service-oriented firms place a greater emphasis on innovation. Furthermore, their findings demonstrated that achieving a competitive edge is dependent on various components, including the ability to evaluate customer needs, assess competitors, and meet technical requirements. As a result, it can be inferred that firms can maintain innovation by effectively harnessing market intelligence. The study concluded that firms can attain their competitive advantages through an effective understanding of the market environment in which they operate. In addition to that, competitor strategies and their offerings are also understood by the startup founders to create uniqueness in their business model.

In the research conducted by **Huhtala et al. (2014),** it is indicated that the different components of market orientation and innovation capabilities have a positive impact on business performance throughout different stages of a firm's life cycle. Furthermore, the study suggested that the extent of market orientation is influenced by economic fluctuations in every part of the business ecosystem. During economic downturns, companies should emphasise more market orientation. Conversely, during periods of economic upturn, businesses should focus on establishing a stronger customer orientation to attract customers, introducing new products, getting market returns, and positioning their products effectively in the market.

The studies by **Wilson (2014)** explored the impact of business performance on market orientation and alliance orientation within firms located in Canada. It becomes evident that Canadian biotechnology companies place a significant emphasis on both market orientation and alliance orientation. The effective integration of various elements of market orientation helps these firms in the development of customer orientation and competitor orientation. Consequently, firms with a strong market orientation are highly committed to understanding customer needs, recognising competitors' strategies, and fostering collaborative learning with their partners. Nowadays, business environments characterised by dynamic changes are always maintaining strategic alliances with different stakeholders in the startup ecosystem.

Renko et al. (2009) investigated the influence of market orientation, entrepreneurial orientation, and technological capabilities on fostering innovation within firms located in the United States, Finland, and Sweden. The study employed multiple regression methods to analyse the data, showing that the connection between market orientation and innovation is strong in firms situated in Finland and Sweden. However, this relationship displayed less significance for U.S. firms. Interestingly, the study established that biotechnology firms in their early stages tend to concentrate on the enhancement of technological aspects over marketing efforts when it comes to driving innovation. In addition to that, entrepreneurial orientation did not significantly contribute to innovativeness within their respective ventures. The finding also indicated that there is a perfect correlation observed between research and development expenses, patent development, and innovation.

Ramaswami et al. (2008) examined how market-based competencies and business performance are related. Researchers categorised all of the performances from the study into three categories: supply chain management, customer management, and performance in new product development. The study also examined whether business age and size had a moderating impact on these connections. First, it is agreed that market-based capabilities are required for the performance of their initiatives, which is one contribution made by the study. Second, client management is given top priority among the three performance measures. The effectiveness of customer management affects how loyal and satisfied customers are. Supply chain management, on the other hand, refers to the firm's ability to lead and share information. In the end, the study found that small businesses are well-equipped, with the role of company size being moderated.

In the studies of **Grinstein (2008),** a meta-analysis investigated the influence of market orientation components, including customer orientation, competitor orientation, and integration, on maintaining innovation in their ventures. The findings of the study indicated that all aspects of market orientation play a significant role in promoting innovation. Moreover, the author argued that the impact of these relationships is contingent on the organisation's size. Smaller firms with limited resources may encounter challenges when implementing innovation-driven market orientation strategies. In addition to that, the study highlighted that national culture can also have an impact on these associations. Firms with a higher market orientation are continually looking for ways to grow their operations while keeping a close eye on developments in the business world.

In the study conducted by **Kropp et al. (2006),** they investigated the significant relationships among entrepreneurial orientation, learning orientation, market orientation, and the performance of international new ventures. The study consisted of entrepreneurs and managers from African nations. The researchers categorized entrepreneurial orientation into two kinds: innovative orientation and communicative orientation. The findings of the study explored that international new venture performance is significantly influenced by factors such as innovation, a focus on learning, and market orientation. However, communication orientation did not yield any results. The authors also agreed that to improve entrepreneurial performance in new ventures, entrepreneurs employ various strategies, including team training,

fostering creativity, and implementing different approaches. Finally, companies with a strong emphasis on market orientation tend to exhibit superior international performance. Thus, it can inferred that market orientation has a significant effect on new venture performance. Firms engaged in international business are always looking for ways to understand the market environment and different strategies to increase their productivity through innovative measures.

2.2.8. STUDIES ON ENTREPRENEURIAL ORIENTATION

This section consists of a literature review analysis of the concept related to entrepreneurial orientation. The initial phase includes information about the author and the database, presented in Table 2.8. following that, the critical evaluation of each review is explained in detail

Table 2.8

Literature on Entrepreneurial Orientation

Sl. No.	Title	Name of Journal	Database	Year
1	Entrepreneurial Orientation and New Venture Performance in Emerging Markets: The Mediating Role of Opportunity Recognition	Review of Managerial Science	Springer	2021
2	The Effect of Entrepreneurial Orientation on New Venture Performance: Contingency Roles of Entrepreneurial Actions	Journal of Business Research	Elsevier	2020
3	Incubator Networks and New Venture Performance: The Roles of Entrepreneurial Orientation and Environmental Dynamism	Journal of Small Business and Enterprise Development	Emerald	2020
4	Entrepreneurial Orientation and New Venture Performance: The Moderating Role of Network	European J. International Management	Inder science	2019

Sl. No.	Title	Name of Journal	Database	Year
5	Innovative Capacity and the Performance of Businesses Incubated in University Incubator Units: Empirical Study from Universities in Thailand	Journal of Open Innovation	MDPI	2019
6	Effects of entrepreneurial orientation on start-up success: A gender perspective	Management Science Letters	Research Gate	2018
7	Entrepreneurial Orientation and Venture Performance in Ethiopia: The Moderating Role of Business Sector and Enterprise Location	Journal of Global Entrepreneurship Research	Springer	2018
8	Entrepreneurial Orientation and Firm Performance: The Mediating Role of Functional Performances	Management Research Review	Emerald	2018
9	Entrepreneurial Orientation, Entrepreneurial Education and Performance	Asia Pacific Journal of Innovation	Emerald	2018
10	The effect of market orientation as a mediating variable in the relationship between entrepreneurial orientation and SME performance	Nankai Business Review International	Emerald	2016
11	Organizational Learning, Entrepreneurial Orientation, and the Role of University Engagement in SMEs	International Small Business Journal	Sage	2016
12	The Moderating Role of Business Environment in the Relationship between Entrepreneurial Orientation and Business Performance among Nigerian SMEs	Journal Pengurusan	JP	2015
13	Entrepreneurial Orientation, Firm Strategy, and Small Firm Performance	International Small Business Journal	Sage	2014

Sl. No.	Title	Name of Journal	Database	Year
14	Innovation as Mediator between Entrepreneurial Orientation and Spin-off Venture Performance	International Journal of Entrepreneurship and Small Business	Inder science	2010
15	Entrepreneurial Orientation and New Venture Performance: The Moderating Role of Intra- and Extra Industry Social Capital	Academy of Management Journal	Research Gate	2008
16	The Relationship among Social Capital, Entrepreneurial Orientation, Organizational Resources, and Entrepreneurial Performance for New Ventures	Contemporary Management Research	Academy of Taiwan information system research	2007
17	Entrepreneurial Orientation and Performance in Malaysian Family Business	Thesis	Thesis	2006
18	Entrepreneurial Orientation and Small Business Performance: A Configurational Approach	Journal of Business Venturing	Science Direct	2005

Source: Literature from various articles and theses compiled by the researcher

Anwar et al. (2021) conducted a study to determine the connection between entrepreneurial orientation, opportunity recognition, and new venture performance. 316 newly established firms from Pakistan participated in the survey. The findings of the study argued that newly founded businesses can make use of their business prospects by implementing innovative methods, which lends support to the resource-based perspective theory of entrepreneurship. To encourage innovation, startups can therefore focus more on the least expensive resources than financial resources. The current study used the PLS-SEM approach, and the results show that finding potential markets requires an entrepreneurial perspective. Likewise, firms with higher innovativeness, risk-taking, and pro-activeness always search for new ideas and markets. Finally, the study found that both entrepreneurial orientation and market orientation are necessary for the success of new ventures.

Donbesuur et al. (2020) The study investigated the effect of entrepreneurial orientation on the performance of 229 new ventures in Africa, taking into account the mediating role of entrepreneurial actions facilitated by institutional support and policies. The results, as revealed through structural equation modelling, showed a positive relationship between entrepreneurial orientation and new venture performance. In addition to that, the research highlighted the importance of networking capabilities and social ties in reinforcing the connection between entrepreneurial orientation and the success of new ventures. Similarly, the research showed that new ventures face challenges such as the liability of newness and resource constraints. Firms can overcome these challenges through effective opportunity identification. The conclusion drawn by the authors emphasises that the success and survival of new ventures rely on strategic actions. These actions, facilitated by institutional support and policies, enable ventures to identify market opportunities, introduce innovative products, and navigate challenges associated with the new ventures.

In their studies, **W. Wu et al. (2020)** demonstrated the effect of entrepreneurial orientation on new venture performance by mediating the internal and external networks of businesses incubated in China. The data consisted of 205 new businesses from China, and multiple regression was applied for data analysis. The study has provided several contributions: Firstly, the study confirms that internal and external networks of business incubators enlarge new venture performance. Secondly, networking capabilities mediate entrepreneurial orientation and new venture performance. Finally, the study supported that environmental dynamism moderates the link between these dependent and independent relationships. The authors also agreed that business incubation centres are the platform for innovation creation and sustainable development in emerging economies.

In their studies, **Sekliuckienė and Sedziniauskienė (2019)** explored new venture performance by considering entrepreneurial orientation and network types. The data consisted of 83 new ventures from Ludhiana. Multiple regression was used for data analysis, and the study confirmed that all types of networking orientation don’t

contribute to international new venture performance. The study found that entrepreneurs who are obtaining more informal and formal relationships always negatively impact the performance of ventures in such a way that they are always looking to maintain their relationships. The study also analysed its mediation effect and found that only formal network types contribute to positive performance. So, the study concludes that effective management of formal network ties is necessary for the performance of new ventures.

Rakthai et al. (2019) conducted a study to determine how innovative capacity affects the performance of startups that pass through business incubation centres. The data consisted of 220 startups registered in the business incubation centre of Taiwan. PLS structural equation modeling revealed that the founder's leadership orientation and networking led to the success of startups. Results found that the leadership orientation of the founder plays the most important role in startup performance. Likewise, entrepreneurial orientation promotes innovative capacity in their respective ventures. The author also agreed that innovation and networking are crucial components of business performance. Likewise, universities and incubation centres act as innovation hubs, both for knowledge sharing and networking with others. The author concluded that the success of startups is the result of all the elements of the startup ecosystem, including founders, incubation centres, universities, and the government.

The studies of **Kee and Rahman (2018)** explored the gender-based relationship between entrepreneurial orientation and startup performance. The study included 120 startups from Malaysia. Innovativeness, pro-activeness, and risk-taking were used to assess entrepreneurial orientation, and the PLS-SEM approach showed that entrepreneurial orientation influences startup performance. The study has made several contributions, the first of which is that all aspects of entrepreneurial orientation contribute to the success of startups. Second, compared to their female counterparts, men exhibit more entrepreneurial behavior. Gender has a considerable impact on entrepreneurial orientation and startup performance, according to a PLS multi-group study. The study also found that inventive and proactive startups consistently look for new ways to enhance their performance.

Kosa et al. (2018) conducted a study to identify entrepreneurial orientation and business performance by moderating the role of sector and location of business. The data consisted of 210 small firms from Ethiopia. Multiple regression was used for data analysis, and it was found that components of entrepreneurial orientation such as autonomy, pro-activeness, and risk-taking lead to small business performance. From the analysis, it is clear that the manufacturing sector dominates small enterprises in Ethiopia. Likewise, firms that are first in adopting their strategies and innovativeness encourage effective customer retention practices. Moreover, geographical location plays an important role in shaping entrepreneurial behavior. Firms situated in larger urban cities exhibit more innovation and proactivity due to the abundance of resources and infrastructure facilities in such locations.

Rezaei and Ortt (2018) The study identified the importance of entrepreneurial orientation in the overall performance of tech companies, focusing on functional aspects like production, marketing, and research and development. Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied to analyse data from 279 tech companies. The results showed that each aspect of entrepreneurial orientation significantly affects overall success. Additionally, the study investigated the specific functional performances influenced by each entrepreneurial orientation element. It showed that innovativeness positively affects research and development capabilities, while proactiveness tends to enhance marketing and sales results. Similarly, contrary to expectations, the study showed that risk-taking had a limited impact on the efficiency of manufacturing processes.

Cho and Lee (2018) The research measured the relationship between entrepreneurial orientation, entrepreneurial education, and performance by involving 200 newly established ventures in Korea. Through multiple regression analysis, it was found that components of entrepreneurial orientation, particularly innovativeness and proactiveness, positively influence both the financial and non-financial performance of startup companies. Likewise, the study concluded that the founder's risk-taking propensity does not significantly impact the financial and non-financial performance of these new ventures. Furthermore, the current study discovered that entrepreneurial

education has no discernible impact on the overall performance of startup businesses operating in the Korean region, which is in contrast to previous research on entrepreneurship.

Amin (2015) has done a study to identify the connection between entrepreneurial orientation and SME performance by mediating the role of market orientation. The study consisted of 500 SMEs from Malaysia, and PLS-SEM was used for data analysis. The result of the study provided several contributions: Firstly, entrepreneurial orientation positively contributed to market orientation capabilities. Secondly, SMEs possess higher entrepreneurial and market orientation and can get a clear idea about current market potential. Likewise, the pro-activeness of the founder helps him become a market leader. Risk-taking orientation also helps in taking strategic actions, even if they are uncertain. Apart from that, innovativeness also contributes to growth and profitability. So, in conclusion, all the components of entrepreneurial orientation led to SME performance.

Dada and Fogg (2014) conducted a study to confirm the relationship between elements of entrepreneurial orientation that influence organisational learning in the context of SMEs. Additionally, it assessed how university engagement might strengthen the connection between these two variables. 206 SMEs from the Netherlands participated in the survey, and data analysis was done using the regression approach. First, it is evident that all aspects of an entrepreneurial attitude, including inventiveness, risk-taking, and pro-activeness, serve as tools for organisational learning. The study also sheds light on how to create competitive advantages within an organization. Finally, it supported the Knowledge-Based Theory (KBT) of entrepreneurship, and it was found that both entrepreneurial orientation and university engagements are ways of enhancing explicit and implicit knowledge in their respective ventures.

In their studies, **Shehu and Mahmood (2015)** explored the relationship between entrepreneurial orientation and venture performance while controlling the influence of the business environment. 511 Nigerian firms participated in the data collection process. According to the study, performance was directly impacted by

entrepreneurial orientation. Contrary to assumptions, the business environment has no moderating effect on how well a business performs. The study concluded that both entrepreneurial orientation and the business environment have an impact on performance, both favourably and adversely.

Lechner and Gudmundsson (2012) conducted a study to determine the connection between entrepreneurial orientation and small venture performance by mediating the role of cost leadership and differentiation strategy. The data consisted of 335 bankrupt and non-bankrupt companies, and PLS-SEM was used for data analysis. The study provided several contributions. It showed that competitive strategies followed by founders and their entrepreneurial orientation led to success in small venture performance. Likewise, cost leadership plays a superior role in differentiation strategies. Further, the innovativeness of the founder encourages a differentiation strategy. Similarly, different components of entrepreneurial orientation influence competitive strategy in different ways. It is also clear that innovativeness and pro-activeness affect differentiation strategy, and pro-activeness does not lead to cost leadership. So, the study concluded that surviving firms have a positive influence on differentiation and a negative effect on cost leadership.

Helm et al. (2010) conducted a study to determine the role of innovation as a mediator in entrepreneurial orientation and venture performance relationships. Performance is evaluated through market entry success and long-term performance. The data for the study consisted of 165 high-tech firms from Germany. Structural equation modelling revealed that entrepreneurial orientation and innovation lead to better performance in spin-off ventures. The authors pointed out that entrepreneurs who possess innovativeness, self-motivation, and risk-taking abilities contribute to venture success. Likewise, innovation shows a perfect mediation between entrepreneurial orientation and performance. The study also confirmed that business performance is the combined effect of entrepreneurial orientation, motivation, innovation, organisational structure, and financial settings. Innovation is necessary for the competitive position and sustains the high technology markets.

Stam (2008) conducted a study to determine the influence of entrepreneurial orientation on entrepreneurial success through the mediation of social capital. The data consisted of 90 software-related ventures, all of which are under five years old. The study discovered that the relationship between entrepreneurial orientation and new venture performance is mediated by social ties and networking. Similarly, a network's concentration of connections increases its capacity for innovation, risk-taking, and uncertainty reduction. The necessity of recognizing weak and strong links that influence how new businesses perform is frequently emphasized by the author. Expanding their networks guaranteed knowledge exchange between the parties, and new firms rely on networking skills to constantly seek ways to boost innovation through adaptation and experience from rival organisations.

Chen et al. (2007) conducted a study to assess social capital, entrepreneurial orientation, and entrepreneurial resources that affect the performance of new ventures. For that purpose, 104 new ventures from Taiwan have participated in the survey. Multiple regressions revealed that social capital and entrepreneurial orientation lead to better performance. The result provided several contributions: First and foremost, the new venture acquired higher social capital at the initial stages, and then there was better performance in their ventures. Further, the study revealed that there is a perfect connection between social interaction and autonomy. Likewise, founders connected with social interaction can develop technological and market advantages in their respective sectors. The authors also evaluated the profitability of new ventures in terms of their networking capabilities, and the founders created networking with external parties, ensuring higher profitability.

Chua (2006) conducted a study to determine the relationship between family business performance in Taiwan and entrepreneurial orientation. 350 family-oriented enterprises took part in the initiative, and PLS-SEM results show that this leads to greater performance in family businesses. The link is also moderated by environmental dynamics. The family business continues to innovate and improve performance while lowering total costs. which has opened up opportunities for new

venture development. According to the study, successful mixes of entrepreneurial-oriented elements improve performance in the family business.

Wiklund and Shepherd (2005) conducted a study to identify the connection between entrepreneurial orientation and new venture performance. The data consisted of 413 Swedish firms, and hierarchical regression was used for data analysis. The study found that components of entrepreneurial orientation in the form of innovativeness, risk-taking, and pro-activeness positively contribute to venture performance. Likewise, a combination of environmental dynamism and financial resources also influenced the performance. Entrepreneurial orientation creates scope for exploiting effective resources. So, in conclusion, the founder with strategic expectations, financial capital, and their surroundings performs better in their ventures.

2.2.9. **STUDIES ON LIABILITY OF NEWNESS**

The list of studies on the concept of liability of newness—which is essential for new businesses and startups—is shown in Table 2.9.

Table 2.9

Literature on Liability of Newness

Sl. No.	Title	Journal	Database	Year
1	Does Liability of Newness Matter for Digital Startup on the Early Stage of the Organizational Life Cycle?	Asia-Pacific Management and Business Application	University of Brawijaya	2021
2	Immigrant Entrepreneurship in Sweden: The Liability of Newness	Sustainability	MDPI	2020
3	Does Establishing Sociopolitical Legitimacy Overcome Liabilities of Newness? A Longitudinal Analysis of Top Performers	Group & Organization Management	Sage	2018
4	Business Incubator, A Solution for Startup's Challenges	Thesis	University of Osla	2017

Sl. No.	Title	Journal	Database	Year
5	A Matter of Location: The Role of Regional Social Capital in Overcoming the Liability of Newness in R&D Acquisition Activities	Regional Studies	Taylor and Francis	2016
6	Entrepreneurial Competencies, Liability of Newness, and Infant Survival Evidence from the Service Industry	Journal of Management Development	Emerald	2016
7	Interaction Approach and Liabilities: A Case Analysis of Start-Up Firms	Journal of Business Marketing	Taylor and Francis	2016
8	The Role of Financial Bootstrapping in Handling the Liability of Newness in Incubator Businesses	Entrepreneurship and innovation	Research Gate	2015
9	The Role of Entrepreneurship Education and Start-Up Experience for Handling Liability of Newness	IJEBR	Emerald	2013
10	Arthur Stinchcombe's "Liability of Newness". Contribution and Impact of the Construct.	Journal of Management History,	Research Gate	2012
11	The Liability and Asset of Newness and Stakeholders' Assessment: An Exploratory Study	Academia	SSRN	2010
12	Revisiting Stinchcombe's Liability of Newness: A Systematic Literature Review	IJGSB	Research Gate	2009
13	Factors Critical in Overcoming the Liability of Newness: Highlighting the Role of Family	Springer	Research Gate	2009
14	Marketing in High-Tech Start-Ups: Overcoming the Liability of Newness in Israel	Open data	CORE	2006

Source: Literature from various articles and theses compiled by the researcher

Harijanto et al. (2021) found that the liability of newness had a mediating function between organisational formation, organisational capacities, entrepreneurial attitude, and the capacity of digital startup enterprises to survive. The survey included 415 Chinese founders of digital startups, and structural equation modeling (SEM) was used to analyse the data. It has been discovered that in the beginning, networks are more capable because of the high risk of newness. Also, the synergy and shared experience of the founding team are essential to a startup's capacity to survive. Innovative founders' acts have also produced an adaptable organisational culture. Contrary to assumptions, organisational effectiveness has no bearing on whether new businesses survive.

Barth and Zalkat (2020) aimed to check the risk associated with newness among immigrant entrepreneurs in a study done in Sweden. 25 immigrant business owners took part in a semi-structured interview, and content analysis was used to analyse the data. The study lists the following contributions: First, immigrant business owners initially encounter a lot of challenges, just like any other firm. They also have to cope with problems like having access to resources, connecting with others, and raising money. The authors also concluded that they are using a variety of tactics to manage these liabilities with the aid of family members, ethnic communities, and governmental organizations. The educational background and prior experience of business founders might also assist in reducing these liabilities that they initially faced.

The studies of **Rutherford et al. (2018)** explored the connection between sociopolitical legitimacy and managing the liability of newness. A longitudinal study using the KFS survey found that there are numerous approaches for new enterprises to prove their reliability. To determine how well new enterprises are operating, profitability and company size are considered. A founder with prior expertise and startup knowledge may also be able to forge connections and get over initial challenges. The signaling theory contends that to attract customers, emerging companies must publicly display their core beliefs. The author also concluded that obtaining financing will be simple for businesses that use legal business practices.

According to the author, newly founded businesses might gain legitimacy through either regulatory or normative means. Accepting laws and regulations can lead to regulatory legitimacy, while fair operations can lead to normative legitimacy.

Mireftekhari (2017) studied the function of business incubators in assisting new businesses in overcoming the hazards related to their inexperience and small size. A qualitative study that involved administrators of various business incubator facilities and newly founded companies found that startups were particularly vulnerable in the beginning. The same may be said about company incubators, which may focus on internal problems rather than external ones. Incubation aids in solving internal problems that these organisations have, such as those about office space, infrastructure, and networking, but little attention is given to the market and finances. So, the author concluded that business incubation aids them in part because they are not coping with external obstacles.

The studies of **Laursen et al. (2015)** demonstrated the effect of regional social capital in handling the liability of newness among startup companies. Information was acquired from Italian startups that had been registered between 2001 and 2003. Logit regression revealed that businesses with external R&D are more capable of managing their initial liabilities. Participating in social groups and informal organisations also makes it easier to engage with other startup ecosystem stakeholders and gain access to their networks, infrastructure, and resources. Furthermore, innovative processes and regional social capital are directly tied to firm age, making it possible for external collaboration and core competency. The study concluded that social capital may be divided into two categories: bonding and bridging. The inclusion of social capital that fosters bonds may hurt a company's performance.

Guercini and Milanesi (2016) studied the connections between various liabilities, such as the liability of newness, smallness, and adolescence, among startup companies. A case study-based method was used for that. The study discovered that founders' personal experience significantly lowers total risk and liabilities in startup communities. Moreover, the presence of business incubators might, to some extent, reduce these liabilities. Another component of the study was the liability of smallness,

where the majority of them are impacted by how they market their goods and the lack of specialists in their specific fields. As a result, the authors offered several methods for controlling these liabilities, including a diverse team and networking skills to maintain business competitiveness. The authors also suggested a network heritage concept as a method of managing these liabilities.

Uli (2016) undertook a study to see whether there is a link between entrepreneurial orientation and the risk associated with launching new companies. A case-study-based analysis focused on three new businesses in Italy and the United States. The study incorporates the following contributions: The first was that a business with marketing expertise and previous business experience can manage the risk of being new. As a result, the author agreed that the human capital of founders has a beneficial impact on startup companies' chances of surviving and gives them the ability to overcome these challenges. The acceptance of different cultures and the sharing of knowledge can similarly protect us from the risks associated with novelty. According to the study, a company can potentially face fewer obstacles once they have gained experience. The authors evaluated the importance of consumer relationship management in enabling new businesses to survive.

Winborg (2015) researched how financial bootstrapping helps foster new ventures and manage the liability of newness. The study involved 91 Swedish businesses that were located in four business incubators. Data analysis was done using multiple regression, and it was determined from the study that new businesses initially face both internal and external challenges and that business incubation centres are an effective tool for managing these hazards. Additionally, it demonstrates that internal obligations and financial bootstrapping have a perfect inverse relationship.

Ulvenblad et al. (2013) explored the methods of overcoming the liability of newness for start-up companies. A survey of 392 Swedish business founders was conducted. To manage these liabilities, the author also took into account two essential components, such as business expertise and experience. It has been discovered that individuals with academic qualifications and prior experience can manage these liabilities by improving market research, scanning the business environment, and

having the ability to interact with rival businesses. A greater level of communication skills is also exhibited by entrepreneurs who possess these qualities. In conclusion, young company founders are dealing with more difficulties than experienced business owners. Their initial liabilities will be reduced as they mature.

Betawi (2012) performed a conceptual examination of theoretical and conceptual advancements in the area of the Schumterian theory of liability and newness. According to the study, the shortfall of recently founded companies is caused by a lack of knowledge about the field. The author also made the point that newly created businesses need time to build their social capital and win the public's trust. In other words, the shortcomings of their newness are revealed as a result of their lack of finances. The study concluded that several factors, including partnerships with universities, the role of the government, trade regulations, and government taxation policies, among others, affect whether new businesses survive or not.

The studies of **Choi (2010)** explored the four criteria of the liability of newness, such as dependability, responsibility, validity, and commitment. Several stakeholders participated in verbal protocol analysis to search for differences in perceptions. The paper described numerous contributions. First off, businesses that have higher levels of innovation and good founding conditions have a positive effect on stakeholder consumption. The calibre and marketing potential of the founders also had an impact on the decision-making process. Lastly, a conjoint analysis revealed that, compared to venture capital investments, angel investors have lower newness liabilities. The ability of stakeholders to make decisions is also impacted by decisions on assets and liabilities.

Cafferata et al. (2009) systematically evaluated the publication of the Schumpeterian theory of liability of newness through their studies. 33 articles were further examined to determine the size, publication method, and nation of the relevant area. Papers that have been published in the EBSCO database are taken into consideration based on a variety of inclusion-exclusion criteria. The majority of research contends that new businesses are subject to the risk of newness, which can last from a few months to two years. However, a lot of studies argue that external liabilities, such as a lack of

institutional backing and interaction with potential clients, are the primary cause of early death. By the concept, the authors grouped all the studies into two groups. The Cox proportionate hazard model was applied in the majority of empirical studies of survival analysis.

Dibrell et al. (2009), in their research, focused on how families might help individuals overcome the liability of newness and gain an advantage over rivals. A new venture registered in Australia was used to perform an ethnographic study. The competitiveness of new companies is shown to be impacted by both internal and external influences. The study emphasised the importance of the family, arguing that families are crucial in coping with the risks associated with change. The majority of their personal, financial, and material resources came from family. So, the authors concluded that a company cannot achieve its competitive position without the contribution of the family..

Chorev and Anderson (2006) demonstrated in their research that every newly founded business encounter challenges with their marketing efforts, such as how to use marketing tactics and how to discover the ideal clients. So, the goal of the study was to ascertain how existing businesses can handle these difficult situations. 80 Israeli companies took part in the survey for that purpose. According to multiple research methodologies, every newly founded business needs to undertake marketing research with the aid of consultants and specialists. The authors concluded that successful new ventures require adequate marketing initiatives.

2.2.10. STUDIES ON BUSINESS INCUBATION

This section consists of a literature review and analysis of the concept related to business incubation centres. Academic literature widely acknowledges the studies of business incubators in contributing to the success of nascent ventures, and the majority of them stress the services provided by the incubators. Based on the critical evaluation, the current study looks at the moderating role of business incubators in the developed model. The initial phase includes information about the author and the database, presented in Table 2.8. Following that, the critical evaluation of each review is explained in detail.

Table 2.10

Literature on Business Incubation

Sl.No.	Title	Name of journal	Database	Year
1	A study on the effectiveness of technology business incubators (TBI) for the promotion of entrepreneurship in Kerala	Thesis	Shodhganga	2021
2	Incubation centers and start-ups: a study on Kerala's start-up ecosystem	SEDM	Sage	2020
3	Role of business incubators as a tool for entrepreneurship development: the mediating and moderating role of business start-ups and government regulations	Sustainability	MDPI	2020
4	Incubator networks and new venture performance: the roles of entrepreneurial orientation and environmental dynamism	Journal of Small Business and enterprise development	Emerald	2019
5	Incubation matters: measuring the effect of business incubators on the performance of start-ups	R and d management	Wiley & Sons limited	2018
6	How useful are incubators for new entrepreneurs?	Journal of Business Research	Elsevier	2016
7	A study of business incubation environment influencers impacting the performance of incubated ventures	Thesis	Shodhganga	2015

Sl.No.	Title	Name of journal	Database	Year
8	Networking behavior and contracting relationships among entrepreneurs in business incubators	Entrepreneurship theory and practice	ET and P	2013
9	Role of business incubation centers in promoting entrepreneurship	Thesis	Shodhganga	2012
10	A study on the performance of technology business incubators concerning members of the Infodev network	Thesis	Shodhganga	2012
11	The bottom-up business incubator: leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment	Technovation	Elsevier	2012
12	The role of incubator interactions in assisting new venture	Technovation	Elsevier	2010
13	Technology commercialization, incubator, and venture capital, and new venture performance	Journal of business research	Elsevier	2009
14	Inside the black box of business incubation: study b—scale assessment, model refinement, and incubation outcomes	J technol transfer	Springer	2007
15	Start-ups business incubation and social capital	International small business journal	Sage	2005

Source: Literature from various articles and theses compiled by the researcher

Manoj (2021) In the research, the author assessed the driving forces behind the establishment of startup businesses in Kerala's technology business incubators. The

study also assessed whether there were any differences in the difficulties experienced by entrepreneurs in Kerala who were located in incubators and those who were not. As a result, the performance variations between these two new businesses are also assessed. The analysis was conducted using SPSS software, which has contributed in several ways. First, the key drivers for establishing new companies in technical business incubators are the availability of office space at a lower cost and the maintenance of professionalism in their operations. Second, due to the accessibility of experts and affordable establishment costs, incubated firms have a higher probability than non-incubated ones of decreasing problems. Ultimately, the author agreed that the financial performance of startup companies incubated in various business incubation centres is higher than that of non-incubated firms.

The studies of **Thomas and George (2020)** explored the incubation services provided by Kerala business incubators and the level of tenant satisfaction. The survey, which involved 80 startup founders and 10 incubation managers, revealed that all incubation services can be categorised according to the three stages of incubation: pre-incubation, incubation, and post-incubation. Similar to this, business owners shared the opinion that all business incubation services—aside from connecting with investors—are essential to their success. The authors also agreed that a business incubator is crucial for promoting innovation and reducing the failure rate. To promote the expansion of the state's startup environment, it has also been decided that the government should encourage technical education.

Li et al. (2020) examined how business incubators contributed to the growth of entrepreneurship culture in Pakistani ventures. This study also discussed how startups can act as a mediator between business incubation and entrepreneurship, as well as how government regulation can act as a moderator. For this study, information from 567 firms that were nurtured in a variety of incubators was gathered. PLS structural equation modeling was used for the study, and it was discovered that networking opportunities and training programmes offered by business incubation centres helped to promote entrepreneurship. In addition, the government plays a significant part in ensuring the survival of startups. The authors concluded that the growth of networking

within startup communities has given new businesses the chance to learn from one another and share their experiences.

Wu et al. (2020), the author analysed the mediation effect on entrepreneurial orientation and the moderating influence on environmental dynamism to show how an incubation network affects new venture performance. For that reason, 205 recently established enterprises from Chinese business incubators have participated in the survey. Multiple regression analysis demonstrated that both internal and external networks of business incubation have a positive impact on the efficacy of startup performance. Similarly, the way new companies are established in business incubator networks depends on their entrepreneurial orientation. According to the authors, networking, a focus on entrepreneurship, and the success of new ventures will all be impacted by rising levels of environmental dynamism. The study provided incubator administrators with a framework for creating a cutting-edge networking hub for the expansion of innovative firms.

Sedita et al. (2018) conducted a study to assess the impact of incubation on innovative performance. The information consisted of business endeavours that were registered with the Italian Chamber of Commerce from 2005 to 2009. According to the regression analysis, companies that were fostered in business incubators performed more innovatively than those that did not. Similarly, teamwork and internal resources also served as moderators for creative performance. The study also discovered that the provision of research and development activities in business incubators enables inventive performance. Similar to this, technical prowess influences invention. The study concluded that business incubators help their tenants by helping them choose the right partners, choose a marketing plan, and maximise revenue from innovative skills.

Albort-Morant and Oghazi (2016) The study looked at how an incubator's professional advice and support were impacted by an entrepreneur's age, gender, education and training, work experience, and family background. The study employed QCA (qualitative comparative analysis), which is the most important tool when handling small samples. They discovered that young entrepreneurs from

entrepreneurial families and well-educated individuals need more assistance from business incubation facilities. Similarly, business owners with professional expertise are better able to make decisions and handle disputes quickly and effectively since they are more familiar with business incubators and approach these organisations. The study's conclusion identified how social media and the internet can be used to access incubators. Social media spreads more knowledge about incubators, which can help budding entrepreneurs succeed.

Balachandran (2015) analysed the influence of the incubation environment on the success of startup companies. According to structural equation modeling, several factors affected the success of startups, including the incubation facilities available, including space, a value-added ecosystem in the incubator location, mentoring opportunities, etc. The study provided several contributions. The first is that obtaining seed money from business incubators is the main objective of each tenant company. Second, the networking efforts made by each business incubator and how simple it is for users to use the space are considered when judging its effectiveness. Early-stage companies, like startups, require a lot of assistance from different groups. Industrial agencies and educational institutions collaborate with business incubators to boost innovation in each organisation's operations. Hence, the startup ecosystem's collaboration across multiple parties produces unique value in their operations.

Ebbers (2014) has shown how networking and contracting relationships among entrepreneurs in business incubators affect the startup environment. Four business incubators and entrepreneurs from the Netherlands took part in the survey. According to Poisson regression, founders who are focused on their networking constantly search for opportunities and take appropriate action. Similar to this, a stronger emphasis on technology attracts numerous partners and provides resources to their businesses through social capital. The author also found that incubators serve as a hub for other entrepreneurs, fostering spillover, and that productive collaboration among them results in improved performance.

Kamdar (2012) undertook research to determine how business incubators affected the growth of the entrepreneurial culture. The study looked at how business incubators

help entrepreneurs, the gap between what incubators do and what people think they do, and the various incubation techniques used by incubators in India. The data collection process involved 42 clients and 10 incubators, and exploratory descriptive research was used. The dependent variable in that study was entrepreneurship promotion, while the independent variables included physical facilities, business help services, managerial aid, and an enabling environment. Factor analysis, independent t-tests, and ANOVA are used in the data analysis. The author concluded that business incubation centres facilitate innovation in start-up businesses by transforming their concepts into scalable business models. Also, by offering these services, entrepreneurs can reduce their initial challenges.

Kumar (2012) did a study to identify the essential factors to consider when assessing business incubators and the factors influencing their performance. The information was gathered by sending a structured questionnaire to 42 incubators that are members of the InfoDev network. The data analysis employed cross-tabulation, the Path model, and structural equation modeling. The researcher indicated that incubators offer their clients a wide range of services, including managerial, financial, and technological support. Among these services, networking opportunities support the clients in a way that enables them to properly manage all of their operations. In the same vein, government is essential to the effective operation of incubators. They grant financial assistance and connect these clients with venture capitalists, seed financing agencies, and angel investors. The performance of incubators was measured based on occupancy, sustainability, and the survival chances of clients.

Bøllingtoft (2012), in their study, researchers looked at a new type of business incubator called a bottom-up incubator that was not controlled by either private or public partnership firms. According to the case study-based analysis, the author demonstrated that it possesses all the qualities of an incubator and focuses more on fostering networking with various players in the startup ecosystem. In addition, the bottom-up incubator consistently focused on fostering teamwork and always took the initiative. The author also noted that this type of incubator does not have a set time frame for exit and might continue until the business has achieved its goal. Every

bottom-up incubator is therefore focused on creating a flexible business environment and increasing revenue.

Scillitoe and Chakrabarti (2010) demonstrated how business incubation, networking, and counselling skills affected how well new businesses performed in the US and Finland. To analyse the data, hierarchical regression was used with data from the 2013–2014 period. According to the study, business incubators' networking and counselling services significantly improve the performance of new ventures. The entire incubation process was assessed by the author in terms of culture and infrastructure, and it was discovered that Finnish culture promotes ventures to collaborate and coordinate with incubation managers. Finnish businesses are reported to have higher access to networks as well. Both Finnish and American incubators offered business support either directly or through intermediaries. According to the survey, business incubators benefit renters by gathering client information.

Chen (2009) showed how support from venture capitalists, incubators, and technology commercialization affected the success of new ventures. The survey covers 122 Taiwanese businesses that have been operating for less than ten years. According to regression analysis, a new company will have higher technical improvements and, as a result, perform better in new initiatives when it acquires a significant number of intellectual capital components. Also, innovative capacities are assessed, and it is discovered that they mediate technological competency in a way that results in performance. Furthermore, the author concluded that the participation of business incubators and venture capital institutions serves as a bridge by providing access to the market and clients. New ventures might therefore seek external entities in the form of business incubators and venture capital institutions to boost their entrepreneurial skills.

Hackett and Dilts (2007) systematically examined the incubation process and created a scale that has been validated to measure it. Data on the same were collected between 1999 and 2003. The survey included 53 US incubators, and exploratory factor analysis was employed in this study. The study's different variables included selection criteria, networking, business assistance, and tenant education. According to the analysis, there

was a good possibility that the star category of BCC metrics would receive venture capital funding. A market leader emerges as a result of the presence of exit strategies, defendable competitive advantages, and product substitutability. The authors concluded that the scales that indicate the various aspects of performance during selection are interrelated, but the scale for incubating learning is unrelated to anything else.

Tötterman and Sten (2005) investigated how business incubators might aid companies in improving their networking abilities, particularly in the area of social capital. For that reason, a case study of three nonprofit organisations was conducted, and the resulting study makes substantial contributions, starting with the business incubator's location, where networking opportunities with other tenants might be fostered. Second, there was a perception that incubators successfully carried out educational activities. Moreover, incubators provided a service that connected several investors and suppliers. The survey also revealed that incubation services do not pay much attention to assisting with employee recruitment.

2.3 Identification of Research Gap

The research gap for the current study was identified through a bibliometric analysis of the concepts related to intellectual capital (Paramba et al., 2023) and citation analysis. The researcher followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method for extracting literature from various sources. After that, the entire review is arranged according to the various constructs used in the study. From this critical analysis of these features, the researcher identified the following research gap:

1. Most research in this area has focused on the resource configuration of established or small and medium enterprises. However, new ventures often operate within a resource-constrained environment, and how they acquire, allocate, and leverage these resources for performance remains underexplored.

2. When assessing the performance of new ventures and startups, relying on return on investment may not be suitable due to their early-stage product development

and dependence on traditional methods. To distinguish themselves from established competitors, startups should focus on introducing innovations in products, operations, or marketing strategies. The existing literature has overlooked crucial factors like adaptability, financial performance, and innovation, underscoring the need for increased attention to these aspects.

3. Previous studies generally recognised the difficulties faced by entrepreneurs in well-established businesses. Nonetheless, the current study employed the difficulties that are unique to newly established enterprises, or the "Liability of Newness," drawing on knowledge from earlier studies.

4. Previous research has revealed strategies for mitigating these initial risks that are limited to the founder's or team member's characteristics. Based on the methodological survey, the researcher formulated a unique way of handling liabilities by correlating the resources, capabilities, and strategies already extracted from the literature.

5. In India, the idea of a startup is relatively new. It was discovered from the literature that there isn't a formal framework for evaluating the performance of startups. Current research has developed a distinct approach for measuring startup performance using covariance-based SEM.

6. According to a literature review study of earlier research and publications released by the Kerala Startup Mission, networking with various stakeholders in the startup ecosystem is a critical component of a startup's potential to expand. As a result, the current study expanded on previous research on entrepreneurship by examining the contribution of networking abilities to the financial performance of newly established ventures.

7. Only a few studies are found in the literature that measure the role of mediating the effect of entrepreneurial orientation. Furthermore, no researcher has looked at the mediation effect of entrepreneurial orientation on the relationship between firm resources, capabilities, and financial performance of startup enterprises in Kerala.

8. The prior literature extensively recognised the function of business incubation centres in fostering entrepreneurship, ensuring the survival of tenant businesses, and advancing the country's economy. Nevertheless, there is no research focused on doing a multigroup moderation analysis of the established model between Kerala startups that are incubated and those that are not.

9. Previous research has not given sufficient attention to the significance of recognizing market trends before launching a product to gauge consumer demand, scale their offering, stay ahead of the trends, and develop their brand. However, current research has identified the ability of startup founders to foresee marketing opportunities and evaluate the results of previous studies to stand out in the dynamic market.

2.4 Conclusion

This chapter provides a comprehensive review of previous research conducted by various scholars within the realm of entrepreneurship. Initially, 150 studies were identified, from which 127 pertinent studies were selected. These comprised 118 articles sourced from various outlets along with nine theses. Consequently, the present study aims to fill the existing research void in entrepreneurship by investigating the impact of firm resources, entrepreneurial abilities, and marketing tactics on innovation, financial outcomes, and adaptability.

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Chapter 3

STARTUP COMPANIES- INSIGHT FROM INDIAN AND KERALA STARTUPS

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3.1 Introduction

This chapter provides a theoretical framework that investigates numerous concepts related to the current study. The current research mostly focuses on how startup companies' strategic management practices affect their performance. Therefore, it is crucial to comprehend the theoretical foundation of the concepts mentioned above. Recognising the essence of the Kerala and Indian startup ecosystems, as well as their contributions to the modern economy is also crucial. The theoretical foundation of this thesis was conducted through the utilisation of books, journals, periodicals, reports, and LinkedIn platforms. Ten sections make up this chapter, which starts with an overview of startups and new enterprises, including definitions, life cycles, features, types, and startup ecosystems. Following that, it covers the startup ecosystems in Kerala and India, as well as several theories about startups and entrepreneurship, business incubation and accelerators, scaling and managing new ventures, technological aspects of startups, and the framework for policies about startups. The conclusion of the theoretical chapter was included at the end of the chapter.

3.2 Concept of Startups

Startups are budding organizations in their early stages of development, driven by a group of visionary individuals with innovative ideas. The primary goals of these ventures encompass fostering innovation (Fiorentino et al., 2020), generating employment opportunities (Mukul & Saini, 2021), and contributing to social harmony (Rojas & Tuomi, 2022). The lifecycle of startups typically ends with an exit strategy, either through an initial public offering (IPO) or through a merger and acquisition. In substance, startup businesses identify their existing shortcomings and strive to rectify them by integrating new and unique business models. These enterprises initially take the form of a private limited company or limited liability partnership (LLP) firm. Initially, these enterprises acquire funding from friends and family, or the startups may bootstrap themselves (Gopalaswamy & Mathew, 2012). As they expand and achieve their growth objectives, startups shift into public companies. A recent example of this trend is Zomato, a leading food-based unicorn startup that went public in 2021 by

selling its shares through an IPO. This shift is a result of the fast-paced, agile character of startups, their transition from privately held to publicly traded businesses, and the calculated financial decisions they make during this phase. Moreover, Innovation is the counterpart of every startup, encompassing the modification of existing offerings or the exploration of unidentified markets (Spender et al., 2017). Because of this, entrepreneurs tend to have a significant focus on long-term operations and growth. Nowadays, startups are not only concentrated on traditional business models; rather, they provide answers to problems, make use of technology, and plan efficient exits. Securing funding for the various operations remains a primary concern for startups. Apart from banks and financial institutions, there are many modern funding avenues available, such as seed funding, angel investing, venture capital financing, bootstrapping, and equity funding (Nigam et al., 2020). Despite these financing options, numerous startups face challenges and often fail during their initial stages. Startups grapple with the liability of newness and the liability of smallness, indicating that newly established firms are more prone to failure than their older counterparts (Ulvenblad et al., 2013). The performance and success of startups are intricately connected to many internal and external factors. Academic research on entrepreneurship and startups indicates that many newly established firms encounter funding challenges, and some struggle to sustain market competition over the long term (Cravens, 2006).

Product-market fit is a major contributing factor to startup failure (Kalyanasundaram, 2018). Startups are unable to survive in the market for very long due to shifting consumer preferences and advancements in marketing techniques. Accordingly, startup investors ought to design a strategy that will satisfy customer requirements (Bertels, 2019). Apart from that, they should also take up-to-date feedback from the customers (M. Song, Wang, et al., 2010). Approaching a larger market is also preferable. They can benefit from economies of scale and more consumer acquisition programmes when their markets are larger. A company's ability to endure is also determined by the human capital of its employees, team, and founder (Hormiga et al., 2010). Sometimes, individuals may have brilliant ideas, but they lack the know-how to turn them into innovative products. An entrepreneur with visionary ideas looking

for product-market fit without losing their fund. Another challenge that startups have is acquiring talented employees (Midoun & Nardjes, 2023). From the point of view of Eric Ries, the author of "Lean Startup Methodology," pointed out that startups need to be validated learning environments where team members can articulate their past, present, and future circumstances. Investors are also looking for unique ideas rather than just a company. There are many instances, like how Facebook is excellent for bringing people together globally and how Google is fantastic for searching. Therefore, for their enterprises to succeed, founders need to be extroverted, visionary, and enthusiastic. Founders can fail occasionally, and they should learn from their mistakes.

Delivering value to customers is another strategy for achieving business success. Startups cannot stay in business for very long if they are not investing excessively in their client acquisition strategies (Silva et al., 2020). Customers only buy things when they can live up to their expectations. Traditionally, customer value can be generated by teaching customers how to use the product and through PR campaigns. These days, a lot of tech products add value by offering Fermium plans, which charge extra for additional products while offering basic things for free. Many startups fail because they are unable to monetize their customers regularly (Rafiq & Wang, 2020).

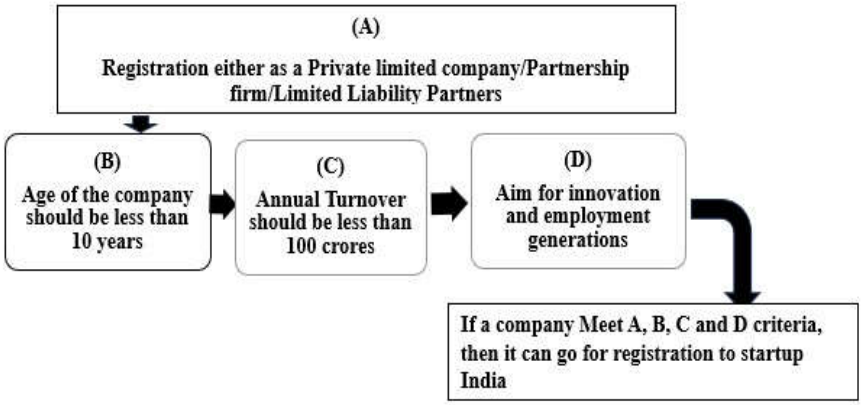
3.2.1. Definitions of Startups

In general, startup companies lack a commonly recognised definition, and many of them struggle to distinguish between entrepreneurship and startup businesses. The primary distinction between entrepreneurship and startups is the scalability of business. However, the definition of startups that is most widely accepted is explained in the part that follows:

- The Department for Promotion of Industries and Internal Trade (DPIIT) and Startup India's definition of Startup can be depicted in Figure 3.1.

Figure 3.1

Definition of Startups



Source: Compiled by the researcher

- The Encyclopaedia defines startups" as projects or companies that are designed for establishing the scalable business, they are uncertain, have a high rate of failure, and some of them become unicorns.".
- According to Investopedia "Startups are young companies founded by one or more individuals to develop unique product or services and their initial funding from friends and family
- Jonah Lupton says, "Successful entrepreneurs only surround themselves with hard-working, high-integrity people. Find co-founders, employees, and mentors that are highly skilled and knowledgeable in areas where you are not."
- As per the Infosys co-founder, "a startup is defined as a business: within the first three years of its existence, employing 50 people or less, with revenue of INR 5 crore. or less".
- Steve Blank and Bob Dorf define "a startup as a temporary organisation in search of a scalable, repeatable, and profitable business model".
- Eric Ries defines "a startup as a human institution designed to create a new product or service under conditions of extreme uncertainty" (McFarlane, 2021).

3.2.2. Startups: An Indicator for Economic Development

Startups and new ventures are instrumental in driving economic growth, providing numerous advantages such as job creation, fostering innovation, and boosting national GDP. Research by Mehrotra and Jaladi (2022) underscores that startups contribute to the economy through various value-creation methods. The following section outlines the key ways in which startup enterprises contribute to the economic growth of nations.

3.2.2.1 Employment Creation

Startups are drawing in talented employees based on their potential to bring innovation to their ventures. Nowadays, educational institutions are providing courses focused on startups, and collaborations between industries and academia enable students to engage in recruitment processes even while pursuing their education. Similarly, the unemployment rate among skilled workers is declining, thereby fostering the economic development of the nation. Moreover, educated youth are increasingly oriented towards entrepreneurship as a viable profession, further contributing to economic growth (Jyotsna, 2021).

3.2.2.2 International Competitiveness

The primary feature of a startup company is to expand its operations globally by introducing innovative strategies and extending local products to the global market. To do this, investors from various regions invest in startup ventures by facilitating the sharing of knowledge, resources, and infrastructure among different parties. As a result, startups enhance the dynamism and adaptability of national economies in response to global competition (Jyotsna, 2021).

3.2.2.3 Equitable Regional Growth

Achieving balanced regional development across the country is one of the primary goals of the startup ecosystem, and many of the firms are concentrating on finding solutions for societal issues. Consequently, these ideas function as two sides of a coin since they are beneficial to both sides. Furthermore, the cooperation amongst the

various stakeholders fosters innovation, synergy, and infrastructure development (Jyotsna, 2021).

3.2.2.4 Capital Formation

Numerous investment options are available to startups and nascent ventures, including venture capital firms, angel investors, and more. Startups commonly utilise these investment avenues to fund various activities such as product development, marketing, research and development, and technological investments. Consequently, through the deployment of these funds, coupled with the strategic investments made by investors, startups can effectively channel resources into productive endeavours (Jyotsna, 2021).

3.2.2.5 Innovation Generation

Startups have aimed to introduce new and innovative products, posing challenges to established enterprises. These dynamics drive improvements in consumer offerings, thereby fostering economic growth. Moreover, startups are actively addressing societal issues such as energy efficiency, healthcare, environmental sustainability, and poverty alleviation. By elevating living standards, innovation also opens up avenues for business growth (Jyotsna, 2021).

3.2.2.6 Value Creation

Value creation in startups offers various benefits to society, including technological advancement, market improvement, and job creation. It also fosters an entrepreneurial culture among students and aspiring business owners, encouraging them to launch ventures and gain insights into prevailing market conditions. So, value creation is considered an important concern for startup communities.

3.2.3. Process of New Venture Creations

New venture creation is the process of identifying a series of activities to put an idea into practice. When starting a new venture, founders are required to strategically evaluate all potential opportunities and business environments to contribute uniqueness to their ventures (Kirkley, 2016). Similarly, according to the studies of J.

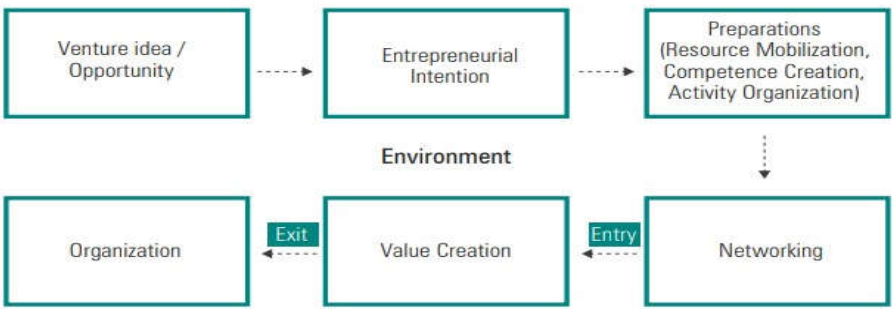
Li and Dutta (2018), the ability of founders to gauge business opportunities during new venture creation is significantly influenced by their experience gained from previous ventures. The evolution of the new venture process in academic literature begins with the idea of Gartner (1985). The study proposed a more comprehensive view of the process of entrepreneurship by studying the interaction of four main factors: the entrepreneurs, the organisation, the surroundings, and the real process of new venture creation (Park, 2005). Thus, several authors have distinguished the various stages of new venture creation, and the studies of Salamzadeh and Kirby (2017) highlighted the six stages of new venture creation. A detailed explanation of each stage is provided below.

3.2.3.1. Venture Idea or Opportunity Recognition

Opportunity recognition encompasses evaluating founders' ideas from various angles, such as assessing their feasibility, meeting customer demands, and scrutinising competitors' approaches (Kuckertz et al., 2017). In the studies of Park (2005), outlined opportunity recognition as a multifaceted process influenced by team members' expertise, experience, and technological application. Moreover, different motivations drive the identification of ideas or opportunities for startups, with a predominant focus on economic advancement and national welfare (Mohammadi & Heshmati, 2021). Therefore, entrepreneurs can utilise these insights to make informed decisions on how to conduct their business (Salamzadeh & Kirby., 2017).

Figure 3.2

Process of New Venture Creation



Source: Salamzadeh and Kirby (2017)

3.2.3.2. Entrepreneurial Intention

After identifying ideas or opportunities, the next stage involves an entrepreneurial intention. Entrepreneurial intention refers to the drive or motive for doing things that yield some risk element and expect a return for their efforts (Liñeiro et al., 2024). Without a proper intention, the probability of startup failure is higher (Salamzadeh & Kirby, 2017). Studies found that many factors help in shaping the entrepreneurial intention of founders, such as personality characteristics (Farrukh et al., 2018), entrepreneurial behaviour (Tsou et al., 2023), entrepreneurial education, university support (Anjum et al., 2022), etc. So, it can be concluded that the lower rate of intention results in lower accessibility in the financial and social capital of the startup ecosystem (Liñeiro et al., 2024).

3.2.3.3. Preparations

This is a crucial phase in the creation of new ventures. It commences with mobilising the various resources and competencies required for startups to survive and compete in the business environment. Generally, two types of resources are needed for the venture: tangible and intangible resources. According to the resource-based view, startup organisations focus much more on intangible resources than on tangible ones (Uhm et al., 2018). These resources include human capital, relational capital, structural capital, and so on. The academic literature makes it abundantly evident that these are unique, valuable assets that are challenging for others to replicate. Among these, the founders' human capital is crucial for comprehending the market, maintaining relationships with other stakeholders, and adding uniqueness (Cooper et al., 1994). Resource orchestration theory, on the other hand, emphasises the competencies required for new businesses to endure in the market.

3.2.3.4. Networking

Entrepreneurial networking consists of continually seeking and pursuing particular networking targets to acquire knowledge and resources while adapting to dynamic business environments (Zhang et al., 2022). Networking is important for startups to access external resources and enhance competitiveness (Ferreira et al., 2022). Studies

indicate that business incubation centres play an important role in shaping the networking behaviours of tenant startup companies (Petrucci, 2018). Thus, the internal and external networks established within startup communities serve as key drivers for entrepreneurial learning and the growth performance of startup companies (W. Wu, Wang, & Wu, 2020). Consequently, it can be concluded that startup companies should prioritise efforts to build relationships and foster collaboration within the startup ecosystem.

3.2.3.5. Value Creation

Creating value in startups comprises the results or advantages derived from the products or services they offer, encompassing both financial results and benefits accessible to all stakeholders within the startup ecosystem. Typically, startups derive their value from innovation and business model innovation. In addition to that, research indicates that collaboration between small and medium enterprises (SMEs) and startups plays a significant role in value creation. Hence, the study found that the primary objective of every startup is to generate value (Ghezzi et al.,2021).

3.2.3.6. Organizing

After attaining their value and growth objectives, startups decide their exit strategies. Typically, startup companies employ three main forms of exit, including initial public offerings (IPOs), mergers and acquisitions (M&A), and growth in family businesses (Salamzadeh & Kirby, 2017).

3.2.4. Types of Startups

Types of startup companies based on their various objectives can be divided into six categories: scalable startups, large company startups, small business startups, social startups, lifecycle startups, and buyable startups.

3.2.4.1. Scalable Startups

These ventures are types of startups operated with unique ideas that are deeply focused on growth and achieving optimal return on investment. These ventures stressed continuous market research and required significant effort to thrive. They are willing

to optimise risks in pursuit of higher returns. Founders typically possess extensive prior experience and academic qualifications for these ventures. Google and Facebook stand out as prime examples of such startups. The significant source of funding for most scalable startups comes from venture capital investors. These enterprises aspire to make a positive impact by creating employment opportunities (Berry Holaday., 2019).

3.2.4.2. Large Company Startups

Large-company startups are formulated to get support and direction from pre-existing enterprises. This approach aims to acquire a significant market share. Existing companies can distribute their products through newly established ventures. This is advantageous for both parties, as it allows for the maintenance of synergy, and newly established ventures can reduce their liabilities of newness and smallness (Berry Holaday., 2019).

3.2.4.3. Small Business Startups

Small business startups are more concerned with long-term viability than with scalability. These endeavours aim to guarantee consistent profits from their businesses. Family businesses typically fall within this group. In this case, target marketing is focused on a select group of clients (Berry Holaday., 2019).

3.2.4.4. Social Startups

As the name indicates, these are oriented towards socially responsible creation. They are designed to bring about some significant changes in the environment, and profit will be their primary focus. These initiatives help many marginalised groups. It is also possible to achieve balanced regional growth and create jobs (Berry Holaday., 2019).

3.2.4.5. Life Cycle Startups

Lifecycle startups represent an alternative approach to fulfilling founders' motivations and realising their goals. Venture capital and angel investors typically show little interest in these ventures due to their lower growth and expansion strategies. On the other hand, founders of lifecycle startups seek autonomy and financial freedom from

their ventures. They often rely on personal sources of financing for operations, thereby reducing the likelihood of dilution of shares (Berry Holaday., 2019).

3.2.4.6. Buyable Startups

These fall within the realm of technology startups, which seek to sell their ventures upon reaching growth objectives. Thus, founders can experience faster exits for their ventures (Berry Holaday., 2019).

3.2.5. Startups and MSMEs

The European Union (EU) and European Nations (EN) view startups and SMEs as prime contributors to economic development and innovation (Andhov, 2024). However, significant differences exist between SMEs and startups from various perspectives. The development of micro, small, and medium enterprises (MSMEs) dates back to the post-independence era, initially known as Khadi and Village Industries. Subsequently, the concept of MSMEs gained prominence with the nationalisation of banks and the introduction of priority sector lending. Likewise, MSMEs are also referred to as small and medium enterprises. The studies of Kafetzopoulos (2020) examined the performance dimensions of SMEs and identified various internal and external factors affecting their performance, such as resource constraints, difficulty in funding, human resource availability, and competition from larger enterprises. However, Enterprise Resource Planning (ERP) is implemented as a solution for SMEs to overcome these issues (Kale et al., 2010).

In contrast, startups have originated mainly in the digital era. Unlike MSMEs, registration is not compulsory for startups, although the Indian government guarantees tax exemptions to companies registered with the Department for Promotion of Industries and Internal Trade (DPIIT) and District Industries Centres (DICs). Following this differentiation, it's essential to note that startups generally operate in a highly changing and dynamic business environment. Thus, they are always concentrated on a vision to introduce innovative products, services, or business models that hold the capability to revolutionise industries. On the other hand, MSMEs are looking for a traditional business model and expect regular income from their business. The key distinctions between MSMEs and startups are delineated in the following sections:

Table 3.1

Distinction between MSMEs and Startup companies

Basis	MSMEs	Startups
Definition	MSMEs are defined by the MSMED Act based on their revenue and quantity of investments. One, ten, and fifty crores of rupees have to be invested in micro, small, and medium-sized enterprises, respectively.	Alternatively, startups are defined as newly established businesses that have been in operation for less than ten years, have an annual revenue of less than one hundred crores, and are registered as partnership firms, LLPs, or private limited corporations.
Innovation	Small enterprises often function in a way that is similar to their competitors and may not be very unique.	Startups are always trying to change an existing product or launch something new. Startups monitor the market and design their products to satisfy the needs of their target audience.
Scope	Small businesses only operate inside their specific community or circle; no additional steps are taken to expand globally.	Startups are encouraged to attend investor meetings and different pitching events to expand their worldwide reach. They are connecting with investors from other nations in this way.
Rate of Growth:	They generated revenue by putting in significant effort. To attain profitability, they aim to increase production on a large scale, necessitating a huge amount of investment in manpower and capital.	However, in the context of startups, they can experience immediate profits when they achieve product-market fit.
Finance	Small businesses always rely on various sources to fund their operations, including banks and financial institutions.	They often rely on personal funding sources, but they also depend on innovative funding avenues like crowdfunding angel investors, and venture capital firms.
Failure chances	Individuals with advanced levels of education may not establish MSMEs.	Startups tend to experience a higher rate of failure compared to SMEs. This is often due to the novelty of startup concepts.
Owners	Promotors	Founders
Exit strategies:	Exit strategies for MSMEs involve either transitioning the company into a family business or selling it outright.	Startups, on the other hand, typically exit through an IPO or a merger and acquisition.

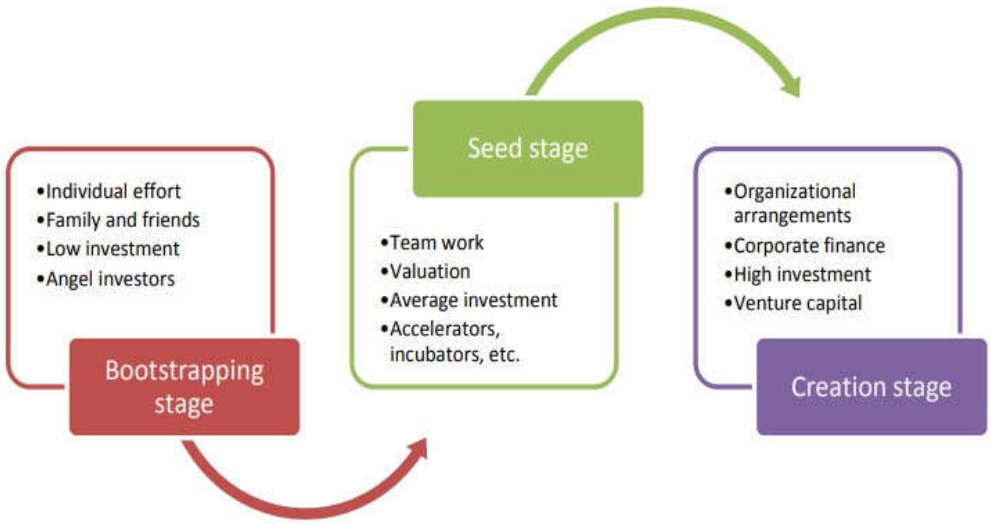
Source: Compiled by researcher

3.2.6. Life Cycle of Startups and Funding Requirements in Each Stage

The startup lifecycle consists of the various stages that startup companies progress through, from idea generation to exit (Salamzadeh & Kawamorita, 2015). Various authors divided the startup life cycle into distinct categories. Salamzadeh and Kawamorita (2015) outlined three stages: bootstrapping, seed stage, and creation stage. Likewise, Cantù et al. (2018) proposed slightly different ways by dividing the lifecycle into Idea to Plan Stage, Plan to Prototype Stage, and Prototype to Commercialization Stage.

Figure 3.3

Lifecycle of Startups



Source: Salamzadeh and Kawamorita (2015)

Additionally, Startup India (n.d.) presents a five-stage model consisting of Ideation, Validation, Early Traction, Scaling, and Exit. Understanding these stages is important as they require funding requirements at each stage. For instance, during the initial stages, startups may depend on personal funding or bootstrapping. As they move to prototype development and commercialization, the requirement for more substantial funding from venture capitalists or crowdfunding platforms becomes essential.

3.2.6.1.Ideation Stage

In the startup life cycle, this phase is regarded as the initial stage. At this point, they only need modest amounts of money to operate, and the founders typically use an informal approach to fundraising. This method is also known as “pre-seed stage”. In this stage, the offered product is tested for viability, and the founders consider feedback from multiple sources before determining whether to move forward with the project or not (Marcon & Ribeiro, 2021). The following types of funding are needed at this stage:

- **Bootstrapping:** Bootstrapping, also referred to as self-funding, relies solely on personal sources of funds without depending on external equity financing. This approach typically uses personal savings, utilising one's overdraft or credit facilities, and minimising costs by working from home or opting for lease financing (Salamzadeh & Kawamorita, 2015). Like other financing methods, bootstrapping has its own set of merits and demerits. One key advantage is that it does not affect the dilution of ownership. In the studies by Winborg and Landström (2001), bootstrap finance is defined as "the utilisation of techniques to meet resource requirements without depending on external financing from creditors and/or new stakeholders."

- **3F (Friends, Family, and Fool):** This is an informal way of securing startup funding that involves obtaining funds from friends and relatives. It is often considered the best way to acquire funds from close contacts without expecting returns. Sometimes, this approach is also referred to as "3F" financing (friends, family, and fools), which resembles a personal loan (Funding Guide, n.d.).

- **Business Plan or Pitching Events:** Startup founders can present their ideas to an investor or group of investors at pitch events. This is an extensive platform that may be used to attract investors, acquire insightful feedback, establish connections with other startup ecosystem partners, and gain more media attention. These are typically used when funding requirements are lower (Funding Guide, n.d.).

3.2.6.2. Validation Stage

During this stage, founders or team members develop a Minimum Viable Product (MVP). This stage is often referred to as the seed stage. They consult with some marketing experts to conduct market research and identify their target market (Salamzadeh & Kawamorita, 2015). After that, niche products are introduced to the market. At this point, external investors typically begin to engage in funding the startup. Different funding sources at this stage include:

- **Crowd Funding:** Crowdfunding is the easiest way to secure seed funding for startups by integrating the elements of microfinance and crowdsourcing. This choice facilitates a collective investment approach, wherein individuals and small businesses contribute funds with the anticipation of getting returns in the form of products, services, or equities. To acquire crowdfunding, each startup must establish a profile on a crowdfunding platform, providing comprehensive details about the product and specifying the target funding amount. This platform serves as the best way to raise funds for both commercial ventures and social causes (Vijayalakshmi & Priyadarshini, 2021). Likewise, nowadays, investors have access to various crowdfunding options, including reward-based crowdfunding, peer-to-peer lending, donation-based crowdfunding, and equity crowdfunding.

  - ***Reward-based Crowdfunding*** permits access to funds through innovative ideas. The approach enables investors to anticipate products, services, or equity (Zhao & Ryu, 2020).

  - ***Donation-based crowdfunding*** permits raising money without anticipating a reward. It resembles a donation exactly. Non-governmental organisations (NGOs) typically use this type of crowdfunding for their operations (Wangchuk, 2021).

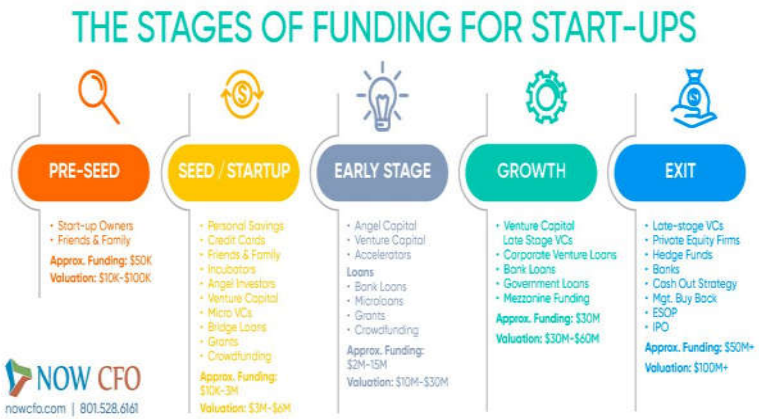
  - ***Equity crowdfunding*** represents an approach to investing in privately owned enterprises (Wangchuk, 2021).

- **Seed Funding from Incubators:** Seed funding shows the initial round of institutional involvement in a startup's funding journey. Its primary purpose is to expand products, conduct research and development activities, and cover infrastructure expenses. Often, seed funding acts as a stepping stone for making subsequent rounds of funding, such as Series A, B, and C. However, in some cases, these funds may be adequate to achieve self-sufficiency, and there is no need for further investment in their ventures. To attract substantial funding during the seed stage, startups are encouraged to network within various startup communities (Wangondu & Muathe, 2023). Typically, seed funds are acquired through business incubation centres, which play a pivotal role in distributing seed funds.

- **Angel Investors:** An angel investor is an individual or institution that provides funding for the early-stage operations of startup companies. Their investment can be a one-time contribution or continuous throughout the entire lifecycle of the startup. Angel investors offer various services, including financial support and valuable advice regarding the startup's ideas and market activities. The expected return on investment from such funding typically ranges from 30% to 40%. Additionally, in many countries, angel investors are seen as a means for tax savings. However, it's important to note that these investments may not be suitable for ventures with slow growth expectations (Annamalaisami, 2021).

Figure 3.4

The stages of funding for startups and new ventures



Source: startup funding requirements each stage image - search images (bing.com)

3.2.6.3. Early Traction

During this stage, customer retention tends to be higher due to an established presence in the market and a high rate of customer acquisition. This phase is sometimes referred to as the Series A stage. The products have already been introduced into the market, marking a significant milestone for the startup. The funding requirements for this stage typically include:

- **Venture Capital Firms: v**enture capital investment refers to the investment made in early-stage ventures. The popularity of venture capital takes place in Silicon Valley, the largest startup hub in the world. To run and oversee the investment, there will be an investment manager. Venture capitalists typically have a 10- to 15-year lifespan, after which they must quit the market upon achieving maturity. In addition, each venture capitalist expects two types of returns: the management commission, which covers issue management, and carrying interest when the investor leaves within the allotted time. One advantage of venture capital is its flexibility in tax treatment, as venture capital firms are not considered legal entities for tax purposes. Additionally, many venture capital firms adopt a portfolio kind of investment, spreading risk across multiple sectors or companies. Furthermore, venture capitalists typically invest in preferred stock rather than common stock. Preferred stock offers certain advantages, such as providing the principal amount and a predetermined share value at the time of repayment (Annamalai & Deshmukh, 2011).

- **Bank Loan:** Bank loans are the traditional investment avenues for nascent entrepreneurs. They are facing too many difficulties in sanctioning loans from banks and financial institutions. Even banks are offering loans by considering their innovative business models without evaluating their collateral securities. Banks are also offering loans for their research and development activities and product development. The Credit Guarantee Fund Trust Scheme provides loans amounting to Rs 1 crore to MSMEs (Cgtmse, n.d.). Even if this is the case, many startup companies are withdrawing from bank loans because of their paper formalities and current collateral positions.

Figure 3.5

Differences between angel investors and venture capital



Source: venture capital and angel investors images - Search Images (bing.com)

3.2.6.4. Scaling

At this point, startups are beginning to generate income from their operations and are approaching a pace of market growth. This stage is also known as the Series B, C, D, and E stages. At this point, startups choose between using private equity or venture capital funds. It is regarded as the riskiest investment strategy in terms of investors, drawing only those who are interested in high-growth businesses (Startup India, 2016).

3.2.6.5. Exit Options

Since startups are typically temporary organisations, they will use a variety of exit strategies, including mergers and acquisitions, share buybacks, initial public offerings, etc. (Startup India, 2016).

- A startup company with a proven track record may be using merger and acquisition
- In the case of initial public offerings, startups list for the first time on the stock exchange and then carry out an IPO to attract public interest.

3.3. Startup Ecosystem

An ecosystem essentially consists of various components collaborating to achieve synergy in their functions. Academic research recognises various types of ecosystems, including knowledge ecosystems, business ecosystems, startup ecosystems, etc. Among these, a startup ecosystem is developed to foster and aid nascent entrepreneurs by offering financial support, mentorship, infrastructure, and other essential elements required for the advancement of startup communities (Chaparro et al., 2022). However, in the studies of Tripathi, Seppänen, et al. (2019), a startup ecosystem is a "network of people and resources combined to formulate startups." The startup ecosystem is a subject of ongoing research these days, and studies conducted by Chaparro et al. (2022) have developed a triple helix model of the startup ecosystem by merging three elements: academia, industry, and policymakers. As a result, universities and educational institutions are developing entrepreneurship courses to encourage and foster entrepreneurial activities (Ainamo et al., 2021). However, startup and new venture ecosystems vary across regions, with Silicon Valley being considered the most successful, attributed to factors like strong university support, liberal policies, and robust infrastructure (Sipola, 2021).

Thus, the success of each startup ecosystem depends on a multitude of factors. The following section elucidates the different actors involved in supporting startup companies, thereby facilitating overall development.

3.3.1. Different Players in the Startup Ecosystem

The success of the startup ecosystem depends on the interconnectivity of its various components, with startup companies occupying a significant role in influencing the growth of their ventures (Gueguen et al., 2021). The studies of Tripathi, Seppänen, et al. (2019) examine the diverse players within the startup ecosystem, which encompass startup companies, technological advancements, market dynamics, funding entities, etc. The following section provides a detailed explanation of each player within the ecosystem.

3.3.3.1. Government

The governmental and legal frameworks of a nation wield considerable influence over the growth of the startup ecosystem. specifically, Silicon Valley, the largest startup hub globally, underscores the crucial role of governmental policies in shaping the entrepreneurial landscape within the economy (Sipola, 2021). In emerging economies such as India, the government has implemented a range of schemes and supportive measures to foster the growth of entrepreneurs. Initiatives like Startup India, tax exemptions for startups, as well as provisions for acceleration and incubation support, exemplify the proactive role of the government in nurturing entrepreneurial endeavours (Wasnik & Jain, 2023). Thus, governmental intervention plays a significant role in shaping the entrepreneurial culture within a nation.

3.3.3.2. Educational Institutions and Universities

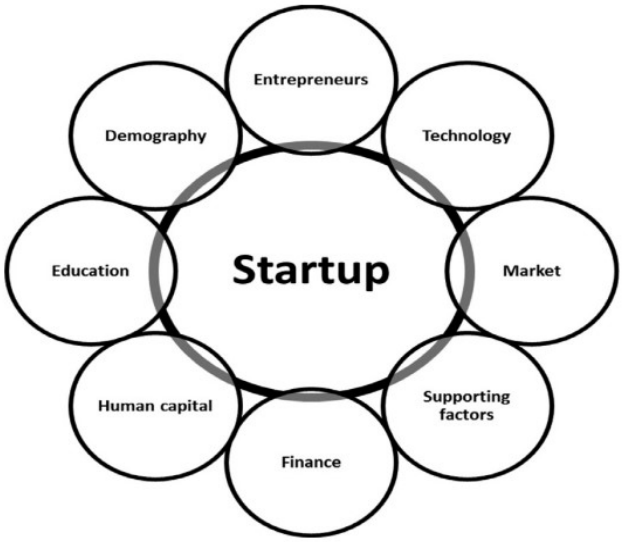
Nowadays, educational institutions are increasingly forging collaboration with industries as a means to nurture entrepreneurs. These institutions offer support to startup companies in various ways, including the provision of incubation facilities, access to infrastructure, and the integration of entrepreneurship into curricula (Shenkoya et al., 2023). As a result, students and aspiring entrepreneurs are increasingly drawn towards entrepreneurship as a career path based on their college experiences.

3.3.3.3. Human Resources

Academic literature extensively recognises the significance of human resources in the advancement of startup companies. Human capital, often referred to as human resources, consists of the intangible capabilities demonstrated by founders throughout the various stages of the startup life cycle, from ideation to exit (Cooper et al., 1994). Likewise, human resources comprise the prior experiences and educational qualifications of founders, enabling them to understand prevailing market demands and respond according to competitors' strategies (Adomako et al., 2022).

Figure 3.6

Elements of the Startup ecosystem



Source: (Tripathi et al., 2019)

3.3.3.4. Accelerators and Business Incubators

Business incubators and accelerators are specialised institutions designed to offer comprehensive support to nascent entrepreneurs. They provide several services, including incubation spaces, mentoring, access to laboratory and library facilities, etc. While both incubators and accelerators serve similar functions, accelerators typically operate over short periods, lasting from one to two weeks (Lange & Johnston, 2020).

3.3.3.5. Funding Agencies

Nowadays, startup companies are applying both traditional and modern avenues for funding, which include venture capital, angel investors, bootstrapping, etc. (Marcon & Ribeiro, 2021). Investors typically base their investment decisions on the ideas put forward by startup founders. Business incubation centres also support the growth of ventures by offering investor-connect programmes. Among these, programmes like Investor Connect provided by the Kerala government hold a significant role in attracting investors across the world (Genome, 2023).

3.3.3.6. Marketing Research Agencies

In the dynamic market environment, startups are keenly looking for the need for thorough market research, prompting founders to invest enough time in understanding the market environment. In the initial stages, startup companies often seek the expertise of marketing experts to conduct comprehensive market research before launching their products into the market. This process includes a series of activities, such as acquiring market information, effectively understanding market insights, adopting a market-oriented approach, exploiting customer needs, and analysing competitor actions (Shih, 2016).

3.3.3.7. Technological Aspects

Structural capital and technological aspects are important for newly established ventures. These are available in several ways, such as databases, technologies, infrastructures, etc. Nowadays, robotics are designed by several startup companies to solve the problems faced by society. Thus, effective know-how and investment in money and time are required for the implementation of technology in startups (Beltramino et al., 2020). Thus, technological aspects have a significant role in the growth of startup communities.

3.4. Indian Startup Ecosystem-Evolution and Concepts

The Indian startup ecosystem has experienced significant growth over the past decades. The origins of startups in India can be traced back to the 1980s, with the emergence of some software-based companies. The liberalisation and the dot-com bubble in 1995 also contributed to the growth of the Indian startup ecosystem. However, a major milestone came with the rise of Flipkart in 2007, which marked significant growth in the startup ecosystem in India. After that, InMobi, an advertising technology startup based in Bangalore, became India's first unicorn, further leading the growth of the ecosystem. During this period, there was also significant growth in technology-oriented startups and venture capital investment. Initially, startups were highly concentrated in major cities in India, particularly Bangalore, which emerged as a main startup hub due to its conducive environment for fostering startup

communities. Bangalore has been the base of several successful startups, such as Flipkart, Byju, Ola, and Swiggy, which have attracted substantial investment at various stages of their growth. Other places like Mumbai, Delhi, Maharashtra, Gurgaon, and Noida have also established themselves as key players in the startup ecosystem. In addition to that, state governments, such as Kerala and Bangalore, have introduced programmes like the "Startup Mission" and "Startup Cell," respectively, to support and nurture new ventures. This combined effort from both the central and state governments created a supportive ecosystem for startups to survive. There are several factors contributing to the growth and expansion of startups in India, including a higher literacy rate, liberal government policies, and a conducive environment for innovation. Startups operating in India also enjoy various benefits, such as tax savings, lower operating costs, innovation support, reduced compliance burden, and easier exit options.

However, the notable milestone in the Indian startup ecosystem is highly penetrated due to the implementation of the Startup India programme in 2016. There are many initiatives included in Startup India initiatives, such as Startup India Action Plan, Startup India Hub, Startup Yatra, Women Entrepreneurship Development, State Startup Ranking, etc. (Startup India., 2024). It also offers startup recognition under the DPIIT (Department of Industries and Internal Trade), which further helps in getting certificates and accessing all the resources available for startups (Geethanjali., 2020). Apart from Startup India 2016, the Government of India also implemented some other schemes such as Make in India, Standup India, Digital India, MUDRA schemes, etc. (Assocham, 2016). All these schemes are provided as a means for developing startup communities, and their financial assistance in the form of startup India seed fund schemes guarantees 20 lakh rupees for product development, and 20 lakh rupees for market entry and scaling up of their product (SISFS, 2024). Today, this is the era of artificial intelligence and blockchain technologies, and Indian startups have also shown significant growth in providing artificial intelligence-based solutions to customers (Chaudhari & Sinha, 2021). However, even if this is the case, Indian startups are still facing too many challenges, such as intense competition, access to infrastructure, availability of skilled manpower, funding gaps, difficulty scaling the

product, etc. (Chaudhari & Sinha, 2021). In conclusion, the Indian startup ecosystem has shown significant growth and development, driven by a combination of factors including entrepreneurial synergy, government policies, and a supportive business environment. The following section describes the success stories and key insights in the Indian startup ecosystem.

3.4.1. Key Insight and Growth in the Indian Startup Ecosystem

- ✓ More than 1,21,108 startups in India have been recognized by the Department for Promotion of Industry and Internal Trade (DPIIT), and at least 6,90,452 users are actively using the platform (Startup India, 2024).
- ✓ In India, the number of female entrepreneurs has grown by 4% in the last five years. About 49% of all DPIIT-recognised films have at least one female director (Startup India, 2024).
- ✓ The States Startup Ranking, 2022, listed Gujarat, Karnataka, Kerala, Tamil Nadu, and Himachal Pradesh as the top five performing states in the State Ranking Report, 2022.
- ✓ In terms of unicorn status, the 100th unicorn in India is a Neobank platform called "Open" that is obtaining unicorn status from Kerala (Banerjee, 2024).
- ✓ Establishing connections between Indian startups and foreign countries via various bridging platforms, such as India-Finland, India-UAE, India-Qatar, Canada-India, etc. (Startup India, 2024).
- ✓ India holds the third position worldwide in the startup ecosystem, as well as in the number of unicorns. According to recent data, there are presently 111 unicorns, with 44 emerging in 2021 and 19 in 2022 (Department of Science & Technology, 2024).

3.4.2. Trend and Funding Pattern of Startups in India.

Table 3.2 illustrates the trend and pattern of startup funding received in India from 2014 to 2020. The analysis also delves into the descriptive statistics of funding

received during these years, examining it across different stages, sectors, startup hubs, and levels of investment.

In the initial phase, an analysis of startup funding stages was performed, dividing the life cycle of startups into four stages: seed stage, bridge stage, growth stage, and late stage. Among these stages, the largest amount of funding in the seed stage was observed in 2018, reaching $450 million, while the lowest amount was recorded in 2014 at $43 million. On average, seed-stage startups received $262.71 million in funding during this period, with a standard deviation of $134.05 million. The deal counts for seed-stage investments exhibited a positive trend over the analysed period, ranging from a minimum of 102 (2014) deals to a maximum of 660 (2016) deals. The average deal counts for seed-stage investments reached 430.85, with a standard deviation of 196.51. Likewise, bridge-stage funding showed a generally increasing trend, notably spiking from 2020 to 2021, reaching $221 million. The mean funding received by bridge-stage startups over the period was $79.42 million, with a standard deviation of $65.90 million. Deal counts for bridge-stage investments also showed a positive trend, ranging from a minimum of 43 deals in 2015 to a maximum of 127 deals in 2020. Growth-stage funding remained relatively stable, peaking at $7.2 billion in 2019, while late-stage funding exhibited a steady increase, notably reaching $10.4 billion in 2017. On average, late-stage funding amounted to $2.4 billion, with a standard deviation of $1.04 billion, while growth-stage funding averaged $7.22 billion, with a standard deviation of $2.488 billion.

In the second phase, the sector-wise funding received by Indian startups from 2014 to 2020 was examined, categorising startups into seven distinct sectors: fintech, enterprise tech, Ed-tech, consumer service, e-commerce, health tech, and Agri-tech. The analysis revealed that the Fintech and Enterprise Tech sectors exhibited consistent growth in startup funding, with average funding amounts of $1.02 billion and $0.51 billion, respectively. In the field of education technology (Ed-Tech), the peak amount of funding was observed in India in 2020, totalling $1.433 billion. This growth in funding can be attributed to the impact of the COVID-19 pandemic, which led to a significant increase in demand for online learning platforms. Investors recognised these avenues and were drawn to the potential of education technology startups during this period.

Table 3.2

The trend of startup funding from 2014 to 2020

			2014	2015	2016	2017	2018	2019	2020	Mean	SD
Stage wise funding	Seed stage	Amount (Mn USD)	43	237	251	200	450	255	403	262.71	134.05
		Count	102	587	660	596	379	312	380	430.85	196.51
	Bridge stage	Amount (Mn USD)	57	35	51	35	59	98	221	79.42	65.90
		Count	121	43	86	54	58	67	127	79.42	33.22
	Growth stage	Amount (Bn USD)	0.8	2.7	1.7	2.6	2.7	4.2	2.1	2.4	1.04
		Count	108	280	225	253	274	274	261	239.28	60.78
	Late stage	Amount (Bn USD)	4.4	6.3	3.7	10.4	8.7	8.3	8.8	7.22	2.488
		Count	47	78	79	97	122	159	156	105.42	42.11
Sector-wise funding	Fintech	Amount (Bn USD)	0.16	1.5	0.84	3.1	1.6	2.7	2.1	1.71	1.02
		Count	36	83	111	138	141	133	131	110.42	38.5
	Enterprise tech	Amount (Bn USD)	0.13	0.67	0.47	0.65	0.66	1.2	1.7	0.78	0.51
		Count	81	184	138	153	126	112	128	131.71	32.23
	Edtech	Amount (Mn USD)	33	94	196	215	569	44	1433	369.14	503.30
		Count	32	52	74	48	55	48	101	58.57	22.44
	Consumer service	Amount (Mn USD)	153	834	469	827	2436	1013	1686	1059.71	770.79
		Count	36	152	137	114	90	81	95	100.71	38.40
	E-Commerce	Amount (Bn USD)	3.1	2.6	1.63	3.7	2.3	2.3	0.9	2.36	0.919
		Count	48	170	179	104	109	97	94	114.42	45.697
	Health tech	Amount (Mn USD)	144	326	194	351	532	541	455	363.28	156.38
		Count	28	64	91	100	75	62	77	71.00	23.35
	Agri-Tech	Amount (Mn USD)	1.1	6.4	5	51	68	246	188	80.78	97.86
		Count	4	6	8	18	16	29	48	18.42	15.618

			2014	2015	2016	2017	2018	2019	2020	Mean	SD
Startup hub-wise classification	Delhi-NCR	Amount (Mn USD)	1578	3720	2008	4017	4563	4626	3615	3446.71	1199.10
		Deal	98	311	322	241	246	238	244	242.86	72.95
	Bangalore	Amount (Mn USD)	2897	3695	1713	7120	5264	5636	5157	4497.43	1832.81
		Deal	133	320	331	418	282	298	333	302.14	86.18
	Mumbai	Amount (Mn USD)	379	1083	1058	928	983	1303	1275	1001.29	307.89
		Deal	76	197	190	177	166	152	183	163.00	41.19
	Pune	Amount (Mn USD)	165	193	208	237	119	436	699	293.86	205.06
		Deal	14	33	45	31	22	29	31	29.29	9.60
	Chennai	Amount (Mn USD)	24	430	269	123	375	332	279	261.71	142.71
		Deal	16	43	34	32	35	25	35	31.43	8.62
	Hyderabad	Amount (Mn USD)	231	43	352	351	92	160	321	221.43	126.63
		Deal	16	35	42	36	17	25	25	28.00	9.93
	Kerala	Amount (Mn USD)	3.2	1.2	0.2	1.1	0.7	1.5	8.2	2.30	2.77
		Deal	4	2	4	3	6	3	10	4.57	2.70
Investor participation trend		Total Unique Investor	363	1012	1277	1192	993	892	1114	977.57	300.19
		Deal Per Investor	1.9	2.0	1.7	1.6	1.6	2.0	2.1	1.84	0.21

Source: Compiled by the researcher

Likewise, sectors like e-commerce and consumer services have consistently attracted the largest number of investors, with the highest funding amounts observed in 2017 ($3.7 billion) and 2018 ($2.436 billion), respectively. The mean funding received by e-commerce startups amounted to $2.36 billion, while consumer services averaged $1059.71 million. This indicates sustained investor confidence in these sectors and their growth potential. Health tech funding has also demonstrated steady growth over the years, reaching $541 million in 2019. This upward trend can be due to the impact of the COVID-19 pandemic, which accelerated the adoption of digital health solutions and made an investment in health tech startup companies.

Third, the researcher evaluated the startup hub-wise classifications, and based on the reports, the startup hub of India consists of Delhi, Bangalore, Mumbai, Pune, Chennai, Hyderabad, and Kerala. From the table, it is clear that Bangalore received a peak amount of investment during these periods ($5157 million in 2020). The mean amount of funding received in Bangalore is $4497.43 million, with an SD of 1832.81 million. In the case of Delhi, the largest amount of funding received consists of $4626 million in 2019. Similarly, Chennai and Mumbai also experienced peak investment in the 2019 year with $332 million and $1303 million, respectively. The mean funding received in Chennai consists of $261.71 million, with an SD of $142.71 million. As far as Kerala is concerned, the startup ecosystem in Kerala is also experiencing significant growth and reached its peak investment in 2020 with $8.2 million. The mean amount of investment received by Kerala is $2.30 million, with an SD of $2.77 million. Therefore, the presence of startup hubs in India is a significant factor for investors when deciding where to invest. These regions' benefits include support from academic institutions, liberal policies, and an environment conducive to investors. Consequently, these factors contribute to the growing investment trend in startup hubs across India.

Finally, the researcher evaluated the total number of investor participation trends during this period, and it can be observed that the maximum number of investors participated in the year 2016 (1277 numbers) and the minimum number of participants in 2014 (363 numbers). In terms of their deal count, the maximum deal count was observed in 2020 (2.1) and the minimum count in 2017 and 2018 (1.6 each). It is also

observed that the mean deal count amounts to 1.84 with an SD of 0.21. Thus, from this trend analysis, it can be observed that a significant positive trend took place in startup funding in India from 2014 to 2020. The majority of these investments were observed in 2019 and 2020 due to the introduction of innovative technologies and technology policies. So, investors across the globe are considering India as an investment option due to the talented people and ideas it supports to solve social issues.

3.4.3. Indian Unicorns

Unicorn startups are highly esteemed startup companies with a valuation of above 1 billion USD. In other words, unicorn startups are characterised by experienced entrepreneurs capable of navigating challenges and prospects. They are supported by venture capital firms and are expected to experience rapid growth and innovation (Rodrigues & De Noronha, 2021). Furthermore, unicorn startups are actively counterbalancing the disruption they are causing in the market by offering novel technology, innovative business models, or innovative ideas that disrupt conventional practices and open up new possibilities for expansion and competition in addition to achieving financial positions (Meek & Cowden, 2023).

Figure 3.7

Year-wise number of Indian Unicorn



Source: Compiled by the researcher

Based on academic research on startups, the different combinations of elements constitute the success of a unicorn—the founder, who plays a key role in managing the ventures; the smaller size, which facilitates quick decision-making; and, finally, the investment made by venture capital institutions (Prohorovs, 2020). Hence, comprehending the valuation of unicorns is crucial for understanding their growth and contribution to the economy. Researchers have pinpointed various methods for valuing unicorns, such as assessing the qualities of investors, sales growth, and the level of innovation within the respective ventures (Bock & Hackober, 2020), etc. In the context of India, the expansion of Indian startups is shaped by various factors, including initiatives undertaken by the Indian government, utilization of digital platforms, global connectivity, and ready access to local raw materials, among others (Kaur, 2023). Furthermore, it's remarkable to observe a rising trend in the number of unicorn companies emerging in India, and it is found that Indian unicorns predominantly concentrate on sectors such as e-commerce, fintech, and social, with e-commerce emerging as the primary sector driving the growth of unicorns. According to Figure 3.7, it is evident that the greatest number of unicorns occurred in the year 2021. The Indian unicorn was initiated by the startup 'in Mobi,' which made its debut on the unicorn list in 2011. The majority of Indian startups are based in Bangalore, which is regarded as a unicorn startup hub, followed by Delhi and Mumbai. Before the period of 2016–17, an average of about one unicorn was added annually. However, in 2017, there was a notable surge, with a robust 66% year-over-year growth rate. The best year for unicorn startups in India is 2021, when there will be an additional 44 unicorns added (Nishitha Batra, 2022). Notably, Pharm Easy, a pharmacy firm, and Meesho, a shopping startup, both made it onto the unicorn list in the same year. However, it now takes an average of 7-8 years in 2020–2021 instead of the 5-7 years it took in 2018–19 to be a unicorn in India. This suggests that India has provided a startup ecosystem that is favourable for aspiring business owners and entrepreneurs and that it will present prospects for these enterprises going forward.

3.5. Kerala Startup Ecosystem

The startup ecosystem in Kerala has gained an appreciation for its dynamism, supported by highly skilled and talented individuals, positioning the state as a centre

for innovation and entrepreneurship. In 2022, the Kerala government announced plans to establish 15,000 tech startups within the next five years (Genome, 2023). Moreover, Kerala startups garnered top rankings in the state ranking report for 2021, attributed to factors such as institutional support, market access, and capacity-building initiatives (Thomas & George, 2020). Notably, the supportive government policies and frameworks in Kerala have played a significant role in encouraging nascent entrepreneurs (Thomas & George, 2020). In addition to that, Kerala's appeal as a startup destination is bolstered by its high literacy rates, widespread adoption of digital technologies, and the availability of a skilled workforce (Genome, 2023). The Kerala Startup Mission serves as the prime agency of the state government, offering various services to promote entrepreneurship across the region.

3.5.1. Kerala Startup Mission- A Landscape for Innovation

Kerala Startup Mission (KSUM) is the state's leading organisation dedicated to fostering entrepreneurship. Additionally, it oversees the implementation of the Kerala Technology Startup Policy. KSUM was established in 2015 to provide the state with technology and associated services to support a thriving startup ecosystem (Thomas & George, 2020). The Kerala Startup Mission recently identified 63 business incubation institutions functioning in Kerala, together with more than 5015 registered firms and 10 lakh square feet of incubation space. Partnering with incubation centres not only offers financial support but also facilitates networking with various mentors and professionals to acquire valuable insights. (Kerala Startup Mission, 2024).

The establishment of the Technology Business Incubator (TBI) in 2006 marked a significant achievement for the startup ecosystem in Kerala. This initiative, then taken over by the Kerala Startup Mission (KSUM), has been pivotal in nurturing nascent entrepreneurs. These incubation centres are operating in private-public collaborations, focusing on providing support and resources to nascent ventures. Through these, the Kerala startup ecosystem has achieved notable recognition as the best performer for three consecutive years, as highlighted in the State Ranking Report of 2022. Another significant achievement is the emergence of the first unicorn startup from Kerala, Open. This venture, which focuses on providing funding to SMEs, recently entered

the unicorn list, showcasing the growing success and potential within the state's startup landscape. KSUM has played a significant role in driving innovation and growth within the startup community. Initiatives like the "Startup Infinity Programme" and the opening of an integrated startup complex in January 2019 further demonstrate their ability to support startups across various industries. These efforts underscore KSUM's role as an agent for fostering entrepreneurship and driving economic development in Kerala.

Apart from assisting with technology, KSUM links its tenants globally and provides several other services regarding patents and intellectual property. In addition, these organisations can provide intellectual property support up to two lakhs for Indian patents and ten lakhs for foreign patents (Kerala Startup Mission, 2024). Nonetheless, the state may be able to access these services due to its collaborations with online companies like Google Cloud and Amazon Web. Moreover, promoting a DIY (Do It Yourself) attitude inspires college and university students to get involved in the startup phase. As a result, to assist students enrolled in sixth to twelfth grades, the Atal Tinkering Lab (ATL) ran at several different schools. In addition, several academic institutions are creating centres to enable their overall growth. To provide the greatest motivation for a wider group of researchers, Research Innovation Network Kerala (RINK) actively works to create an entrepreneurial culture in Kerala youth communities (KSUM Report_V20.pdf, 2022).

Kerala Startup Mission has also made a significant contribution with the creation of "Huddle Global," an annual event that features a range of programmes and experience sharing wherein aspiring entrepreneurs and startups can learn about global investor talks, networking opportunities, funding sources, and success stories from different founders. In Kerala, the number of startups has also surged. In the Kerala startup ecosystem, more than 5000 firms have been formed between 2016 and 2021, with more than 95% of those launches happening recently. The pandemic effect and the slowing economy caused a modest decrease in startups in Kerala after 2021 (KSUM Report_V20.pdf, 2022). Similar to this, the fintech and SaaS industries have been added to the Kerala startup ecosystem, demonstrating sectoral shifts. A further

noteworthy trend is that, in line with investor expectations for Kerala startups, funding for growth-stage enterprises increased five times between 2018 and 2022 (KSUM Report_V20.pdf, 2022).

3.5.2. Schemes and Programmes Provided by the Kerala Startup Mission

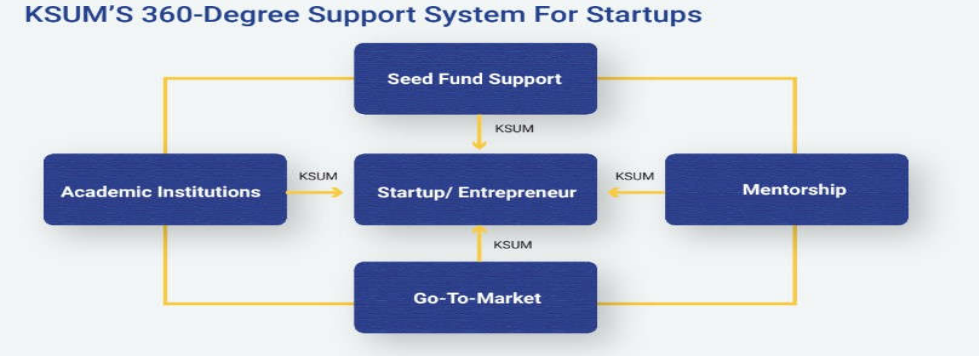
The state government, through its various agencies, has implemented many programmes to boost the startup sector in Kerala.

3.5.2.1. Huddle Kerala

The Huddle Global Startup Conclave is organised annually by the Kerala Startup Mission to showcase products and network with different startup communities, such as government agencies, investors, and business owners. A wide range of programmes is available through Huddle Global, including pitching, product expos, brand challenges, Startup 360, and more (Mithun., 2020).

Figure 3.8

360-Degree Startup Support



Source: startup Mission Report.,2022

3.5.2.2. Seed Support Scheme

The purpose of KSUM seed-supporting schemes is to provide early-stage funding to recently founded businesses. Seed loans are not used for the founders' salaries or the acquisition of expensive machinery; instead, they are used for a variety of requirements such as product development, test marketing, mentoring, professional

consulting, etc. The fund is issued through the Kerala Startup Mission by evaluating various criteria, and the maximum ceiling for the quantum of assistance is 15 lakh rupees (Mithun., 2020).

3.5.2.3. K-Accelerator Programme

The K Accelerator programme is a three-month virtual programme to support startup companies in achieving market acceptance, customer acquisition, and networking with various investors and funding agencies. A key component of the programme is pitching events and the sharing of success stories from successful startup founders, which serve to inspire and motivate fellow participants in their venture growth (Mithun, 2020).

3.5.2.4. H Catalyst Accelerator

The primary focus of this programme is on health-tech firms that have registered with the Kerala Startup Mission. It offers a range of services, including meeting investors, assisting businesses with their product-market fit, and facilitating connections with various stakeholders within the startup ecosystem. Additionally, 40 selected startups will have the chance to take part in the virtual event (Kerla Startup Mission, 2024).

3.5.2.5. Investor Café

As the name suggests, the primary focus of these initiatives is to facilitate the connection between startup entrepreneurs and investors. One of the primary benefits of this programme is that the Kerala Startup Mission assesses various angel investor pools and connects investors according to their funding needs, industry, and stage of development. Moreover, companies receive guidance and assistance throughout the funding (Kerla Startup Mission, 2024).

3.5.2.6. Startup Box

The Kerala Startup Mission (KSUM) has implemented an initiative aimed at supporting nascent entrepreneurs by removing entry barriers. The primary aim of this programme is to provide essential resources to startup ventures in their early stages, when they may lack the means to acquire the necessary resources. "Startup Box"

functions as a toolbox comprising various items such as computers, Bluetooth connectors, smartphones, etc. Upon completion of the event, participants are required to return the Startup Box to the startup mission (Kerala Startup Mission Report, 2019).

3.5.2.7. Meetup Café

Meetup Café is the venue where financiers, entrepreneurs, government officials, and representatives of various startup communities get together to form a network and work towards establishing a successful startup ecosystem in Kerala. Generally speaking, these events are generally located in three districts of Kerala, such as Trivandrum, Ernakulam, and Kozhikode (Mithun, 2020).

3.5.2.7. Patent Support Scheme

The government of Kerala introduced these to encourage innovation and protect intellectual property. Students and startups may receive reimbursement from KSUM of up to two lakhs for domestic patents and ten lakhs for foreign patents.

3.5.2.8. Innovation Grant

Innovation grants are generally provided for converting innovative ideas into scalable business models. There are different types of innovation grants offered by the institution, including idea grants, production grants, market acceleration, etc. (Mithun, 2020).

3.5.2.9. IEDC Summit

Kerala Startup Mission organises an annual event that unites young brains from different IEDCs in Kerala to exchange ideas created by student entrepreneurs. A range of services are provided to the chosen students, including market development grants, product development awards, access to capital, and incubation support (Kerala Startup Mission Report, 2018).

3.5.2.10. Multiplier Grant Scheme

The objective of this scheme is to foster collaboration between industries and academia to enhance research and development activities. Selection criteria for

industries include factors like the capacity to address market demands, possession of research and development facilities, and technical expertise. Generally, the Technical Development Budget (TDB) Council oversees the granting of the multiplier grant scheme. Invitations for the scheme are limited to a maximum of three per year, depending upon fund availability (Kerala Startup Mission Report., 2018).

3.5.4. Top-Performing Startups in Kerala

This section explains the success stories of the most prosperous startups in Kerala. These startups mentioned below are significantly contributing to employment generation, generating income, addressing social problems, and balancing regional development.

3.5.4.1. Genrobotics Innovation Private Limited

Figure 3.9

Logo of Genrobotics



Source: https://www.genrobotics.org/about

Engineering students Vimal Govind and Nikhil founded Genrbotics in 2017 to offer robotic solutions to social issues. The corporate headquarters of the company are located in Trivandrum. First, it was supported by the Kerala Startup Mission, and then it was given a one-crore fund by angel investors and Unicorn Ventures. The popularity of Genrobotics surged with the creation of "Bandicoot Robots," which are made to clean sewage without the need for human interaction. The primary reason that led to the formation of Bandicoots was the deaths of individuals who were cleaning manholes. Numerous awards in a range of categories were awarded by young startup entrepreneurs with an entrepreneurial team. Noteworthy accomplishments by Genrobotics Innovation Private Limited include the FICCI Best Corporate Initiative Award, Infosys Aarohan Social Innovation Award, Digital Indian Outstanding Performance Award, Marico Innovation Award 2020, and the Economic Times Startup Award.

3.5.4.2. Open Financial Technologies Private Limited.

Figure 3.10

Logo of Open financial

Source: https://open.money/

Open Financial Technologies Private Limited was established in 2017 by Ajeesh Ahuthan, Mabel Chacko, Deena Jacob, and Anish Achuthan. This financial platform makes it possible to obtain the resources small businesses and startup groups need. It was the first firm in Kerala to join the unicorn club and the 100th unicorn in the Indian startup ecosystem. It gained recognition for its rapid employee growth, hiring 500–1000 people in just a single year. It's easy to obtain credit resources and meet working capital requirements with the open platform offerings. One of the pioneers of open innovation, Mabel Chacko, was honoured with the 2020 Fintech Women Leader of the Year Award**.** The prospects of Open include the launch of three new products that help small and medium enterprises reduce their financial constraints, such as Open Flo and Open Settl. Currently, the Kerala Startup Mission is partnering with open financial technologies to address financial challenges.

3.5.4.3. Entri Innovation Private Limited

Figure 3.11

Logo of Entri Innovation

Source: Entri | The Best Learning and Prep App

Rahul Ramesh and Muhammad Nizamudheen formed Kochin-based Entri Innovation Private Limited in 2015. It is headquartered in Ernakulam District. It's the best place to look for government employment and professional degrees. In this short amount of time, Entri can acquire 250,000 paying subscribers. The collaboration between the Entri app and the Madan YouTube channel is another impressive achievement. Support was first given by the Kerala Startup Mission, and

then startup finance was granted by the "Good Capital Venture Capital Firm." The ability of Entri App to deliver all output in their mother tongues to facilitate user comprehension is part of their USP.

3.5.4.4. Zaara Biotech

Mr. Najeeb Bin Haneef, a Sahrdaya Engineering College graduate, started Zaara Biotech. In 2016, he initiated the concept of Zaara Biotech. He had a keen interest in providing nutritious goods. They can then use algal seaweed technologies after connecting with the Indian Council of Agricultural Research, Kochi. Zaara Biotech expanded its operations throughout several nations, and in 2021, the company was awarded ten million US dollars to carry out such in Dubai. By taking part in multiple training sessions and Agri-conclaves, Zaara Biotech received multiple awards.

Figure 3.12

Logo of Zaara Biotech

Source: www.zaarabiotech.com

3.5.4.5. Insent.ai

Introduced by Arjun Pillai in 2019 after successfully selling their first startup named ‘Profundis’. This is co-founded by Prasanna Venkatesh. After exploiting more knowledge from the same company, he started a new company named Insent.ai, which is a chatbot or artificial intelligence platform offering B2B marketing efforts. Recently, US-based leading Silicon Valley investor ‘Emergent Ventures invested an amount of $ 20 lakhs (Rs. 14.60 crore). Through these platforms, business enterprises can easily market their products and understand customer requirements. Within a short period, the company can earn around 40 employees, and the majority of these workers are from Kerala. Figure 3.13 shows the logo of Insent.ai.

Figure 3.13

Logo of Insent.ai

Source: https://insent.ai/signin

3.5.4.6. Interval Education

Figure 3.14

Logo of Interval



Source: https://www.teaminterval.in/

After realising the shortcomings of traditional classroom instruction, OK Sanafir and his four friends presented the concept of interval education platforms. This has made one-on-one instruction available to students in grades K–12 worldwide. Through this programme, students can attend classes from anywhere and will receive individual attention. Recently, only startups from Kerala were invited to attend the 'Talent Boost' programme from Finland. Interval currently serves over 25,000 customers across 30 countries. Nowadays, Interval has received many awards and recognition as a result of its innovation and continuous efforts.

3.5.5. Procedure for Establishing Startups in Kerala

Establishing startup enterprises in Kerala is an easy process. According to the Guidelines of the Kerala Startup Mission (KSUM), it is essential to follow three steps to register a startup company in Kerala.

3.5.5.1. **Registration**:

Startups in Kerala can register as limited liability partnership (LLP) firms, private limited companies, or partnership firms to take advantage of all the perks and initiatives available to them. The Ministry of Corporate Affairs website (MCA website) allows limited liability partners and private limited corporations to register with the help of a company secretary or chartered accountant. Partnership enterprises can register on the Egroops portal, which is the official platform for partnership registration in Kerala. For Kerala startups, the Registrar of Companies (ROC) is typically Ernakulam.

3.5.5.2. **Recognition Certificate**:

Following successful registration and issuance of a Company Identification Number (CIN) by the Ministry of Corporate Affairs (MCA), companies need to get recognition

from Startup India, which is provided by the Department for Promotion of Industry and Internal Trade (DPIIT). Startups can expect a certificate of recognition within 5–6 working days of submission. The entire process is free. After receiving this accreditation, startups are eligible to participate in all of the initiatives provided by the central government and Startup India.

3.5.5.3. Registering with Kerala Startup Mission:

The Kerala government offers a range of policies and programmes that are only open to Kerala-based entrepreneurs. Therefore, startups must register with the Kerala Startup Mission to receive this. A digital certificate will be issued in three to four working days after the registration process, which is free.

Furthermore, the government of Kerala launched the K SWIFT (Single Window Clearing System) programme, which aims to facilitate the single window clearing system and commercial operations in Kerala. To submit all applications, K SWIFT provides the CAF (Common Application Form). Additionally, it makes it possible to monitor the status of applications that have previously been submitted. KSWIFT offers easier clearance procedures and more comprehensive options to operate through paperless transactions.

Apart from being registered as private limited companies, limited liability companies, or partnership businesses, startups also need to meet certain other standards, including having a maximum of 10 years of existence, an annual turnover of less than 100 crores, and focusing on creating jobs and innovation. Startups can take advantage of all the resources and legal support offered by the central and state governments if all these requirements are met.

3.6. Theories of Startups and Entrepreneurship

This segment explains various theories implemented within the context of startups and emerging ventures. It evaluates theories such as the Resource-Based View Theory (RBVT), Resource Orchestration Theory (ROT), and social networking theories to shed light on how startup companies leverage resources, capabilities, and strategies to enhance their performance. In addition, it delves into the Real Option Theory to assess

its application in the business incubation context while also examining the Theory of Liability of Newness to understand the challenges encountered by startups during their initial phases. Below is a brief overview of these theories.

3.6.1. Resource-Based View Theory (RBVT)

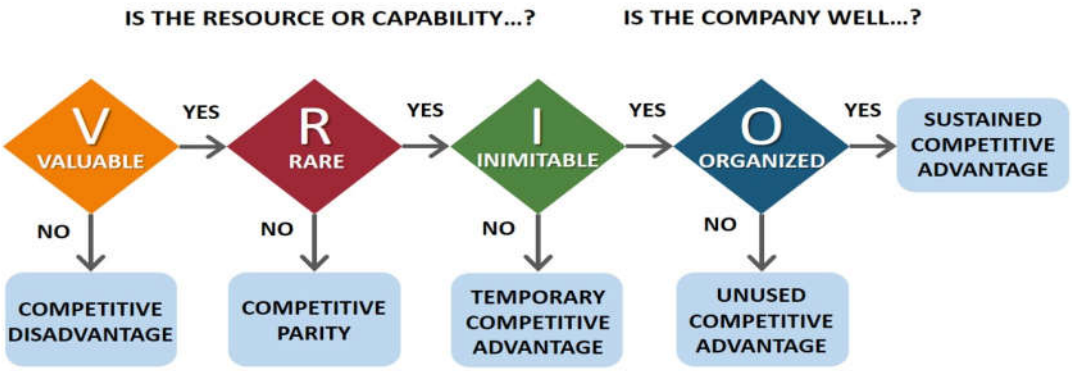
The Resource-Based View Theory (RBVT) is derived from Edith Penrose's (1959) studies on the growth of firms. Based on Penrose's views, Barney (1991) further defined the concept of strategic resources, emphasising their value (V), rarity (R), inimitability (I), and organisation (O), which are essential for attaining competitive advantages (D'Oria et al., 2021). This theory essentially focuses on internal aspects, suggesting that an organisation's competitive advantage hinges on its effective management of internal resources rather than external market conditions. Thus, to attain competitiveness, resources must possess four key characteristics: being valuable, rare, inimitable, and organized. The value of resources can be measured through their net present value (NPV), where the cost of investing in resources must be lower than the expected benefits. Moreover, these resources must be rare and difficult for competitors to follow. Finally, the organisation must possess the capability to integrate and coordinate resources in an effective manner (De Bruin, 2021). Consequently, achieving competitive advantages requires the effective combination of all resources, as failure to do so may lead to competitive disadvantages or parity within the organisation (Sridharan, 2024).

As per the theory, strategic resources can be available in several forms, including patents, unique organisational cultures, and inherent human attributes (Helfat et al., 2023). Traditionally, the Resource-Based View Theory (RBVT) regards a firm as a bundle of resources, with effective management being crucial for the growth of new ventures (Kor & Mahoney, 2003). These resources may be in tangible or intangible forms. Tangible resources include physical resources like financial capital, real estate, raw materials, stocks, brands, and cash. Likewise, intangible resources are often found in organisational routines or practices, such as reputation, culture, knowledge, patents, trademarks, and relationships within the startup ecosystem (D'Oria et al., 2021). So,

organisations should strive to maintain the balance between these two kinds of resources.

Figure 3.15

VRIO Framework of RBVT Theory



Source: VRIO Framework of Resource Based View - Search Images (bing.com)

In addition to these resources, certain capabilities are essential for securing competitive advantages. Among these, knowledge management and dynamic capabilities developed by founders are closely interconnected, with dynamic capabilities aiming heavily at adaptability to changing business environments. Thus, both resources and capabilities are vital for nascent entrepreneurs to grow their ventures (Barney et al., 2001). Similarly, this concept has found wide application in various areas of strategic management, including human resource management, international business, marketing, and information technology (Strehle, 2006). Startups often face limitations in financial resources, but entrepreneurs leverage their capabilities and creativity to overcome these constraints, thereby establishing and positioning their organisations to access more traditional funding sources. As a result, according to RBVT theory, human capital plays an important role in achieving competitive advantages (Alfalih, 2019). Startups with high-quality human beings can effectively integrate internal and external knowledge and demand, resulting in better performance (Ahn et al., 2022). Therefore, building upon the Resource-Based View Theory (RBVT), strategic management scholars worldwide have introduced a new theory called Resource Orchestration Theory (ROT) to strengthen competitive advantages within organizations. ROT elaborates on how firms effectively manage

and utilise their resources and capabilities to achieve success in today's dynamic business environment.

3.6.2. Resource Orchestration Theory (ROT)

As an expansion of Resource View Theory (RBVT), Resource Orchestration Theory (ROT) highlights the manager's function in integrating resources and gaining a competitive edge (Pizzolitto & Verna, 2022). As a result, it placed a greater focus on the characteristics shared by human beings. Sirmon et al. (2007) distinguished three resource management processes: structuring, bundling, and leveraging. The process of collecting diverse resources from various sources is called structuring. Leveraging is the process of transforming these resources into capabilities, whereas bundling is the process of integrating these resources. It was also discovered that the manager's actions or context also greatly impacted how these resource management activities turned out (Sirmon et al., 2010). Every process in this resource orchestration consists of multiple sub-processes. The process of structuring entails purchasing, building, and selling. Bundling encompasses pioneering, enriching, and stabilizing. Activating, coordinating, and deploying are all part of leveraging (Sirmon et al., 2011). According to Sirmon et al. (2007), resource orchestration is predicated on three factors: the depth, breadth, and life cycles of the various enterprises. ROT therefore depends on the "process-based" perspective of the firm's use of resources.

Traditionally, resource management was primarily seen as the responsibility of top management teams (TMT), but recent studies indicate that innovation is often attained through collaboration between team members utilising resources effectively (Andersén & Ljungkvist, 2020). Additionally, Resource Orchestration Theory (ROT) emphasises the importance of founders' previous experience in implementing strategies within enterprises, and studies suggest that founders with higher experience in founding ventures are more adept at enhancing innovation compared to those with lower experience (Symeonidou & Nicolaou, 2017). Moreover, ROT stresses the importance of firms collaborating with external parties to optimize resource allocation (J. Zhao et al., 2021), while also leveraging the influence of external environmental factors such as market conditions, technological advancements, regulatory

requirements, and competitive dynamics (Han-Song & Tian, 2022). Thus, Resource Orchestration Theory finds how founders and team members strategically manage valuable resources and core competencies to drive innovation and organisational growth in a constantly changing business environment. Consequently, nascent ventures that prioritise resource management and dynamic capability development are forced to generate value and outperform their competitors.

3.6.3. Social Networking (SN)Theory

Social networking theory is based on the idea that startups can effectively overcome resource shortages by creating social networks in their earlier stages (Gao et al., 2021). Further, Burt and Burzynska (2017) implemented the concept of a "network broker," referring to individuals or institutions working together to expand a business network, facilitating access to resources, services, and shared knowledge within the startup ecosystem. This concept, which evolved in sociological theories and entrepreneurship research, is termed the "network success hypotheses," as coined by Brüderl and Preisendörfer (1998). Moreover, startups can access resources not readily available in the market through these network success hypotheses (Witt, 2004). Additionally, the type of resources acquired is influenced by the ties formed within the network. Weak ties are conducive to acquiring information resources, whereas strong ties facilitate other types of resource acquisition (Jenssen & Koenig, 2002). The academic literature widely explores the importance of social networks and founders' networking abilities in contributing to startup performance (Witt, 2004). Moreover, business incubators and accelerators play an important role in creating networking among stakeholders. Incubators also set up networking events to connect startups with various parties, including finance providers, government agencies, and successful startup founders, enhancing knowledge sharing and a comprehensive understanding of startup operations (Antunes et al., 2021). However, some research identifies the potential negative effects of networking behaviours within business incubators. For example, Pettersen et al. (2015) empirically evaluated networking relationships formed within incubators and their subsequent results, revealing important effects on these relationships. Likewise, networking relationships are influenced by various

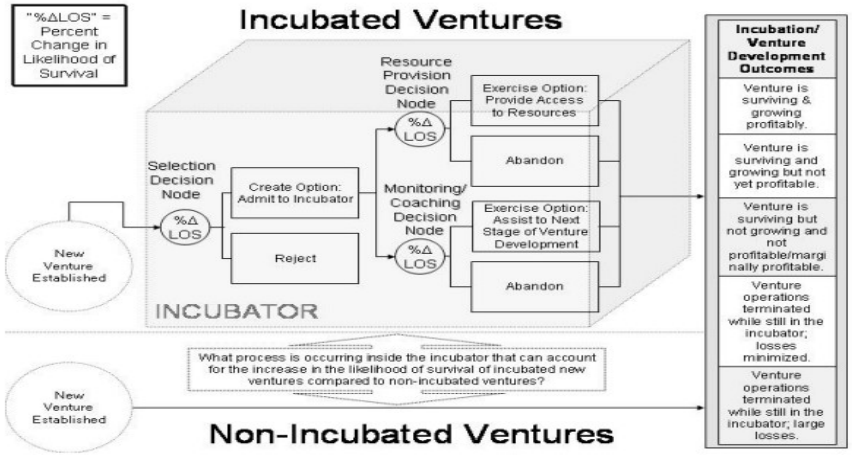
parameters such as network type, intensity, and ties, as mentioned in the studies conducted by H. Peng et al. (2022). Founders are always looking for either personal or formal networks based on industry type, with personal networks helping in evaluating potential customers and suppliers. Network density, indicating whether the network is dense or sparse, is what influences the availability of new and updated knowledge. In summary, startups and new ventures establish networks as a foundation for resource orchestration and attaining competitive advantages.

3.6.4. Real Option Theory

Real options theory plays an essential role in startups and new ventures, especially within the context of business incubators, by evaluating how startups from these programmes survive over time. It assists both business incubators and startups in different aspects such as investment decision-making, portfolio management, and startup valuation (Hackett & Dilts, 2004). Specifically, the real option involves making an initial investment decision in uncertain conditions, followed by subsequent decisions to manage the risks associated with these ventures and ultimately realise profits. This concept is generally suitable for the operations of business incubators, which strategically evaluate applicants, provide mentoring and support services, and gauge the potential of tenants to thrive (Hackett, 2004).

Figure 3.16

Real option theory of business incubation



Source: Hackett (2004)

According to Figure 3.16, all of the processes that occur in business incubators—such as mentoring, support, and access to resources at every stage—are absent from non-incubated startups, and as a result, the likelihood of survival for incubated startups is higher than that of non-incubated startups (Hackett, 2004). Furthermore, this method can be applied to merger and acquisition choices, startup valuation models (Tellez & Rafiuddin, 2023), and other strategic management aspects (Y. Li et al., 2007).

3.6.5. Theory of Liability of Newness

The term "liability of newness (LON)" was first used by Arthur Stinchcombe in 1965 to characterise the factors that contribute to the highest death rates in the early phases of an organism's existence. More specifically, Stinchcombe contends that inadequate "learning experience" contributes to infant mortality (Abatecola et al., 2012). According to studies by Freeman et al. (1983), growing in size can mitigate the consequences of the liability of newness. These studies also examined the association between the liability of newness and company size (Abatecola et al., 2012). According to Hijanto et al. (2021), there is a considerable role played by the liability of newness aspects, such as legitimacy, reliability, and responsibility, in influencing organizational competence. The studies of Ulvenblad et al. (2013) suggest that there are two types of liabilities associated with newness: internal and external liabilities. Internal liabilities encompass challenges related to establishing administrative procedures, hiring staff, role uncertainty, unofficial organisational structures, and so on. External liabilities include challenges with marketing, finance, and compliance with legal requirements. Academic studies have consistently assessed the many approaches to reducing the liability of newness, and Ulvenblad et al. (2013) contend that an individual possessing more education and prior experience is more equipped to manage the internal and external liability of newness. Furthermore, entrepreneurial behaviours (W. Zhang & White, 2016), entrepreneurial abilities (Abatecola & Uli, 2016), etc., are also capable of managing the risk associated with novelty in start-up businesses.

Family involvement has emerged as an important factor in establishing legitimacy and reducing the liability of newness (Dibrell et al., 2009). In addition to that, startups

often lack the network ties established by older organisations, which can amplify these challenges. Another construct that has gained attention is the liability of smallness (LOS), wherein startups find it difficult to access the resources and skilled workforce necessary to implement their actions (Gimenez-Fernandez et al., 2020). In the 1990s, the "liability of adolescence (LOA)" concept was introduced by Fichman and Levinthal (1991) to measure the risk of failure at various stages of a startup's life cycle. This probability of failure is typically low initially, increases during a period of growth, and then declines as the venture reaches its potential (Abatecola et al., 2012). To overcome these initial liabilities in the form of newness, smallness, and adolescence, firms must develop competitive strategies, develop capabilities, act according to environmental changes, gain startup experience, learn from failures, and accumulate shared knowledge (Harijanto et al., 2021).

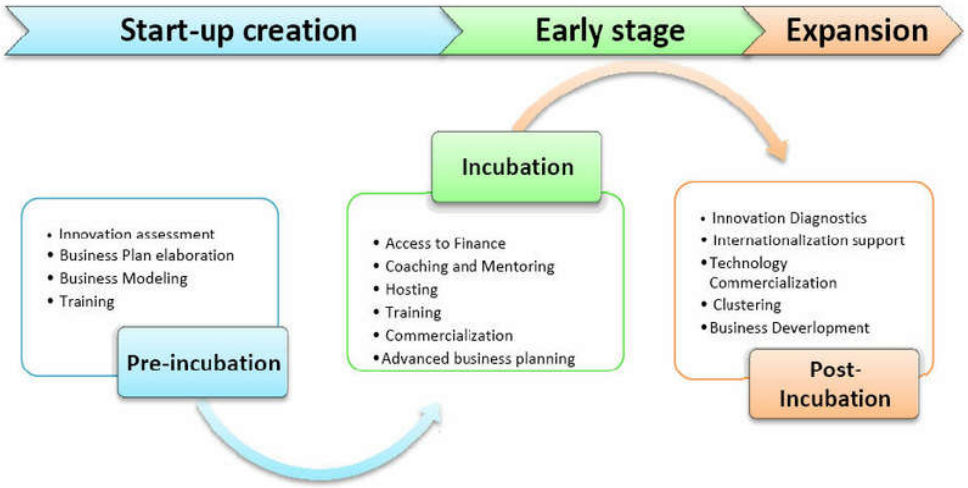
3.7. Business Incubation and Accelerators for Startup Growth

The concept of business incubation evolved in the 1970s at Batavia Industrial Park. In simple terms, business incubators are specialised institutions created to nurture nascent ventures (Eshun, 2009). The encyclopaedia defines business incubators as "organisations tailored to accelerate the growth and success of entrepreneurial companies by providing a range of business support resources and services such as physical space, funding, coaching, shared services, and networking connections." In addition to that, the National Business Incubation Association (NBIA) defines business incubators as catalysts for regional or national economic development. According to Ssekiziyivu et al. (2021), "business incubators offer various services such as business guidance, networking, funding, and mentoring to their tenants, ensuring the survival of new ventures." Research has shown that business incubators come in various forms, including university incubators, private incubators, business innovators, and corporate private incubators (Suresh Kumar, 2012). However, some institutions also perform similar functions with slight variations. For instance, accelerators represent a new generation of incubation models aimed at assisting and providing incubation spaces within a limited timeframe (Kulkov et al., 2020).

Moreover, technology parks are designed to cater to the needs of both new ventures and established ones (Sozinova et al., 2023).

Figure 3.17

Phases of business incubation



Source: phases of Business Incubation(bing.com)

In modern times, the growth of incubation practices is markedly increasing, manifesting in various forms such as technology and research support at the university level, as well as initiatives aimed at regional development and employment growth. An important factor contributing to startup failures is financial constraints, as they often encounter difficulties in securing funds from traditional sources like banks and financial institutions. These entities are often not interested in extending credit due to the lack of proper collateral and track records. As a result, startups in their nascent stages often turn to business incubators to obtain the necessary funding and support, enabling them to progress without efficient security requirements. One of the primary advantages of utilising these facilities lies in the creation of synergy through the consolidation of resources, facilities, and expertise (Bøllingtoft & Ulhøi, 2005). Academic studies on entrepreneurship extensively recognise the concept of networked incubators, emphasising the importance of networking relationships within business incubators for new ventures. These relationships facilitate resource sharing, access to resources at reduced costs, and connections with investors and funding agencies (W.

Wu, Wang, & Tsai, 2020). The business incubation process typically involves three phases: pre-incubation, incubation, and post-incubation. The pre-incubation phase consists of activities undertaken before the implementation of a new idea, including seeking advice from business incubators and successful entrepreneurs, market research, and consumer evaluation. During the incubation phase, the focus shifts to actual product development and marketing. This stage also involves flexibility in adapting plans and pricing strategies to suit evolving business landscapes. Finally, the post-incubation phase involves the commercialization of products, making them available to the general public (Sohail et al., 2023).

3.7.1. Services provided by business incubators

The success of incubation is based on the level of services provided by incubators and how they help the tenants grow. The following section describes the services provided by them.

3.7.1.1. Creating an Enabled Environment

In the context of a resource-constrained environment, startups and new ventures consistently seek out business incubators to enhance their chances of survival. One of the main functions of these incubators is to cultivate nurturing surroundings within the diverse landscape of the startup ecosystem. This environment facilitates the exchange of ideas, resources, and expertise among members. Key elements of such incubators include educational platforms, fostering credibility, reducing the risk of failure, and providing ongoing feedback from tenants regarding the efficacy of their services (Kamdar, 2013).

3.7.1.2. Physical Infrastructure

The availability of physical incubator space for rent below market rates is one of the primary features of business incubators. Additionally, the infrastructure—which includes computer and internet access, a library, and lab spaces—improves the tenant companies' ability to run efficiently. After the incubation period is over, the materials should be returned to the incubators (Kamdar, 2013).

3.7.1.3. Business Assistance Services

These are regarded as among the primary services that business incubators offer. It supports fledgling businesses at every stage of their lifespan, starting with their discharge. The spectrum of services includes obtaining government approval, helping with product development, establishing connections with other parties, providing legal services, and so forth. In addition, business incubators serve as distribution channels for funds authorised by federal and state governments and assist companies in obtaining funding from various sources according to their needs (Kamdar, 2013).

3.7.1.4. Management Guidance and Consulting Services

It entails tasks like determining whether the concept is viable and supporting start-ups with everything from idea generation to creating scalable business strategies. Startups are using business incubators to assist with feasibility studies and marketing research before launching their businesses. Additionally, it supports the tenant firms' administrative operations (Kamdar, 2013).

3.7.1.5. Networking Events

The business incubators help their tenants maintain networking and partnerships with both internal and external actors in the startup ecosystem. Research has also shown that because of the events and activities held by the incubation centres, firms that are being incubated are gaining access to greater resources and funding. Furthermore, it serves as a useful platform for the Investor Connect programme run by incubators and the learning experiences of successful entrepreneurs (Antunes et al., 2021).

3.7.1.6. Assisting in Startup Funding

Incubators serve as channels for diversifying funds among their incubates based on different criteria. Both central and state governments allocate funds to these incubators, which in turn distribute them to new ventures. Several programmes exist for this purpose, such as TNIDHI-SSS, which provides financial support to startups with promising ideas, helping them meet their funding requirements. Likewise, platforms like NIDHI-PRAYAS are designed to assist tenants in building prototypes.

Moreover, central government patent support schemes are distributed through incubators. Programmes like "BIO NEST" are specifically designed to support medical and health-related startups, reducing the substantial investment costs in technology. As a result, startups affiliated with any incubation agency stand to gain more funding and support compared to those not enrolled in such programmes (Shankar and Hohenhausen, 2020).

3.7.2. Business Incubators Vs Accelerators

Accelerators and business incubators are two words that are used interchangeably. Both of these terms are used to characterise the development and launch of recently formed businesses. Business incubators are specialised organisations that provide start-ups with various sorts of support, including capital, advice, and incubation space. However, accelerators are categories that attempt to speed up early ventures by offering mentorship and formal education inside time-condensed programmes that typically span three months (Lange & Johnston, 2020). Nonetheless, there are some distinctions between the two words in terms of the kind of support provided, the length of time it lasts, and the availability of experts. Below is an explanation of the specific differences between these two phrases (Maina, 2024).

Table 3.3

Distinction between incubators and accelerators

Basis	Incubators	Accelerators
Duration of the program	Incubators are long-term programmes designed over a range of years to assist startup companies in different stages of their lifecycle.	Accelerators are often created to support projects for a short period, say three to six months.
Handling funding	The funds are used for a variety of purposes, including marketing, physical infrastructure, mentoring, incubator space, and research and development.	In exchange for equity, accelerators provide funding, which is specifically used to support the expansions.
Strcuture of program,	An atmosphere with greater flexibility where tenants can gain knowledge from the ever-changing business landscape	Accelerators provide unique curricula and workshops, and they are also highly structured.

Basis	Incubators	Accelerators
Level of Commitment	Startups can commit to a more consistent and adaptable level with incubators.	invest a substantial amount of time and money to make the most of the initiative.
Equity consideration	No equity investment is required	Investment made in the form of equity

Source: Compiled by the researcher

3.8. Policy Framework for Startups

This section incorporates policies and schemes designed to support and benefit startup companies in operation within Kerala. The comprehensive details of each scheme are elaborated below:

3.8.1. Central Government Schemes

The government of India and its budgetary policies play a significant role in fostering equitable regional development and reducing the failure rate of startup companies (Wasnik & Jain, 2023). Various initiatives and policies are also being formulated to cultivate and establish an investment-friendly startup ecosystem in India. These actions aim to create balance among startups owned by both men and women. The government extends its support to women-led startups by facilitating their access to investors, mentors, and business incubators (Kumar & Singh, 2021).

Furthermore, the government actively promotes business-to-government (B2G) networks by acting as a marketplace. Similarly, the primary consideration when establishing a startup is finance. Priority lending enables them to obtain capital at a reduced interest rate. In the same manner, inexperienced entrepreneurs have trouble raising capital to support their operations. Thus, the government offers assurances to obtain venture capital and loans from different financial organisations (Ghosh, 2020). The government has now implemented various programmes to encourage exports and liberalise FDI regulations. The purpose of all of this is to create balanced regional development and establish India as a hub for startups. The central government develops various incentives and initiatives for that reason, and it is the responsibility

of each state government to carry them out. It consists of the India Aspiration Scheme, Mudra Scheme, Startup India Scheme, and so on.

3.8.1.1. Startup India Scheme

Prime Minister Narendra Modi unveiled the Startup India initiative in 2016, intending to foster sustainable growth and bring entrepreneurs, investors, and the government together on a single platform. During the seven years of incorporation, Startup India played a unique role in the growth of entrepreneurship, with 100+ unicorn startups (valued startups whose investment is more than 1 billion USD) and 1,18,439 DPIIT-recognised startups all over the country (www.startupindia.gov.in). Through this flagship programme, mentors, incubators, accelerators, and Atal Tinkering laboratories offer a range of services to support the nation's startup ecosystem. The programme aims to ease startup exit requirements and establish India as a startup hub. Pioneer's contribution to this scheme is regarding tax exemption for startups up to 10 years (Balu, 2020).

3.8.1.2. Startup India Yatra

Startup India Yatra aims for the development of entrepreneurship and the startup ecosystem in non-metropolitan areas. Through the programme, aspiring business owners in Tier 1 and Tier 2 cities receive mentorship and incubation space. ‘Startup India Mobile Van’ travels throughout the states and identifies its ideas. After that, to make sure the ideas are viable, boot camping and idea validation are carried out. Additionally, the programme facilitates connections between Indian startups and the startup environment, as well as other foreign investors. Innovation Bridge, India-Israel, the Indo-Dutch Startup Link, the Portugal Startup Hub, and other initiatives are made to handle global operations and cross-cultural interactions. A lot of Grand Challenges, aside from that, are created to identify original solutions to issues. government guarantees funds for solving the issue.

3.8.1.3. Startup India Seed Fund and Credit Guarantee Scheme

Seed funds are provided for early startup operations.

- A grant of Rs. 20 lakhs is included in the seed funding for the development of prototypes and proof-of-concept validation.
- 50 lakhs for scaling up, marketing, and market entry.

As said previously, entrepreneurs must rely on both modern financing techniques and conventional bank financing. Collateral is required to obtain a loan from a traditional bank. However, early-stage firms encounter challenges in obtaining collateral and must rely on contemporary startup funding channels, including crowdfunding, bootstrapping, angel investment, and venture capital funding. For early-stage businesses, the credit guarantee scheme provides up to Rs. 10 crores in investment.

3.8.1.4. Micro Units Development and Refinancing Agency (MUDRA Scheme):

The purpose of this programme is to provide loans and other forms of financial support to new and small enterprises in rural areas. They can apply to banks, NBFCs, or MFIs for this type of credit. Startups and small-scale industries in India are eligible to receive up to Rs. 10,00,000 in total. MUDRA loans come in three varieties: Tharun, Kishore, and Shishu.

- Shishu: These loans are approved in the early phases of their business enterprise. It is possible to obtain funds up to Rs. 50,000. This loan amount is specifically utilised for raw material purchases and debt repayment.
- Kishore: They receive grants ranging from Rs. 50,000 to Rs. 5,00,0000, which they utilise to develop and expand their business.
- Tharun: Amounts between 5,00,000 and 10,00,000 can be acquired through this loan, and it is the maximum ceiling for the MUDRA Loan.

MUDRA loans are available to all Indian citizens, except farming enterprises. MUDRA cards are also offered by banks so that customers can satisfy their working capital needs and make cash withdrawals. (Sharma,2022)

3.8.1.5. Digital India

It is an initiative of the government of India to integrate rural areas with high-speed internet connections. Stated differently, these are the platforms that allow for electronic and single-point access to all government services (Goswami, 2016). It contains several stepping stones, including early harvest programmes, mobile connections, information for everyone, IT for the job, broadband roads, government, and e-Kranthi by supporting technology for all farmers, as well as security, justice, and financial inclusion (Midha, 2016). Within the framework of the Digital India Initiative, the government has allotted 3, 958 crores Rs for telecommunication, quantum computing, skill development, entrepreneurship, and other related areas between 2020 and 2021.

One of the pioneering accomplishments of Digital India is "MyGov," which introduced integrative administration by providing individuals an opportunity to voice their views in policymaking and recommendations.

3.8.1.6. Standup India

The aim of the “Stand Up India” scheme is to promote entrepreneurship among disadvantaged communities such as women, scheduled tribes (ST), and scheduled castes (SC) categories (Shivakumar, 2020). The aid is limited to greenfield enterprises, with an emphasis on manufacturing, trading, and services. The firm is eligible to get funding ranging from 10 lakhs to 1 crore (Sudha & Chitra, 2019). The amount is sanctioned to the SC/ST communities or women when they reach 18 years old and do not have any default payments on bank loans. According to Kaur and Arora (2022), the loan will have a reduced interest rate, which they may pay back after seven years of starting their business.

3.8.1.7. Make In India

The Indian government launched the flagship programme "Make in India" in 2014 to lure foreign direct investment, foster cross-cultural interaction, increase FDI flows, and position India as a manufacturing hub (Ghuge 2020). By enabling borderless trade between the countries, these platforms helped sectors like textile, power, and

automobile (Mir 2017). Its main objectives are to guarantee job possibilities and lower import rates. Consequently, Indian brands are becoming more valuable.

3.8.1.8. Self-employment and Talent Utilization (SETU)

To support emerging and established firms, this program is being launched as part of the Union Budget 2015. These span a wide range of activities, including helping startup companies with all aspects of their development, mentoring, and incubation support (Jindal & Bhardwaj, 2016). This, which is usually made up of the Indian government and NITI Ayog, assists entrepreneurs with funding access, process simplification, and industry-academia alliances (Sharma,2022).

3.8.1.8. ATAL Innovation Mission (AIM)

Niti Ayog is putting this programme into action to encourage entrepreneurship and innovation in India. It functions on a variety of levels, beginning with government agencies, MSMEs, schools, and higher education institutions. Atal Tinkering Labs (ATL) is a pioneering initiative of the AIM that fosters student innovations within the school (Kavya & Rishinath, 2019). Furthermore, it improves the foundation for collaboration for all stakeholders within the startup ecosystem (Chaudhary, 2022).

3.8.2. State Government Schemes.

These are the policies and programmes that are only accessible to Kerala-based startups. Over time, multiple ministries and departments of the Indian government have implemented these for entrepreneurs. The Kerala Startup Mission (KSUM) facilitates the distribution of various initiatives aimed at fostering the development and launch of newly formed businesses in Kerala. Table 3.4 provides an overview of the different programmes designed to assist new businesses. The entire scheme can be classified into 2 based on their beneficiaries such as Startups, and students

Table 3.4

Schemes available for Kerala startups

	Name of the scheme	Purpose	Eligibility	Quantum of Assistance
Schemes available for startups	Multiplier Grants Scheme (MGS)	Financial support for international patent filing and encouraging academic-industry collaboration	Startups related to electronics and information technology	Reimbursement of 15 lakhs per invention or 50% of expenses, whichever is lesser
	Modified Special Incentive Package Scheme (M-SIPS)	Aims to support intellectual property rights	Electronic startups	Capital subsidy of 20% in SEZs and 25% in non-SEZs
	Technology Incubation and Development of Entrepreneurs (TIDE)	Assisting higher education institutions in setting up business incubation centres.	Higher education institutions having MTech programmes.	Total: 155 lakhs grand, 30 lakhs for infrastructure development.
	Aspire – Scheme for promotion of Innovation, Entrepreneurship, and Agro-industry	Aim to connect incubation centres and promote startups and innovation in rural areas.	Any startups having an entrepreneurship memorandum and sector may be agriculture, health care, or social impact.	Grant of 50 percent or 30 Lakhs, whichever is less
	Atal Incubation Centres (AIC)	For the growth of startups	Startup registration as a partnership firm and either academia or non-academia are acceptable.	Rs. 10 crores for each Atal incubation centre.
	SPARSH (Social Innovation Programme for Products: Affordable & Relevant to Societal Health)	For the promotion of the healthcare sector	Only those startups from healthcare and life science with less than 3 years of incorporation and the ideation stage	grant-in-aid up to INR 50 Lakhs

	Name of the scheme	Purpose	Eligibility	Quantum of Assistance
	Promoting Innovations in Individuals, Startups and MSMEs (PRISM)	Grant in supporting technology solutions	Indian citizens and student innovators who want to convert their ideas into products.	For students, Rs. 2 lakh or 90%, whichever is less, and for other categories, Rs. 20 lakh or 90%, whichever is less.
	Stree Shakti Package for Women Entrepreneurs	SBI was initiated, to support women entrepreneurs.	The majority of the ownership is led by women founders	Interest reduction of 0.05 percent on loans above ₹2 lakh.
Schemes available for students	Ph.D. Scheme	To encourage PhDs in Electronics System Design (ESDM) and IT	PhD scholars	Maximum allocation of 446 Crores
	A Scheme for Promoting Innovation, Rural Industry &Entrepreneurship (ASPIRE)	Promoting an entrepreneurship culture among the students.	Incubates incubated in various incubation centres	The total budget plan is Rs 62.50 crore for 2014–2016.
	Assistance to Professional Bodies & Seminars/Symposia	Aim for developing strong research in the science and technology field	provided to research institutes, universities, medical institutions, and other academic institutes and professional bodies that organise such events.	support for pre-operative expenses like domestic travel and contingencies

Source: Compiled by the researcher

3.9. Managing and Scaling New Ventures and Startups

This session explains the essential elements for effectively managing and scaling new ventures and startups. Below is a summarised explanation:

3.9.1. Managing a New Venture

Several steps are involved in new venture management when turning an emerging business into a sizable corporation. Essentially, there are three phases involved: organising, co-creating, and startup creation. Identification of team members, upholding social links, and pursuit of outside business opportunities are the focus of the co-creating stage. Alternatively, the founders' strategy is part of the organising stage, and generating revenue from those operations is part of the performing stage (Shepherd & Patzelt, 2021). Thus, it's necessary to identify some of the components needed to successfully operate a new enterprise.

Initially, lead founders play a pivotal role in managing nascent ventures from beginning to end (Ribeiro et al., 2024). The unique model of new ventures is based on attributes shaped by elements such as previous experiences, motivations, and emotions. Studies also found that managerial experience enables adaptability to dynamic business environments, and it's worth noting that previous experiences might not universally apply, especially if they were gained abroad and don't align with local contexts. In addition to that, entrepreneurial self-efficacy and urge are key drivers motivating individuals to concentrate on new ventures. Similarly, team members also play a significant role in managing new ventures (Yang and Shao., 2023). These individuals, with diverse capabilities and skills, collaborate to achieve targeted outcomes, contributing to the startup's competitive edge. They also manage the financial requirements and technical aspects of the ventures. Furthermore, social relationships are regarded as vital in the startup ecosystem. Studies by Gao et al. (2021) emphasise that startups often operate in resource-constrained environments, making social relationships invaluable for accessing external resources at cheaper rates. These relationships extend to the founders' networks and interactions with funding agencies and other institutions, facilitating knowledge and resource sharing and thus enhancing the startup's social capital.

Maintaining legitimacy is a critical aspect of new ventures; it is defined as the perception by the startup community that a startup is credible, trustworthy, and socially acceptable in its environment (Nayır & Shinnar, 2020). This kind of evaluation extends to how well the startup's products align with the expectations of the customers. Given the novelty of startups, founders often employ various strategies to communicate their products and services to the public. After that, the next phase involves founder exits, which can occur in various ways. It may take the form of a transition into managerial roles or an exit under pressure from investors, as uncertainty regarding their leadership can arise. Moreover, founders may choose to exit voluntarily to eliminate further losses or when they feel the venture has reached its maximum level (Team and Team., 2024). Finally, the new venture management process consists of evaluating the external environment, which significantly influences strategic management. This environment includes family, peer, and hobby-related factors that influence the startup's formation. Moreover, factors such as digitalization and government regulations are also considered when new products are entering the market.

3.9.2. Scaling New Ventures

Organisational scaling is the process of growing a company's potential in several ways, like gathering, sharing, moving, and integrating knowledge in a new endeavour (Shepherd & Patzelt, 2021). To put it another way, this is the process of forming alliances with other players in the startup ecosystem to contribute additional resources and funding. During the scale-up phase, a company aims to achieve rapid growth by gaining competitive advantages and establishing long-term market leadership (Ramos & Pedroso, 2022). There are various ways to scale this type of business, including infrastructure, employee, and revenue scaling. Revenue scaling focuses on expanding the products to a wider range of markets in the hopes of increasing revenue (How to Scale a Startup: Tips and Strategies | Stripe, n.d.). In addition to that, when a firm looks for scaling, it should consider both internal and external factors. A few examples of internal factors are product-market fit, revenue model, market size, gross margin, and so on. External factors include the state of the economy, talent availability, capital

availability, and so on. As a result, growing new businesses requires several procedures related to managing and scaling them, as well as the implementation of successful strategies.

3.10. **Conclusion**

The current section has explored the theoretical frameworks of strategic management practices within the context of startups and new ventures, offering insights into Kerala's startup context. It is now essential to examine the results of the analysis conducted on primary data, with a particular emphasis on how firm resources, capabilities, and strategies influence the growth of startup enterprises in Kerala. These findings will be thoroughly examined and interpreted in the following chapters.

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Chapter 4

FOUNDER AND STARTUP CHARACTERISTICS ON FIRM RESOURCES, CAPABILITIES, STRATEGIES, AND VARIOUS DIMENSIONS OF STARTUP PERFORMANCE & HANDLING LIABILITY OF NEWNESS

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4.1. Introduction

The previous chapter covered various topics related to the startup ecosystem, the players involved, theories of startup and entrepreneurship, funding options available, and government support for startups. The current chapter is focused on achieving two main objectives:

- Identifying the firm and founder characteristics that influence firm resources, entrepreneurial capabilities, marketing strategies, and various aspects of startup performance.
- Examining the strategies startups can employ to mitigate the risks associated with being new in the market.

This chapter is based on primary data collected from three hundred and ten startup companies registered with the Kerala Startup Mission (KSUM) from 2010–2020. This chapter is structured into ten different sections, which cover aspects like the demographic profile of founders, startup characteristics, descriptive statistics, and hypothesis testing. The first section introduces the chapter, while the second explores founder characteristics, including age, gender, education, and previous experience. The third section evaluated the startup characteristics, such as the number of employees, sector, source of funding, and motivations. The fourth section consists of descriptive statistics about the scaled items. The fifth section addresses the reliability of the data and normality analysis using tests like the Kolmogorov-Smirnov test (K-S test), Skewness, and Kurtosis. The sixth section evaluated firm resources, entrepreneurial capabilities, and marketing strategies influenced by founder and startup characteristics. The seventh section explores the effect of these characteristics

on various dimensions of startup performance. The eighth section tackles the challenge of mitigating the "liability of newness," which is often a difficulty for newly established companies and discusses methods and strategies to overcome this issue. The ninth section consists of a summary of the hypotheses, and the final section concludes this chapter.

To conduct this analysis, the researcher applied IBM SPSS (Statistical Package for the Social Sciences) version 26, employing various statistical tools like ANOVA, Chi-square tests, correlation analysis, and independent sample t-tests. This chapter offers valuable insights for startup founders and team members. Analysing founder characteristics and their impact on resources, capabilities, and marketing strategies can assist founders in building strong teams and navigating initial challenges.

4.2 Frequency Distribution of the Founder Profile

This section covered founder profiles and descriptive statistics. The demographic profile of startup founders is shown in Table 4.1.

Table 4.1

Frequency distribution of startup founders

Categorical variable	Level	Frequency	Percentage
Gender	Male	272	87.7
	Female	38	12.3
	Total	**310**	**100**
Age	Below 20	37	11.9
	20-25	65	21
	25-30	76	24.5
	30-35	73	23.5
	Above 35	59	19
	Total	**310**	**100**
Educational Qualification from	Arts and science	61	19.7
	IITs or NITs	110	35.5
	IIMs	118	38.1
	Others	21	6.8
	Total	**310**	**100**

Categorical variable	Level	Frequency	Percentage
Prior business Experience in startups	Zero	32	10.3
	1-3	38	12.3
	3-5	98	31.6
	Above 5	142	45.8
	Total	**310**	**100**

Source: Primary

This table provides a comprehensive perspective on the frequency distribution of startup founders. Startup founders are the people or groups who take an idea and turn it into a marketable product. Gender, age, educational qualifications, and prior work experience of the founders are the variables included in this table. The detailed description of each sample characteristic is depicted with the help of graphs.

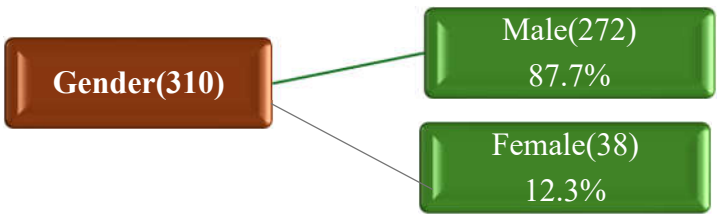
4.2.1. Gender Wise Classification of Respondents

The figure below demonstrates the distribution of male and female respondents within the sample group. Out of the total 310 respondents, 272 of them are male, constituting 87.7% of the total respondents. On the other hand, there are 38 female founders in the sample, making up 12.3% of the total responses.

In summary, our survey indicated that men constitute the majority of startup founders.

Figure 4.1

Gender-wise classification of respondents



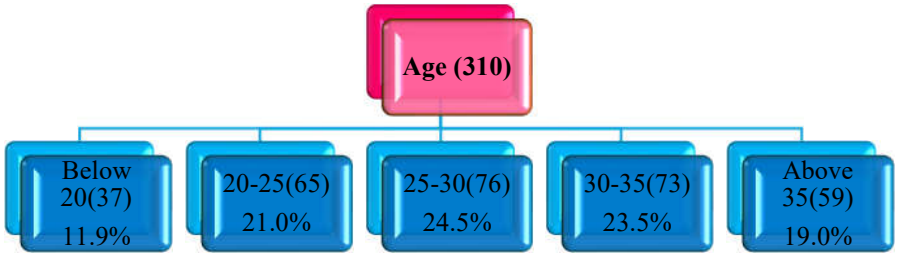
Source: Primary

4.2.2. Age Wise Classification of Respondents

It can be seen that 11.9% of the sample founders are under the age of 20. 21% of founders fall within the 20–25 age group. 24.5% of them fall into the 25–30 age range. 23.5% of them are in the 30-35 age range, while 19% are above 35. It can be concluded that the age group of founders below 20 and above 35 is negligible. As a result, the age group of 25 to 30 has the highest concentration of startups.

Figure 4.2

Age-wise classification of respondents



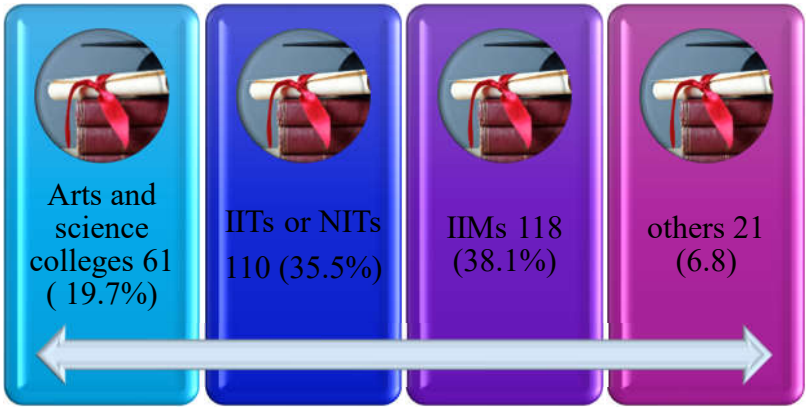
Source: Primary

4.2.3. Educational Background Wise Classification

The educational backgrounds of startup founders are shown in Figure 4.3. The data shows that a significant percentage of founders have higher academic backgrounds. Notably, there is a considerable number of founders who completed their graduation from various universities within the context of the Kerala startup ecosystem. Out of the 310 respondents, 118 founders hold a degree from IIMs, representing 38.1% of the total. Additionally, founders with education qualifications from IITs and NITs are notably prevalent—they comprise 35.5% of all respondents. It's noteworthy to notice that only 6.8% of respondents were founders of other categories, which is a rather small percentage.

Figure 4.3

Educational background-wise classification of respondents



Source: Primary

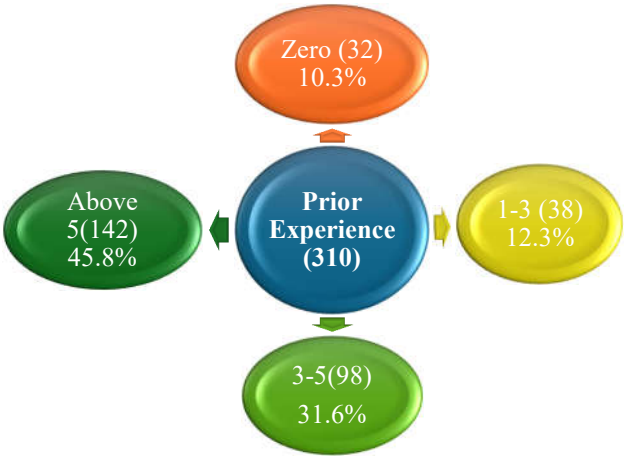
4.2.4. Previous Experience- Wise Classification

The chart depicts the distribution of startup founders based on their prior experience in the field of entrepreneurship. Out of the total 310 respondents, 45.8% have prior experience in entrepreneurship that is longer than five years, 31.6% have experience that is between three and five years, and just 10.3% have no prior experience.

These findings are in line with the studies of Ulvenblad et al. (2013), which came to the same conclusion that founders with greater educational backgrounds and prior startup experience are better able to overcome the initial difficulties and risks involved with new companies. With this knowledge, they are better able to deal with problems including unclear roles, scarce resources, financial constraints, etc. Therefore, it can be found that in the Kerala context, startup founders should possess a heightened understanding of the legal and business landscape. This awareness can be facilitated through the founders' prior experiences.

Figure 4.4

Previous experience-wise classification of respondents



Source: Primary

4.3. Frequency Distribution of Startup Characteristics

In this section, we present the frequency distribution of various startup characteristics such as the year of establishment, number of founders, number of employees, sector of operation, funding sources, legal form of the business, incubated or not, and location of the unit and motivation for establishing the ventures.

Table 4.2

Frequency distribution of startup characteristics

Categorical variable	Level	Frequency	Percentage
Year of establishment	Before 2015	12	3.9
	2015-16	118	38.1
	2016-17	68	21.9
	2017-18	100	32.3
	After 2018	12	3.9
	Total	**310**	**100**
Incubated or not	Yes	183	59
	No	127	41
	Total	**310**	**100**
Legal form	Private Limited company	159	51.3
	Limited Liability Partnership	90	29
	Partnership firm	61	19.7
	Total	**310**	**100**

Categorical variable	Level	Frequency	Percentage
Number of employees working	Below 10	4	1.3
	10-20	49	15.8
	20-30	89	28.7
	30-40	84	27.1
	40-50	68	21.9
	Above 50	16	5.2
	Total	**310**	**100**
Sector	Software	137	44.2
	Health tech	36	11.6
	Ed-Tech	49	15.8
	Hardware	68	21.9
	Others	20	6.5
	Total	**310**	**100**
Location	Trivandrum	101	32.6
	Cochin	150	48.4
	Kozhikode	59	19
	Total	**310**	**100**
Major funding sources	Own funding	117	37.7
	Seed money	86	27.7
	Friends and family	69	22.3
	Angel investor/VC	38	12.3
	Total	**310**	**100**
Motivation for starting a new venture	Job security	63	20.3
	Wealth maximization	94	30.3
	Create income	70	22.6
	Serve the society	83	26.8
	Total	**310**	**100**

Source: Primary

The detailed description of each firm characteristics is explained with the help of the following charts.

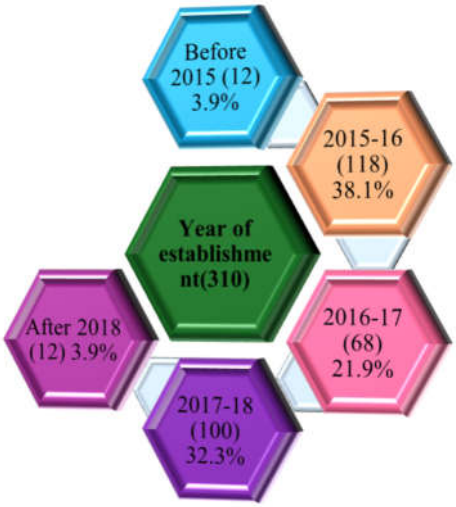
4.3.1. Year of Establishment Wise Analysis

As per the Indian startup ecosystem report, after the launch of the Startup India initiative in 2016, there has been an increase in the number of startups in India (Startup India, n.d.). Accordingly, Startups in Kerala are also following the same pattern, with

the majority of them having been founded between 2015 and 2016—a period that accounted for 38.1% of all respondents. When compared to before 2015 and after 2018, there are fewer respondents (3.9% for both periods) and more establishments in the 2017–18 era, which is likewise higher (32.3%).

Figure 4.5

Year of establishment-wise classification of respondents



Source: Primary

4.3.2. Incubation Centre Wise Analysis

Incubators are specifically designed organisations that provide support and assistance to early-stage entrepreneurs in the form of physical resources, shared office spaces, and business guidance (Shahzad et al., 2012).

Figure 4.6

Incubation-wise classification of respondents



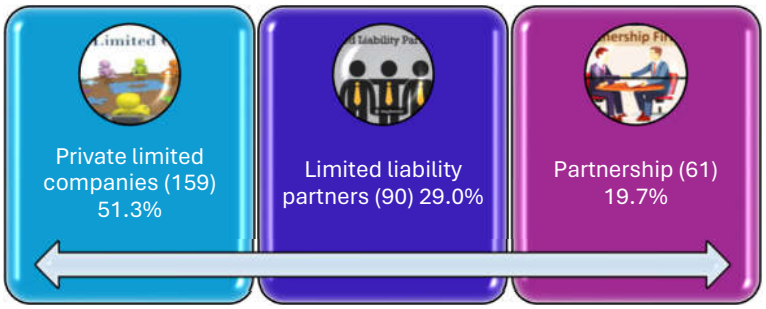
Source: Primary

Figure 4.6 illustrates the findings related to incubation status among the 310 respondents. The findings indicated that 183 new companies, or 59% of the total respondents, have gone through incubation or successfully graduated from various business incubation centres. However, 41% of respondents didn't go through any incubation and started their businesses independently, without the help of business incubators.

4.3.3. Legal Form of Business Wise Classification

Figure 4.7

The legal form of business-wise classification of respondents



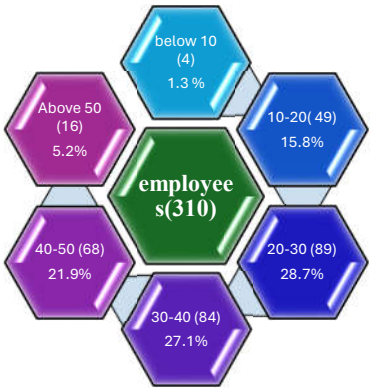
Source: Primary

Startups can register with the Kerala Startup Mission by creating a unique ID that would be useful for quickly and easily identifying the startups. As per the guidelines of KSUM, A startup must be incorporated as a limited liability partnership, private limited company, or partnership firm to be recognized as such (Home | Kerala Startup Mission, n.d.). According to an analysis of 310 startup companies, most of them (51.3%) are private limited companies, and just a small number (19.7%) are recognized as partnership firms.

4.3.4. Number of Employees Wise Classifications

Figure 4.8

Number of employees wise classification of respondents



Source: Primary

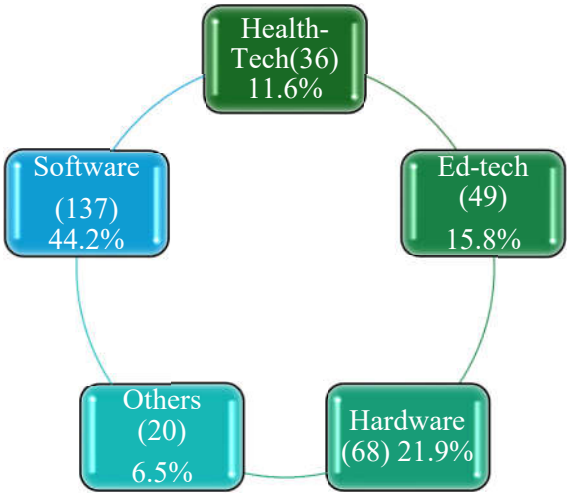
The studies of Thayyil and Habeeburahiman (2021) indicate that firm size refers to the number of employees in the company. Figure 4.8 shows that the number of employees in startup enterprises is mainly concentrated in the 20–30 range (28.7%), followed by the 30–40 range (27.1%), and the 40–50 range (21.9%). It is also evident that there are very few startup businesses (1.3% and 5.2%, respectively) with fewer than 10 and more than 50 people.

4.3.5. Sector-Wise Analysis

Figure 4.9 indicates the diversity of startups registered in Kerala across several sectors. The chart categorises the startups into five main sectors. These businesses primarily engage with the software sector, which makes up 44.2% of the total. With a representation of just 21.9%, the hardware industry is immediately behind. An intriguing finding is that the COVID-19 epidemic has aided the expansion of startups in education technology, demonstrating an increase in the number of these firms. Additionally, only a small proportion of startups—roughly 6.5% of the total—fit into one or more other categories. In conclusion, Kerala's startup ecosystem is distinguished by a strong presence in the software and hardware sectors, and the pandemic has had a huge impact on the development of education technology firms.

Figure 4.9

Sector-wise classification of respondents



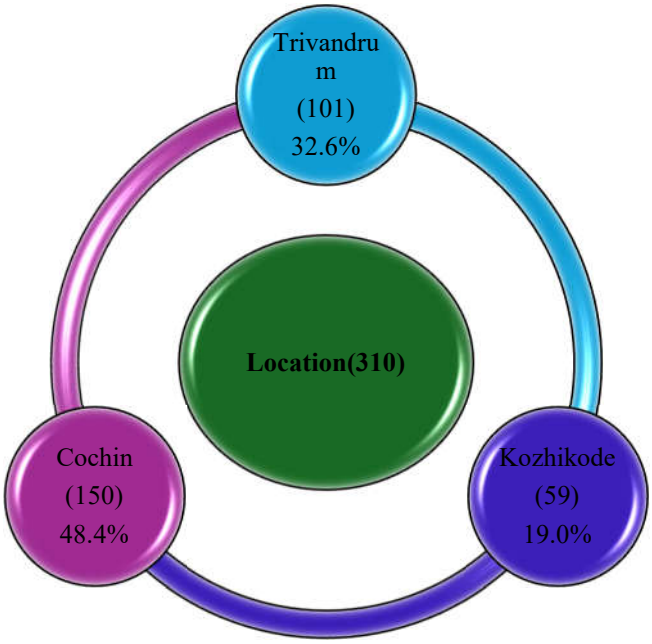
Source: Primary

4.3.6. Location-Wise Classification

In this case, the researcher divided Kerala geographically into three groups in order to collect samples using the simple sampling approach. The district is subsequently selected by use of random number techniques from each region. A portion of the responders from each of these startups that have registered make up the final sample. The data shows that 19% of respondents are from Kozhikode districts, with Trivandrum districts coming in second with 32.6 % and Ernakulam districts with 48.4% of all respondents. Consequently, startups are distributed based on where they came from.

Figure 4.10

Location-wise classification of respondent

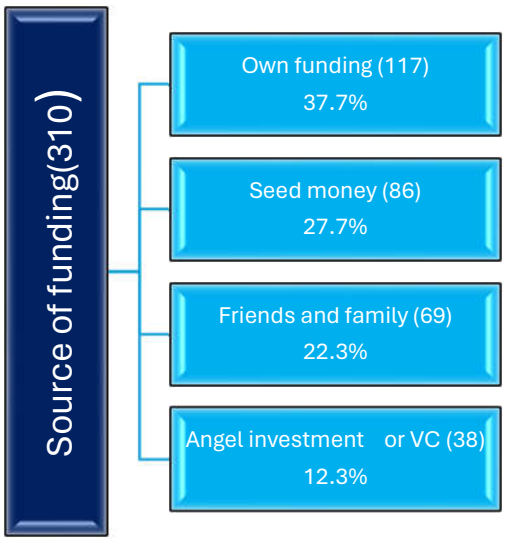


Source: Primary

4.3.7. Major Source of Funding Wise Classification of Respondents

Figure 4.11

Source of funding-wise classification of respondent



Source: Primary

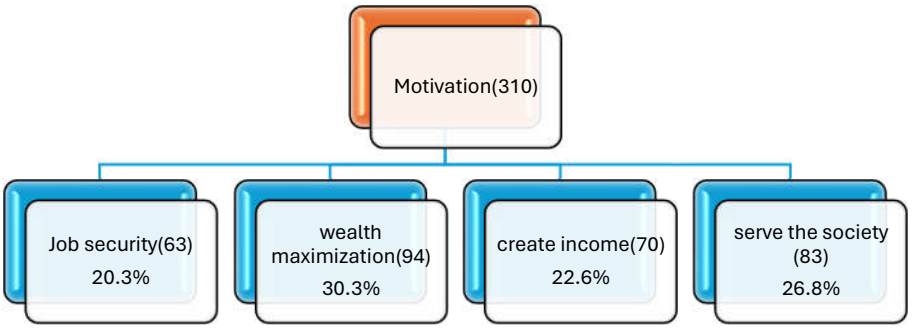
Startups have access to a range of funding methods, including angel investors, venture capital, and bootstrapping, among others. As per the current analysis, 37.7% of startup founders rely on their funds throughout the early stages of their businesses. However, venture capital organisations only support a small portion of entrepreneurs. In conclusion, while luring international investors has emerged as a prominent trend for Kerala entrepreneurs, many founders continue to choose self-financing in the early phases of their enterprises, with just a small minority looking for external finance from venture capital or angel investors. Sourcing funds for the startup is a significant concern for every founder, and Kerala startups are currently receiving the attention of foreign investors due to their unique contributions to each project. A recent example of this is Mykare Health, which successfully raised $2.01 million in seed-stage funding rounds (Vardhan, 2023).

4.3.8. Motivation for Starting a New Venture

The graphical representation of what drives people to create new businesses is shown in Figure 4.12. Startups create new businesses for a variety of reasons. Among 310 respondents, 30.3% of people say that wealth maximisation is the main factor in every founder's decision to pursue a career in a startup. Many sustainable companies are now operating in Kerala to benefit society, such as Zewa Bio-tech (www.linkedin.com/company/zewa) and Iraa Loom (www.linkedin.com/company/iraaloom/). Therefore, serving society is also of utmost importance for startup founders (26.8%), and only a small number of them focus on stable employment.

Figure 4.12

Motivation-wise classification of respondent



Source: Primary

4.4. Descriptive Statistics

This section focuses on finding the most valuable resources, capabilities, and strategies employed by startup companies. Through academic literature on entrepreneurship and startups, these firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performance are embraced. A five-point Likert scale from strongly agree (5) to strongly disagree (1) has been devised to accomplish the same.

4.4.1. Descriptive Statistics of Firm Resources

In Table 4.3, the mean, standard deviation (SD), and standard error (SE) of each statement describing the firm resources are shown. The researcher used two firm resources in the current study. I.e., intellectual capital and entrepreneurial bricolage.

Table 4.3

Descriptive Statistics of Firm Resources

Constructs	Item code	Indicators	Mean	SD	SE	Rank
Intellectual capital	IC1	Our employees/ team members are highly skilled	3.98	1.005	0.057	2
	IC2	Our employees are considered experts in their particular jobs and function	3.97	0.985	0.056	3
	IC3	We collaborate extensively with external parties (e.g., customers and suppliers) to develop new solutions	3.99	0.979	0.056	1
	IC4	We use intellectual property rights (patents/registered software, and copyrights) as a way to store knowledge	3.92	1.027	0.058	4

Constructs	Item code	Indicators	Mean	SD	SE	Rank
Entrepreneurial bricolage	EB1	We are confident of our ability to find workable solutions to new challenges by using our existing resources	3.61	1.346	0.076	1
	EB2	Applying combinations of resources at hand for new operations	3.40	1.325	0.075	4
	EB3	Applying combinations of resources at hand to create new products or services	3.57	1.246	0.071	2
	EB4	When we face new challenges, we put together workable solutions from our existing resources	3.54	1.266	0.072	3

Source: Primary

According to Pena (2002), intellectual capital refers to the unique and intangible resources that the company possesses. Among 4 items used for measuring intellectual capital, collaboration with outside parties was in first place, with a mean score of 3.99 and a standard deviation of 0.979. In addition, employees and team member's skills and expertise were ranked 2 and 3 respectively (mean: 3.98 and 3.97) respectively. The use of intellectual property rights received the lowest rating in this category (Mean: 3.92, SD: 1.027).

Descriptive statistics about entrepreneurial bricolage are presented in the second section of Table 4.3. The use of available resources to identify a solution took first place among the four categories, with a mean of 3.61 and a standard deviation of 1.34. Utilizing the resources at hand has resulted in the lowest ranking in this category (Mean: 3.40 and SD: 1.32).

4.4.2. Descriptive Statistics of Entrepreneurial Capabilities

According to the literature review analysis of new ventures and startups, the researcher categorized capabilities into three main categories, as shown in Table 4.4.

These categories are Knowledge Management, Dynamic capabilities, and Networking Capabilities. Knowledge management practices among new ventures and startups are widely accepted in the current academic literature. Knowledge management literature consists of the KM process and KM infrastructure (Abualoush et al., 2018). Current research concentrated on evaluating Knowledge management practices of startups in Kerala. Here, 4 indicators are used to measure knowledge management, and the representation of knowledge in software and databases took first place with a mean of 4.029 and a standard deviation of 1.07. It is also evident that knowledge used in decision-making and new knowledge generation were ranked in second and third places, respectively, with means of 3.932 and 3.832. Descriptive statistics of dynamic capabilities are in the second section of Table 4.4. It comprises 5 indicators, with learning capacities and resource integration capabilities coming in first and second place, respectively, with mean scores of 4.126 and 4.029. In contrast, resource reconfiguration capabilities are at the bottom of the list (Mean: 3.91, SD: 0.0903). The networking capabilities of startup founders are evaluated in the 3rd section of Table 4.4. Networking capabilities are the qualities possessed by the founders or co-founders in collaboration with different parties in the startup ecosystem (Mu, 2013). Founders spend more time networking with competitors (Mean: 4.187, SD: 0.944), financial institutions (Mean: 4.158, SD: 0.997), and government officials (Mean: 4.119, SD: 0.986) among these 4 indicators.

Table 4.4

Descriptive Statistics of Entrepreneurial Capabilities

Constructs	Item code	Indicators	Mean	SD	SE	Ranks
Knowledge Management	KM1	Our employees or team members access valuable knowledge from external sources	3.807	1.080	0.061	4
	KM2	Our employees or team members represent knowledge in documents, databases, and software	4.029	1.071	0.061	1
	KM3	Our employees or team members use accessible knowledge in decision-making	3.932	1.137	0.065	2
	KM4	Our employees or team members generate new knowledge	3.832	1.222	0.069	3

Constructs	Item code	Indicators	Mean	SD	SE	Ranks
Dynamic capability	DC1	The resource integration capability of our team members is efficient	4.126	0.907	0.052	1
	DC2	The resource reconfiguration capability of our team members is efficient	3.916	0.903	0.051	5
	DC3	The learning capability of our team members is efficient	4.029	0.901	0.051	2
	DC4	We can respond to the rapidly changing environment	3.961	0.909	0.052	3
	DC5	Our organization is strong in distinguishing different groups of users and market segments	3.929	0.942	0.054	4
Networking Capabilities	NC1	Spent much effort on cultivating connections with financial institutions	4.158	0.997	0.057	2
	NC2	Spent much effort on cultivating connections with competitors	4.187	0.944	0.054	1
	NC3	Spent much effort on cultivating connections with officials of governments and their agencies	4.119	0.986	0.056	3
	NC4	I can obtain information about my industry from my network of contacts faster than competitors can obtain the same information	3.948	1.119	0.064	4

Source: Primary

4.4.3. Descriptive Statistics of Marketing Strategies

Table 4.5

Descriptive statistics of marketing strategies

Constructs	Item code	Indicators	Mean	SD	SE	Ranks
Market information	MI1	Our company has formal processes for continuously collecting information from customers	4.136	0.907	0.052	2
	MI2	Our company has formal processes for continuously reexamining the value of information collected in previous studies	4.161	0.903	0.051	1
	MI3	Our company has formal processes for continuously collecting information from external experts, such as consultants.	3.436	1.043	0.059	4
	MI4	Our company has formal processes for continuously collecting information about relevant public	3.445	0.996	0.057	3
Marketing orientation	MO1	We have routine or regular measures of customer service	2.474	1.311	0.074	4
	MO2	Our product and service development are based on good market and customer information	3.026	1.496	0.085	1
	MO3	We have a good sense of how our customers value our products and services	2.542	1.374	0.078	3
	MO4	The customer's interest should always come first, ahead of the owners	2.852	1.431	0.081	2

Source: Primary

The marketing strategies denoted in the study consist of both market information acquisition and market orientation. From the standpoint of acquiring market information, the formal procedure of re-examining the information collected from previous studies is extremely valuable (mean: 4.161 and SD: 0.903). Additionally, current research emphasises the value of information gathered from customers (mean: 4.136 and SD: 0.907). In terms of market orientation strategies, market information is taken into account before idea validation (mean 3.026 and SD: 1.49). It is also intriguing that products have been developed based on consumer desire (mean = 2.85 and SD = 1.431). These results highlight the significance of successfully acquiring and using market information as well as aligning business strategies with customer demands to ensure the success and expansion of startups.

4.4.4. Descriptive Statistics of Liability of Newness

According to Schumpeter, the liability of newness is the initial difficulties faced by startups in competing with established ventures. Generally, there are two types of liability for newness: internal liability for newness and external liability for newness (Ulvenblad et al., 2013). The researcher applied Aldrich & Auster's (1986) classification of liabilities, and Table 4.6 shows its descriptive statistics.

Regarding the internal liability of newness, there are four indicators applied. Recruitment of personnel (mean: 3.084, SD: 1.46), lack of informal structure (mean: 2.926 and SD: 1.42), uncertainty regarding role and function (mean: 2.59 and SD: 1.37), and build-up of administrative routine (mean: 2.51 and SD: 1.34) are the various internal liabilities of newness. External liabilities are connected with handling laws and regulations (mean: 4.023 and SD: 1.07), arranging long-term funds for business (mean: 3.929 and SD: 1.138), handling marketing (mean: 3.826 and SD: 1.226), etc.

Table 4.6

Descriptive Statistics of Liability of Newness

Constructs	Item	Indicators	Mean	SD	SE	Ranks
Internal liability of Newness	IL1	Buildup administrative routine	2.519	1.348	0.077	4
	IL2	Recruitment of personnel	3.084	1.468	0.083	1
	IL3	Uncertainty about roles and function	2.597	1.378	0.078	3
	IL4	Lack of informal structure	2.926	1.420	0.081	2
External liability of Newness	EL1	Uncertainty about market potential	3.800	1.079	0.061	4
	EL2	Handle laws and regulations	4.023	1.078	0.061	1
	EL3	Arrange long-term finance for business	3.929	1.138	0.065	2
	EL4	Handling marketing and influencing the customers	3.826	1.226	0.070	3

Source: Primary

4.4.5. Descriptive Statistics of Innovation, Startup Adaptiveness, and Financial Performance

As can be seen in Table 4.7, the researcher divided dependent variables into three major categories. These three categories include financial performance, innovation, and startup adaptability.

The key component of every startup community is innovation, and researchers have found four indications for measuring startup company innovation. The study's four components were ranked as follows: The modification of an existing product or service came in first (mean: 3.81 and SD: 1.23), while the company's constant product or service development came in last (mean: 3.21 and SD: 1.22). The researcher used four criteria to measure startup adaptability: We adapt what we are doing to the resources we have (3.02), we avoid actions that limit our flexibility and adaptability (2.82), we are flexible and take advantage of opportunities as they present themselves (2.51), and we allow the business to evolve as opportunities arise (2.44).

In the academic literature on entrepreneurship, financial performance measurements of startups and new businesses are widely acknowledged. Our return on investment is rising (mean 3.67), our market share is rising (mean 3.348), our startup is seeing company growth (3.27), our sales are increasing annually (mean 3.17), and our growth is profitable (mean 3.12). These are the indicators used in the study.

Table 4.7

Descriptive Statistics of Innovation, Startup Adaptiveness, and Financial Performance

Constructs	Item Code	Indicators	Mean	SD	SE	Ranks
Innovation	IN1	Our company constantly develops new products or services.	3.210	1.222	0.069	4
	IN2	The companies' new products and services are often perceived as novel by customers	3.713	1.329	0.075	2
	IN3	Our company introduces modifications to its existing product or services.	3.810	1.233	0.070	1
	IN4	new products and service introductions, our company is often first-to-market.	3.623	1.321	0.075	3
Startup adaptiveness	SA1	We allow the business to evolve as opportunities emerge	2.448	1.308	0.074	4
	SA2	We adapt what we are doing to the resources we have	3.029	1.497	0.085	1
	SA3	We are flexible and take advantage of opportunities as they arise	2.513	1.374	0.078	3
	SA4	We avoid courses of action that restrict our flexibility and adaptability	2.826	1.433	0.081	2

Constructs	Item Code	Indicators	Mean	SD	SE	Ranks
Financial performance	FP1	Our sales are growing every year	3.177	1.441	0.082	4
	FP2	Our startup seeing business growth	3.271	1.355	0.077	3
	FP3	Our growth is profitable	3.126	1.421	0.081	5
	FP4	Our market share is increasing	3.348	1.378	0.078	2
	FP5	Our return on investment is increasing	3.677	1.177	0.067	1

Source: Primary

4.5. Reliability and Normality

The following parts provide an explanation of the scaled items used in the study as well as the normality of the data received from the respondents

4.5.1. Reliability

Table 4.8 depicts the reliability analysis of each item used in the study. Here, the researcher used 53 scaled items to measure the constructs. Reliability measurement is done to know the consistency of the instrument used in the study (Mohamad et al., 2015). On the other hand, reliability is a method of ensuring internal consistency. Which means how each item under a single construct correlate to each other. Cronbach's alpha is a powerful tool for measuring internal consistency. Researchers such as Nunnally and Bernstein (1995) argue that all items with a Cronbach's alpha above 0.7 are acceptable. The present study consists of 13 constructs, and all constructs fulfil the above condition with an alpha above 0.7. Here, the reliability values range from 0.793 to 0.925.

Table 4.8

Reliability analysis

Sl. No.	Constructs	No. of items	C-Alpha
1	Intellectual capital	4	0.925
2	Entrepreneurial bricolage	4	0.793
3	Entrepreneurial orientation	4	0.800
4	Knowledge management	4	0.879
5	Dynamic capabilities	5	0.865
6	Networking capabilities	4	0.863
7	Market information acquisition	4	0.894
8	Market orientation	4	0.874
9	Innovative capabilities	4	0.870
10	Startup adaptiveness	4	0.877
11	Performance	5	0.903
12	Internal liability of newness	4	0.854
13	External liability of newness	4	0.880

Source: Primary

4.5.2. Normality Measurement

Normality assumptions are used in social science research to demonstrate that the underlying data set exhibits normal distributions.

Table 4.9

One Sample Kolmogorov-Smirnov Test

Item	Statistic	N	P value	Item	Statistic	N	P value
IC1	0.263	310	0.000	EO1	0.265	310	0.000
IC2	0.294	310	0.000	EO2	0.234	310	0.000
IC3	0.286	310	0.000	EO3	0.256	310	0.000
IC4	0.272	310	0.000	EO4	0.271	310	0.000
EB1	0.212	310	0.000	NC1	0.278	310	0.000
EB2	0.211	310	0.000	NC2	0.27	310	0.000
EB3	0.206	310	0.000	NC3	0.256	310	0.000
EB4	0.224	310	0.000	NC4	0.229	310	0.000

Item	Statistic	N	P value	Item	Statistic	N	P value
DC1	0.249	310	0.000	P3	0.218	310	0.000
DC2	0.237	310	0.000	P4	0.259	310	0.000
DC3	0.223	310	0.000	P5	0.263	310	0.000
DC4	0.233	310	0.000	SA1	0.199	310	0.000
DC5	0.224	310	0.000	SA2	0.167	310	0.000
KM1	0.227	310	0.000	SA3	0.187	310	0.000
KM2	0.279	310	0.000	SA4	0.182	310	0.000
KM3	0.239	310	0.000	IN1	0.202	310	0.000
KM4	0.253	310	0.000	IN2	0.237	310	0.000
MI1	0.266	310	0.000	IN3	0.233	310	0.000
MI2	0.245	310	0.000	IN4	0.206	310	0.000
MI3	0.249	310	0.000	IL1	0.189	310	0.000
MI4	0.221	310	0.000	IL2	0.163	310	0.000
MO1	0.196	310	0.000	IL3	0.18	310	0.000
MO2	0.166	310	0.000	IL4	0.172	310	0.000
MO3	0.186	310	0.000	EL1	0.225	310	0.000
MO4	0.179	310	0.000	EL2	0.279	310	0.000
P1	0.203	310	0.000	EL3	0.239	310	0.000
P2	0.227	310	0.000	EL4	0.253	310	0.000

Table 4.10

Skewness and Kurtosis

Item	Skewness		Kurtosis		Item	Skewness		Kurtosis	
	Statistic	SE	Statistic	SE		Statistic	SE	Statistic	SE
IC1	-0.905	0.138	0.201	0.276	EO1	-0.727	0.138	0.668	0.276
IC2	-0.979	0.138	0.455	0.276	EO2	-0.659	0.138	0.171	0.276
IC3	-0.954	0.138	0.358	0.276	EO3	-0.667	0.138	0.395	0.276
IC4	-0.871	0.138	0.094	0.276	EO4	-0.854	0.138	0.582	0.276
EB1	-0.625	0.138	-0.807	0.276	NC1	-1.15	0.138	0.929	0.276
EB2	-0.398	0.138	-1.017	0.276	NC2	-1.149	0.138	0.989	0.276
EB3	-0.526	0.138	-0.732	0.276	NC3	-1.036	0.138	0.503	0.276
EB4	-0.567	0.138	-0.707	0.276	NC4	-0.901	0.138	-0.024	0.276

Item	Skewness		Kurtosis		Item	Skewness		Kurtosis	
	Statistic	SE	Statistic	SE		Statistic	SE	Statistic	SE
DC1	-0.802	0.138	-0.086	0.276	SA4	0.196	0.138	-1.29	0.276
DC2	-0.498	0.138	-0.398	0.276	IN1	-0.321	0.138	-0.827	0.276
DC3	-0.619	0.138	-0.314	0.276	IN2	-0.628	0.138	-0.873	0.276
DC4	-0.599	0.138	-0.172	0.276	IN3	-0.686	0.138	-0.708	0.276
DC5	-0.628	0.138	-0.043	0.276	IN4	-0.535	0.138	-0.945	0.276
KM1	-0.415	0.138	-0.646	0.276	P1	-0.242	0.138	-1.298	0.276
KM2	-0.773	0.138	-0.348	0.276	P2	-0.368	0.138	-1.095	0.276
KM3	-0.823	0.138	-0.28	0.276	P3	-0.244	0.138	-1.287	0.276
KM4	-0.64	0.138	-0.78	0.276	P4	-0.496	0.138	-1.047	0.276
MI1	-1.266	0.138	1.906	0.276	P5	-0.803	0.138	-0.144	0.276
MI2	-1.2	0.138	1.614	0.276	IL1	0.414	0.138	-1.058	0.276
MI3	0	0.138	-0.585	0.276	IL2	-0.029	0.138	-1.383	0.276
MI4	-0.431	0.138	-0.106	0.276	IL3	0.342	0.138	-1.11	0.276
MO1	0.486	0.138	-0.901	0.276	IL4	0.002	0.138	-1.322	0.276
MO2	0.032	0.138	-1.417	0.276	EL1	-0.404	0.138	-0.65	0.276
MO3	0.428	0.138	-1.052	0.276	EL2	-0.763	0.138	-0.386	0.276
MO4	0.17	0.138	-1.295	0.276	EL3	-0.814	0.138	-0.3	0.276
SA1	0.524	0.138	-0.848	0.276	EL4	-0.628	0.138	-0.809	0.276
SA2	0.026	0.138	-1.421	0.276					
SA3	0.466	0.138	-1.015	0.276					

Source: Primary

There are several methods available to measure the univariate normality of a dataset, including the Kolmogorov-Smirnov test, the Shapiro-Wilk test, Q-Q plots, P-P plots, and the calculation of skewness and kurtosis values. Table 4.9 presents the results of a one-sample Kolmogorov-Smirnov test, indicating that none of the items exhibit a normal distribution as their p-values exceed 0.05. As a result, the dataset falls outside the normal range. Subsequently, the researcher used an alternative method, skewness and kurtosis measurements, to further evaluate the normality assumption.

Skewness and kurtosis scores are shown in Table 4.10 as a basis for measuring normality. The measurements of skewness and kurtosis state that data is considered normal if the skewness falls between -2 and +2 and the kurtosis falls between -7 and

+7 (Hair, J. et al., 2010) and (Byrne, B. M., 2010). Since everything in this case falls within this range, the data is regarded as normal. Consequently, the researcher applied parametric test procedures.

4.6. Founder and Firm Characteristics on Firm Resources, Entrepreneurial Capabilities and Marketing Strategies

4.6.1. Gender-Wise Analysis

This section deals with a gender-wise analysis of firm resources, entrepreneurial capabilities, and marketing strategies. This can be done through an independent sample t-test in IBM SPSS software. The following hypotheses were formulated to determine the connection between gender and firm resources, entrepreneurial capabilities, and marketing strategies:

H1: There is a significant difference between male and female firm resources, entrepreneurial capabilities, and marketing strategies.

H1a: There is a significant difference between male and female intellectual capital.

H1b: There is a significant difference between males and females about entrepreneurial bricolage.

H1c: There is a significant difference between male and female entrepreneurial orientation.

H1d: There is a significant difference between male and female knowledge management capabilities.

H1e: There is a significant difference between male and female dynamic capabilities.

H1f: There is a significant difference between male and female networking capabilities.

H1g: There is a significant difference between males and females in market information acquisition.

H1h: There is a significant difference between males and females in market orientation.

Table 4.11

Independent sample t-test showing gender on firm resources, capabilities, and marketing strategies.

Constructs	Gender	N	Mean	SD	t value	P value	Remarks
Intellectual Capital	Male	272	15.89	3.62	0.412	0.680	Insignificant
	Female	38	15.63	3.57			
Entrepreneurial Bricolage	Male	272	14.01	4.06	-1.098	0.273	Insignificant
	Female	38	14.79	4.16			
Entrepreneurial Orientation	Male	272	15.71	2.80	-2.842	0.005**	Significant
	Female	38	17.05	2.10			
Knowledge Management	Male	272	15.71	3.84	1.335	0.183	Insignificant
	Female	38	14.82	4.06			
Dynamic Capabilities	Male	272	20.02	3.69	0.778	0.437	Insignificant
	Female	38	19.53	3.58			
Networking Capabilities	Male	272	16.28	3.52	-2.527	0.014*	Significant
	Female	38	17.37	2.31			
Market Orientation	Male	272	10.96	4.84	0.649	0.517	Insignificant
	Female	38	10.42	4.40			
Market Info	Male	272	15.15	3.40	-0.374	0.709	Insignificant
	Female	38	15.37	3.08			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

The study applied an independent sample t-test to investigate if there were any gender differences in firm resources, entrepreneurial capabilities, and marketing strategies. Table 4.11 exhibits details on the number of respondents, the mean, standard deviations, t-values, and significance levels.

To begin, the researcher examined the relationship between gender and two kinds of firm resources, namely intellectual capital and entrepreneurial bricolage. In the case of intellectual capital, the p-value was 0.680, which is higher than the significance level of 0.05. which means there is no significant connection between male and female founders in terms of developing their intellectual capital. Similarly, the relationship between gender and entrepreneurial bricolage was also identified using an independent sample t-test, and the result indicates that there is no significant connection between gender and entrepreneurial bricolage since its p-value is more than 0.05 (P = 0.273). In summary, the researcher can conclude that the level of firm resources in startup companies is developed irrespective of their gender. Thus, in this context, both hypotheses H1a and H1b were not supported.

Furthermore, Table 4.11 demonstrates that there are significant differences in the entrepreneurial orientation of male and female founders. Given that the p-value for entrepreneurial orientation in this case (0.005) is less than 0.05, indicating that gender has a significant effect on entrepreneurial orientation. Based on the result, it can be concluded that female founders (mean: 17.05, SD: 2.10) possess more entrepreneurial orientation than male founders (mean: 15.71, SD: 2.80). This means that male and female founders exhibit differences in terms of risk-taking, innovativeness, and proactiveness. Thus, it supports hypothesis H1c.

The researcher also evaluated the impact of gender on various kinds of entrepreneurial capabilities, such as networking capabilities, dynamic capabilities, and knowledge management capabilities. The study found that among the three capabilities used in the study, only gender and networking capabilities are statistically significant since their p-value is less than 0.05 (p-value: 0.014). Further, the study reveals that female founders possess more networking capabilities (mean: 17.37) than male founders (mean: 16.28). Thus, it supports hypothesis H1f. Likewise, it can be inferred that gender does not affect both knowledge management capabilities (p-value: 0.183) and dynamic capabilities (p-value: 0.437) since its p-value is more than 0.05.

Ultimately, the researcher explored the connection between gender in market information acquisition and market orientation strategies. The p-values for both cases

concerning gender were not statistically significant (0.517 and 0.719, respectively). This shows that there is no significant relationship between gender and marketing strategies. Consequently, hypotheses H1g and H1h were not supported. It can be concluded that only two of the eight hypotheses that were developed to assess the impact of gender on different firm resources, entrepreneurial qualities, and marketing methods are validated. i.e., networking capabilities and an entrepreneurial orientation.

4.6.2. Age-Wise Analysis of Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

The age groups of the respondents hold an important role in determining their competitive strategies within the current market conditions. Moreover, there may be differences in the resources, capabilities, and strategies employed by different age groups. The researcher applied the one-way ANOVA technique to investigate the notable distinctions among respondents of different age groups concerning their resources, capabilities, and strategies. To achieve this, the following hypotheses have been formulated:

H2: ***There is a significant difference among the age groups of the respondents and their firm resources, entrepreneurial capabilities, and marketing strategies.***

H2a: There is a significant difference between the age group of the respondents and their intellectual capital.

H2b: There is a significant difference between the age group of the respondents and entrepreneurial bricolage.

H2c: There is a significant difference between the age group of the respondents and their entrepreneurial orientation.

H2d: There is a significant difference between the age groups of the respondents and knowledge management.

H2e: There is a significant difference among the age groups of the respondents and their dynamic capabilities.

H2f: There is a significant difference among the age groups of the respondents and their networking capabilities.

H2g: There is a significant difference between the age group of the respondents and market information acquisition.

H2h: There is a significant difference between the age group of the respondents and market orientation.

Table 4.12

ANOVA Table Showing Age Categories on Firm Resources, Capabilities, and Marketing Strategies

Constructs	Category	N	Mean	SD	F	P value	Remarks
Intellectual_ Capital	Below 20	37	14.43	3.69	3.332	0.011*	Significant
	20-25	65	15.09	3.87			
	25-30	76	16.50	3.46			
	30-35	73	16.15	3.33			
	Above 35	59	16.40	3.51			
	Total	**310**	**15.85**	**3.61**			
Entrepreneurial Bricolage	Below 20	37	11.32	4.74	4.919	0.010*	Significant
	20-25	65	14.35	4.13			
	25-30	76	14.64	4.18			
	30-35	73	13.94	3.77			
	Above 35	59	15.10	3.00			
	Total	**310**	**14.10**	**4.07**			
Entrepreneurial_ Orientation	Below 20	37	14.56	2.44	3.025	0.018*	Significant
	20-25	65	15.80	2.99			
	25-30	76	16.15	2.95			
	30-35	73	15.83	2.60			
	Above 35	59	16.45	2.41			
	Total	**310**	**15.87**	**2.76**			

Constructs	Category	N	Mean	SD	F	P value	Remarks
Knowledge_ Management	Below 20	37	15.94	2.98	0.441	0.779	Insignificant
	20-25	65	15.86	3.65			
	25-30	76	15.63	3.64			
	30-35	73	15.09	4.32			
	Above 35	59	15.67	4.34			
	Total	**310**	**15.60**	**3.87**			
Dynamic_ Capabilities	Below 20	37	17.59	4.26	6.495	<0.001**	Significant
	20-25	65	19.61	3.20			
	25-30	76	20.17	3.35			
	30-35	73	20.16	3.88			
	Above 35	59	21.30	3.24			
	Total	**310**	**19.96**	**3.68**			
Networking_ Capabilities	Below 20	37	15.29	4.39	1.994	0.099	Insignificant
	20-25	65	16.46	3.72			
	25-30	76	16.93	3.03			
	30-35	73	15.94	3.47			
	Above 35	59	16.96	2.51			
	Total	**310**	**16.41**	**3.41**			
Market_ Orientation	Below 20	37	13.72	4.32	8.405	<0.001**	Significant
	20-25	65	12.07	5.08			
	25-30	76	10.40	4.45			
	30-35	73	10.39	4.96			
	Above 35	59	9.05	3.89			
	Total	**310**	**10.89**	**4.79**			
Market_ Info	Below 20	37	15.29	2.98	0.132	0.970	Insignificant
	20-25	65	15.33	3.21			
	25-30	76	15.02	3.30			
	30-35	73	15.04	3.87			
	Above 35	59	15.28	3.23			
	Total	**310**	**15.17**	**3.36**			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

The outcome of the ANOVA test for assessing the impact of age group on firm resources, capabilities, and marketing strategies of startup founders is summarised in Table 4.12. From the analysis, it can be found that the p-value for intellectual capital is less than 0.05. Therefore, the age group of respondents significantly influences shaping intellectual capital ($F(4,305) = 3.32$, $p = 0.011$). Levene's test reveals that the homogeneity assumption is not satisfied in the case of entrepreneurial bricolage ($p = <0.001$). Thus, the Welch F test was performed. According to the result, Welch's $F(4,135.32) = 4.919$, $p < 0.010$*, implies that the entrepreneurial bricolage behaviour of startup founders varies according to their ages. The second section of Table 4.12 shows the relationship between respondents' age groups and their entrepreneurial orientation. The result explored statistically significant relationships ($F(4,305) = 3.025$, $p = 0.018$) between age groups and entrepreneurial orientation, highlighting that the entrepreneurial orientation of the founders substantially differs across age groups, signifying the importance of age in shaping entrepreneurial orientation among respondents.

The researcher also analysed differences in the age group for various entrepreneurial capabilities, including knowledge management (Welch's $F(4,140.71)$, $p = 0.441$), dynamic capabilities ($F(4,305) = 6.495$, $p < 0.001$), and networking capabilities (Welch's $F(4,133.99)$, $p = 0.099$). In each case, age group and dynamic capabilities demonstrated significance at the 1% level and adhered to the homogeneity assumption. However, both networking and knowledge management capabilities provide insignificant results and also violate the homogeneity assumption, leading to the consideration of Welch's F value for these constructs. At the end of Table 4.12, the researcher explored the impact of age on market information acquisition strategies and market orientation. It became evident that market orientation significantly varied by age group ($F = 4,138.25$, $p = <0.001$), while market information acquisition had no impact on age group ($F = 4,305$, $p = 0.970$).

Overall, the ANOVA table presented notable results, prompting the researcher to conduct post-hoc tests to identify the group differences. The selection of the post-hoc test depended on the homogeneity assumption. If the homogeneity based on mean

values was above 0.05, the Sheffe test was applied. In contrast, when homogeneity assumptions were violated and sample sizes differed between groups, the Games-Howell test was utilized. Tables 4.13 to 4.17 provide a comprehensive explanation of the post-hoc analysis of age groups on firm resources, capabilities, and strategies.

4.6.2.1. Multiple Comparisons of the Age of Respondents and Intellectual Capital

Table 4.13 explains the result of a post hoc test to identify the group differences in the age of the respondents with intellectual capital. The findings of the ANOVA show a significant relationship between intellectual capital and the age of the respondents. Levene's test indicates that the homogeneity of variance assumption is satisfied and the sample size is not equal. Thus, the Scheffe test was applied for this purpose. The p-value for each pair is more than 0.05, and the result indicates that there is no significant difference between the groups in terms of their intellectual capital development.

Table 4.13

Post Hoc Test on Age Categories and Intellectual Capital

(I) Age of respondents	(IJ) Age of respondents	Mean Difference (I-J)	Std. Error	Sig.
Below 20	20-25	-0.65988	0.73255	0.937
	25-30	-2.06757	0.71306	0.081
	30-35	-1.71825	0.71784	0.223
	Above 35	-1.97435	0.74594	0.139
20-25	Below 20	0.65988	0.73255	0.937
	25-30	-1.40769	0.60095	0.244
	30-35	-1.05838	0.60662	0.551
	Above 35	-1.31447	0.63962	0.379
25-30	Below 20	2.06757	0.71306	0.081
	20-25	1.40769	0.60095	0.244
	30-35	0.34932	0.58293	0.986
	Above 35	0.09322	0.61720	1.000

(I) Age of respondents	(IJ) Age of respondents	Mean Difference (I-J)	Std. Error	Sig.
30-35	Below 20	1.71825	0.71784	0.223
	20-25	1.05838	0.60662	0.551
	25-30	-0.34932	0.58293	0.986
	Above 35	-0.25609	0.62272	0.997
Above 35	Below 20	0.34932	0.58293	0.986
	20-25	0.09322	0.61720	1.000
	25-30	-0.34932	0.58293	0.986
	30-35	2.06757	0.71306	0.081

Source: Primary
* The mean difference is significant at the 0.05 level

4.6.2.2. Multiple Comparisons of the Age of Respondents and Entrepreneurial Bricolage

As indicated in Table 4.14, the concept of entrepreneurial bricolage was subjected to the Games-Howell post hoc analysis, which was applied as a result of failed homogeneity assumptions. According to the analysis's findings, entrepreneurial bricolage has a greater impact on people in the age ranges of 20 to 25, 25 to 30, 30 to 35, and above 35 than its effect on those below 20. The mean rating for people aged 20 to 25 is 3.02952, which is greater than the mean rating for people below 20. The mean ratings for the 25–30 age group are 3.32041, the 30-35 age group are 2.62088, and the above 35 age group are 3.77737, all of which are lower than the mean rating for the below 20 age group. These results suggest that entrepreneurial bricolage abilities are most prevalent in those above the age of 35, while they are least prevalent in people below the age of 20. This shows that as a founder's age increases, it tends to have a stronger ability to manage scarce financial resources, which is reflected in its engagement with entrepreneurial bricolage.

Table 4.14

Post-Hoc Test on Age Categories and Entrepreneurial Bricolage

(I) Age of respondents	(J) Age of respondents	Mean Difference (I-J)	Std. Error	Sig.
Below 20	20-25	-3.02952*	0.93216	0.015
	25-30	-3.32041*	0.91455	0.005
	30-35	-2.62088*	0.89546	0.037
	Above 35	-3.77737*	0.87157	0.001
20-25	Below 20	3.02952*	0.93216	0.015
	25-30	-0.29089	0.70139	0.994
	30-35	0.40864	0.67631	0.974
	Above 35	-0.74785	0.64434	0.774
25-30	Below 20	3.32041*	0.91455	0.005
	20-25	0.29089	0.70139	0.994
	30-35	0.69953	0.65183	0.820
	Above 35	-0.45696	0.61860	0.947
30-35	Below 20	2.62088*	0.89546	0.037
	20-25	-0.40864	0.67631	0.974
	25-30	-0.69953	0.65183	0.820
	Above 35	-1.15649	0.59001	0.291
Above 35	Below 20	3.77737*	0.87157	0.001
	20-25	0.74785	0.64434	0.774
	25-30	0.45696	0.61860	0.947
	30-35	1.15649	0.59001	0.291

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.2.3. Multiple Comparison of the Age of Respondents and Entrepreneurial Orientation

The Scheffe post hoc test, which was conducted when the homogeneity assumption was followed, is presented in Table 4.15. The results show that there are group differences in entrepreneurial orientation among different age groups. As per the findings, there is a statistically significant difference between the above-35 age group

and the below-20 age group at the 5% level of significance (p = 0.029). There is no significant difference among the other groups. The interpretation of the survey results shows that founders' entrepreneurial orientation also rises with respondents' age. The above-35 age group, in particular, shows a higher entrepreneurial orientation (mean score of 1.89006*), and both are moving in the same direction.

Table 4.15

Post-Hoc Test on Age Categories and Entrepreneurial Orientation

(I) Age of respondents	(J) Age of respondents	Mean Difference (I-J)	Std. Error	Sig.
Below 20	20-25	-1.23243	0.56112	0.308
	25-30	-1.59033	0.54619	0.078
	30-35	-1.26805	0.54985	0.259
	Above 35	-1.89006*	0.57138	0.029
20-25	Below 20	1.23243	0.56112	0.308
	25-30	-0.35789	0.46032	0.962
	30-35	-0.03562	0.46466	1.000
	Above 35	-0.65763	0.48994	0.772
25-30	Below 20	1.59033	0.54619	0.078
	20-25	0.35789	0.46032	0.962
	30-35	0.32228	0.44652	0.971
	Above 35	-0.29973	0.47277	0.982
30-35	Below 20	1.26805	0.54985	0.259
	20-25	0.03562	0.46466	1.000
	25-30	-0.32228	0.44652	0.971
	Above 35	-0.62201	0.47699	0.790
Above 35	Below 20	1.89006*	0.57138	0.029
	20-25	0.65763	0.48994	0.772
	25-30	0.29973	0.47277	0.982
	30-35	0.62201	0.47699	0.790

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.2.4. Multiple Comparisons of the Age of Respondents and Dynamic Capabilities

Table 4.16 shows the outcomes of a Scheffe post hoc analysis examining the relationship between founders' ages and their dynamic capabilities. The findings show that within the age groups below 20, there are statistically significant differences between the age groups of 25–30 ($p = 0.012$), 30-35 ($p = 0.013$), and above 35 ($p < 0.001$). Similarly, it is noteworthy that the mean score for the 25–30 age group (2.57646) is higher than that of the below-20 age group, and the mean score for the 30-35 age group (2.56979) is higher than that of the below-20 age group. In addition to that, the mean score for the above-35 age group (3.71049) is notably higher than that of the below-20 age group. Thus, it can be concluded that individuals aged above 35 possess the highest mean score (3.71049), signifying a significant influence of age groups above 35 on dynamic capabilities.

Table 4.16

Post Hoc Test on Age Categories and Dynamic Capabilities

(I) Age	(J) Age of	(I-J)	SE	Sig.
Below 20	20-25	-2.02079	0.73165	0.109
	25-30	-2.57646*	0.71218	0.012
	30-35	-2.56979*	0.71696	0.013
	Above 35	-3.71049*	0.74502	0.000
20-25	Below 20	2.02079	0.73165	0.109
	25-30	-0.55567	0.60021	0.930
	30-35	-0.54900	0.60587	0.935
	Above 35	-1.68970	0.63883	0.139
25-30	Below 20	2.57646*	0.71218	0.012
	20-25	0.55567	0.60021	0.930
	30-35	0.00667	0.58222	1.000
	Above 35	-1.13403	0.61644	0.497

(I) Age	(J) Age of	(I-J)	SE	Sig.
30-35	Below 20	2.56979*	0.71696	0.013
	20-25	0.54900	0.60587	0.935
	25-30	-0.00667	0.58222	1.000
	Above 35	-1.14070	0.62195	0.500
Above 35	Below 20	3.71049*	0.74502	0.000
	20-25	1.68970	0.63883	0.139
	25-30	1.13403	0.61644	0.497
	30-35	1.14070	0.62195	0.500

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.2.5. Multiple Comparisons of the Age of Respondents and Market Orientation

Table 4.17

Post Hoc Test on Age Categories and Market Orientation

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.
Below 20	20-25	1.65281	0.94934	0.415
	25-30	3.32183*	0.87409	0.003
	30-35	3.33247*	0.91707	0.004
	Above 35	4.67888*	0.87224	0.000
20-25	Below 20	-1.65281	0.94934	0.415
	25-30	1.66903	0.81076	0.245
	30-35	1.67966	0.85691	0.291
	Above 35	3.02608*	0.80876	0.003
25-30	Below 20	-3.32183*	0.87409	0.003
	20-25	-1.66903	0.81076	0.245
	30-35	0.01063	0.77272	1.000
	Above 35	1.35705	0.71895	0.329

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.
30-35	Below 20	-3.33247*	0.91707	0.004
	20-25	-1.67966	0.85691	0.291
	25-30	-0.01063	0.77272	1.000
	Above 35	1.34641	0.77062	0.409
Above 35	Below 20	-4.67888*	0.87224	0.000
	20-25	-3.02608*	0.80876	0.003
	25-30	-1.35705	0.71895	0.329
	30-35	-1.34641	0.77062	0.409

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.17 presents the results of the post hoc analysis, aiming to identify group differences among respondents of different age groups regarding market orientation. Levene's test indicates that the homogeneity assumption is not satisfied and there is an unequal sample size. Thus, the Games-Howell test was applied. The table shows that the mean rating for the below-20 age group is 4.678, which is higher than the mean rating for the above-35 age group. Additionally, the below-20 age group has a higher mean rating of 3.33247 compared to the 30-35 age group and a higher mean rating of 3.32183 compared to the 25-30 age group. Based on these findings, it can be inferred that market orientation is most strongly influenced by the below-20 age group and less preferred by the above-35 age group. The results suggest that young people are more concentrated on actively seeking market opportunities and adapting their products or services according to market conditions.

4.6.3. Educational Qualification- Wise Analysis on Firm Resources, Entrepreneurial Capabilities and Marketing Strategies

The one-way analysis of variance (ANOVA) was used to determine whether the educational qualifications and firm resources, entrepreneurial capabilities, and marketing strategies are statistically significant (Table 4.18). Here, the researcher formulated the following hypotheses:

H3: ***There is a significant difference between educational qualifications,*** **firm resources, entrepreneurial capabilities, and marketing strategies.**

H3a: There is a significant difference between educational qualifications and intellectual capital.

H3b: There is a significant difference between educational qualifications and entrepreneurial bricolage.

H3c: There is a significant difference between educational qualifications and entrepreneurial orientation.

H3d: There is a significant difference between educational qualifications and knowledge management.

H3e: There is a significant difference between educational qualifications and dynamic capabilities.

H3f: There is a significant difference between educational qualifications and networking capabilities.

H3g: There is a significant difference between educational qualifications and market information acquisition.

H3h: There is a significant difference between educational qualifications and market orientation

Table 4.18

ANOVA Showing Educational Qualification and Firm Resources, Capabilities, and Marketing Strategies

Constructs	Category	N	Mean	SD	F	P	Remarks
Intellectual_ Capital	Arts and Science	61	17.738	1.93			
	IITs/NITs	110	16.718	3.23			
	IIMs	118	14.305	3.90	22.37	<0.001**	Significant
	Others	21	14.619	3.67			
	Total	**310**	**15.858**	**3.61**			

Constructs	Category	N	Mean	SD	F	P	Remarks
Entrepreneurial_ Bricolage	Arts and Science	61	15.131	2.92			
	IITs/NITs	110	15.618	3.14			
	IIMs	118	12.458	4.51	14.42	<0.001**	Significant
	Others	21	12.524	4.86			
	Total	**310**	**14.110**	**4.07**			
Entrepreneurial_ Orientation	Arts and Science	61	16.426	2.42			
	IITs/NITs	110	17.291	2.03			
	IIMs	118	14.678	2.65	28.8889	<0.001**	Significant
	Others	21	13.571	3.26			
	Total	**310**	**15.874**	**2.76**			
knowledge_ Management	Arts and Science	61	15.721	4.19			
	IITs/NITs	110	14.736	4.17			
	IIMs	118	16.237	3.39	3.062	0.033*	Significant
	Others	21	16.190	3.14			
	Total	**310**	**15.600**	**3.87**			
Dynamic_ Capabilities	Arts and Science	61	21.705	2.85			
	IITs/NITs	110	21.355	3.40			
	IIMs	118	18.017	3.45	27.5531	<0.001**	Significant
	Others	21	18.524	2.71			
	Total	**310**	**19.961**	**3.68**			
Networking_ Capabilities	Arts and Science	61	17.246	2.41			
	IITs/NITs	110	17.327	2.47			
	IIMs	118	15.542	4.15	10.216	<0.001**	Significant
	Others	21	14.095	3.40			
	Total	**310**	**16.413**	**3.41**			
Market_ Orientation	Arts and Science	61	8.590	3.69			
	IITs/NITs	110	8.300	3.30			
	IIMs	118	14.119	4.49	48.628	<0.001**	Significant
	Others	21	13.048	4.04			
	Total	**310**	**10.894**	**4.79**			

Constructs	Category	N	Mean	SD	F	P	Remarks
Market_info	Arts and Science	61	14.656	3.50			
	IITs/NITs	110	14.409	3.49			
	IIMs	118	16.025	2.88	5.5258	0.001**	Significant
	Others	21	15.952	3.67			
	Total	**310**	**15.177**	**3.36**			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

able 4.18 explains the results of a one-way analysis of variance (ANOVA) conducted to explore the relationships between the type of educational qualifications of founders (degrees from arts and science colleges, IITs/NITs, IIMs, and others) and the firm resources, entrepreneurial capabilities, and marketing strategies of startup companies. The results show significant differences across all these factors based on different types of education.

In the case of intellectual capital, Levene's test reveals that the homogeneity assumption is not satisfied. Thus, the Welch F test was performed. From the findings, it is clear that there exists a significant difference between intellectual capital and educational qualification, with a total mean score of 15.858 and a standard deviation of 3.61 (Welch's F (3,82.402) = 22.370, $p < 0.001$). The researcher also evaluated whether founders' various educational backgrounds influenced their entrepreneurial bricolage and entrepreneurial orientations. Remarkably, both entrepreneurial bricolage (Welch's F (3,79.54) = 14.423, $p < 0.001$) and entrepreneurial orientation (F (3,306) = 28.889, $p < 0.001$) exhibit substantial differences among founders with different qualifications.

In the second section of Table 4.18, the study focuses on comparing various educational qualifications and the founders' entrepreneurial capabilities, including knowledge management capabilities, dynamic capabilities, and networking capabilities. Results show that respondents who graduated from arts and science colleges have higher mean scores in dynamic capabilities (21.71) and IITs/NITs in networking capabilities (17.33). Importantly, significant differences are observed

among all educational qualification groups for knowledge management ($p = 0.033$), dynamic capabilities ($p < 0.001$), and networking capabilities ($p < 0.001$). Finally, substantial differences in founders' educational backgrounds are reflected in both market orientation and market information acquisition practices. Notable differences are observed in market orientation (Welch's $F(3,80.720) = 48.628$, $p < 0.001$) and market information acquisition ($F(3,306) = 5.526$, $p = 0.010$). So, it can be concluded that the educational backgrounds of founders significantly affect firm resources, entrepreneurial capabilities, and marketing strategies, as shown in Table 4.18. The researcher further conducted post-hoc analyses to explore group differences for each construct based on the educational qualifications of founders, as shown in tables 4.19 to 4.26.

4.6.3.1. Multiple Comparisons of Educational Qualification and Intellectual Capital

Table 4.19

Post Hoc Test on Educational Qualification and Intellectual Capital

(I)	(J)	(I-J)	SE	Sig.
Arts and science	NITs/IITs	1.01952	0.39507	0.052
	IIMs	3.43262*	0.43623	0.000
	Others	3.11866*	0.83756	0.005
NITs/IITs	Arts and science	-1.01952	0.39507	0.052
	IIMs	2.41310*	0.47337	0.000
	Others	2.09913	0.85749	0.093
IIMs	Arts and science	-3.43262*	0.43623	0.000
	NITs/IITs	-2.41310*	0.47337	0.000
	Others	-0.31396	0.87722	0.984
Others	Arts and science	-3.11866*	0.83756	0.005
	NITs/IITs	-2.09913	0.85749	0.093
	IIMs	0.31396	0.87722	0.984

Source: Primary
**The mean difference is significant at the 0.05 level*

The analysis from the ANOVA test shows that there is a statistically significant difference between educational qualifications and intellectual capital. Due to the violation of the homogeneity assumption and differences in the group sizes, the researcher performed the Games-Howell post hoc test. The test portrays that there is a statistically significant difference in educational qualifications between Arts and Science colleges and IIMs (p-value <0.001), Arts and Science colleges and others (p-value 0.005), and IITs or NITs and IIMs (p-value <0.001). In addition to that, the analysis shows that intellectual capital is predominantly possessed by founders of arts and science colleges and is least affected by other categories.

4.6.3.2. Multiple Comparison of Educational Qualification and Entrepreneurial Bricolage

Table 4.20

Post Hoc Test on Educational Qualification and Entrepreneurial Bricolage

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	-0.48703	0.47947	0.741
	IIMs	2.67352*	0.55901	0.000
	Others	2.60734	1.12557	0.121
IITs/NITs	Arts and Science Colleges	0.48703	0.47947	0.741
	IIMs	3.16055*	0.51193	0.000
	Others	3.09437*	1.10295	0.046
IIMs	Arts and Science Colleges	-2.67352*	0.55901	0.000
	IITs/IIMs	-3.16055*	0.51193	0.000
	Others	-0.06618	1.13978	1.000
Others	Arts and Science Colleges	-2.60734	1.12557	0.121
	IITs/IIMs	-3.09437*	1.10295	0.046
	Others	0.06618	1.13978	1.000

Source: Primary

*The mean difference is significant at the 0.05 level

As per the post hoc Games Howell analysis, there is a significant difference between the founders from Arts and Science College and IIMs ($p<0.001$), IITs/NITs and IIMs ($p<0.000$), and IIT/NITs-others groups ($p=0.046$). It also implies that the mean score of IIT/NIT-qualified founders is greater than the mean score of founders qualified from IIMs (3.160). Additionally, there is no significance for entrepreneurial bricolage in the Arts and Science College-IITs/NITs groups ($p = 0.741$) or Arts and Science College-other groups ($p = 0.121$). The mean score of the IITs and NITs-qualified founders (3.09) is higher than that of other groups. Finally, the IITs and NITs had the highest mean score (3.161), which indicates that they have the greatest entrepreneurial bricolage ability than of the IIM-qualified founders.

4.6.3.3. Multiple Comparisons of Education Qualification and Entrepreneurial Orientation

Table 4.21

Post Hoc Test on Educational Qualification and Entrepreneurial Orientation

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	-0.86468	0.39087	0.182
	IIMs	1.74826*	0.38612	0.000
	Others	2.85480*	0.61949	0.000
IITs/NITs	Arts and Science Colleges	0.86468	0.39087	0.182
	IIMs	2.61294*	0.32451	0.000
	Others	3.71948*	0.58308	0.000
IIMs	Arts and Science Colleges	-1.74826*	0.38612	0.000
	IITs/NITs	-2.61294*	0.32451	0.000
	Others	1.10654	0.57990	0.305
Others	Arts and Science Colleges	-2.85480*	0.61949	0.000
	IITs/NITs	-3.71948*	0.58308	0.000
	IIMs	-1.10654	0.57990	0.305

Source: Primary

*The mean difference is significant at the 0.05 level

The Scheffe post-hoc test regarding the founders' entrepreneurial orientation and educational background is shown in Table 4.21. Although the ANOVA result shows a significant difference between founders with different types of educational qualifications in terms of entrepreneurial orientation, a posthoc test also showed a significant difference between founders qualified from arts and science colleges and IIMs ($p<0.001$), arts and science colleges and others ($p<0.001$), IITs/NITs and IIMs ($p<0.001$), and IITs/NITs and others ($p<0.001$), but there is no significant difference between arts and science colleges (IITs/NITs and IIMs) and other categories of educational qualifications.

4.6.3.4. Multiple Comparisons of Education Qualification and Knowledge Management Capabilities

Table 4.22

Post Hoc Test on Educational Qualification and Knowledge Management

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	0.98495	0.66777	0.456
	IIMs	-0.51598	0.62021	0.839
	Others	-0.46916	0.87013	0.949
IITs/NITs	Arts and Science Colleges	-0.98495	0.66777	0.456
	IIMs	-1.50092*	0.50554	0.017
	Others	-1.45411	0.79248	0.275
IIMs	Arts and Science Colleges	0.51598	0.62021	0.839
	IITs/NITs	1.50092*	0.50554	0.017
	Others	0.04681	0.75284	1.000
Others	Arts and Science Colleges	0.46916	0.87013	0.949
	IITs/NITs	1.45411	0.79248	0.275
	IIMs	-0.04681	0.75284	1.000

Source: Primary
*The mean difference is significant at the 0.05 level

The result from the Games Howell (failed homogeneity assumption and unequal sample size) post hoc test reveals a significant difference in the knowledge management capabilities of founders with different educational qualifications. There is a significant difference between IIMs and those with IITs or NITs as qualified founders (p = 0.017). However, no significant differences were found in knowledge management capabilities among other educational qualification groups. Furthermore, the mean score for founders with IIMs (mean: 1.50) was higher than that of founders qualified from IITs or NITs, indicating a higher level of knowledge management capabilities. Although the ANOVA table also indicates a significant difference between educational qualifications and knowledge management capabilities, this significance is only observed between the IITs/NITs-IIMs groups, while the other groups show insignificant relationships.

4.6.3.5. Multiple Comparisons of Educational Qualification and Dynamic Capabilities

Table 4.23

Post Hoc Test on Educational Qualification and Dynamic Capabilities

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	0.35037	0.52337	0.930
	IIMs	3.68797*	0.51701	0.000
	Others	3.18111*	0.82948	0.002
IITs/NITs	Arts and Science Colleges	-0.35037	0.52337	0.930
	IIMs	3.33760*	0.43452	0.000
	Others	2.83074*	0.78074	0.005
IIMs	Arts and Science Colleges	-3.68797*	0.51701	0.000
	IITs/NITs	-3.33760*	0.43452	0.000
	Others	-0.50686	0.77648	0.935
Others	Arts and Science Colleges	-3.18111*	0.82948	0.002
	IITs/NITs	-2.83074*	0.78074	0.005
	IIMs	0.50686	0.77648	0.935

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.23 illustrates the Scheffe post hoc test results, which show that there is a significant difference in the dynamic capabilities of founders qualified from arts and science colleges compared to founders qualified from IIMs ($p<0.001$), arts and science colleges, and other categories of founders ($p = 0.02$). It is also important that there is a significant relationship between the founders qualified from IITs or NITs on IIMs ($p<0.001$) and others ($p = 0.05$). However, no significant difference exists between founders from arts and science colleges with IITs or NITs and founders who qualified from IIMs with others.

4.6.3.6. Multiple Comparisons of Education and Networking Capabilities

Table 4.24

Post Hoc Test on Educational Qualification and Networking Capabilities

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	-0.08137	0.38789	0.997
	IIMs	1.70353*	0.49108	0.004
	Others	3.15066*	0.80425	0.003
IITs/NITs	Arts and Science Colleges	0.08137	0.38789	0.997
	IIMs	1.78490*	0.44925	0.001
	Others	3.23203*	0.77942	0.002
IIMs	Arts and Science Colleges	-1.70353*	0.49108	0.004
	IITs/NITs	-1.78490*	0.44925	0.001
	Others	1.44713	0.83558	0.325
Others	Arts and Science Colleges	-3.15066*	0.80425	0.003
	IITs/NITs	-3.23203*	0.77942	0.002
	IIMs	-1.44713	0.83558	0.325

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.24 shows the results of the Games-Howell post hoc test (as it failed the homogeneity assumption) conducted between different categories of educational qualification from different institutions—arts and science colleges, IITs and NITs,

IIMs, and others—as independent variables and the networking capabilities of startup founders as a dependent variable. The results clearly show that the networking capabilities of the arts and science colleges—founders qualified from IIM (0.004)—and the arts and science colleges—another graduate group (0.003)—are significantly different.

Additionally, networking capabilities between "IITs/NITs and IIMs (0.001)" and "IITs/NITs and others" (0.002) were discovered to be significantly different. According to the findings of the post hoc test, there are no significant differences between any of the other groups of educational qualifications, including arts and science colleges with IITs and NITs and IIMs with graduation from other institutes.

4.6.3.7. Multiple Comparisons of Educational Qualification and Market Orientation

Table 4.25

Post Hoc Test on Educational Qualification and Marketing Orientation

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	0.29016	0.56822	0.956
	IIMs	-5.52848*	0.62811	0.000
	Others	-4.45746*	1.00108	0.001
IITs/NITs	Arts and Science Colleges	-0.29016	0.56822	0.956
	IIMs	-5.81864*	0.51961	0.000
	Others	-4.74762*	0.93682	0.000
IIMs	Arts and Science Colleges	5.52848*	0.62811	0.000
	IITs/NITs	5.81864*	0.51961	0.000
	Others	1.07103	0.97431	0.693
Others	Arts and Science Colleges	4.45746*	1.00108	0.001
	IITs/NITs	4.74762*	0.93682	0.000
	IIMs	-1.07103	0.97431	0.693

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.25 shows the results of the post hoc test conducted between the educational qualification of the respondents (an independent variable) and the market orientation (a dependent variable). In the case of market orientation, it is clear that there is a significant difference between 'IIMs—Arts and Science Colleges ($p<0.001$). and 'IIMs—IITs/NITs ($p<0.001$) at the 5 percent level. The mean score of IIMs (5.81864) was found to be higher than that of IITs and NITs. It is also clear that there is a significant difference between the 'Others- Arts and Science colleges ($P = 0.001$)' and 'Others- IITs/NITs ($p<0.001$)'.

4.6.3.8. Multiple Comparisons of Educational Qualification and Market Information Acquisition

Table 4.26

Post Hoc Test on Educational Qualification and Market Information Acquisition Strategies

(I) Educational qualification	(J) Educational Qualification	Mean Difference (I-J)	Std. Error	Sig.
Arts and Science Colleges	IITs/NITs	0.24665	0.52458	0.974
	IIMs	-1.36969	0.51820	0.075
	Others	-1.29664	0.83139	0.489
IITs/NITs	Arts and Science Colleges	-0.24665	0.52458	0.974
	IIMs	-1.61633*	0.43552	0.004
	Others	-1.54329	0.78254	0.276
IIMs	Arts and Science Colleges	1.36969	0.51820	0.075
	IITs/NITs	1.61633*	0.43552	0.004
	Others	0.07304	0.77827	1.000
Others	Arts and Science Colleges	1.29664	0.83139	0.489
	IITs/NITs	1.54329	0.78254	0.276
	IIMs	-0.07304	0.77827	1.000

Source: Primary

*The mean difference is significant at the 0.05 level

An analysis of variance (ANOVA) conducted between educational qualification (an independent variable) and market information acquisition (a dependent variable) shows that there is a significant difference among them. To determine which educational background has a substantial impact on how companies acquire market information, an additional study was undertaken using the post hoc Scheffe test (homogeneity assumption satisfied and unequal sample size). It was discovered that only the "IITs/NITs-IIMs" group had a significant impact, with a mean score of 1.616 and a p-value of 0.004. Therefore, it can be concluded that the results of the remaining educational qualifications are insignificant at the 5% level of significance.

4.6.4. Prior Experience- Wise Analysis of Startup Resources, Entrepreneurial Capabilities and Marketing Strategies

Table 4.27 shows the result of the ANOVA table to evaluate if there are significant differences between the prior experience of startup founders and the resources, entrepreneurial capabilities, and marketing strategies of their firms. To achieve this, the following hypotheses have been formulated:

H4: There is a significant difference between prior experience and firm resources, entrepreneurial capabilities, and marketing strategies.

H4a: There is a significant difference between prior experience and intellectual capital.

H4b: There is a significant difference between educational qualifications and entrepreneurial bricolage.

H4c: There is a significant difference between prior experience and entrepreneurial orientation.

H4d: There is a significant difference between prior experience and knowledge management.

H4e: There is a significant difference between prior experience and dynamic capabilities.

H4f: There is a significant difference between prior experience and networking capabilities.

H4g: There is a significant difference between prior experience and market information acquisition.

H4h: There is a significant difference between prior experience and market orientation.

Table 4.27

ANOVA Table Showing Prior Experience on Resources, Capabilities, and Marketing Strategies

Sl. No.	Constructs	Categories	N	Mean	SD	F	P	Remarks
1	Intellectual_ Capital	Zero	32	16.063	3.100	0.359	0.782	Insignificant
		1-3	38	16.368	3.420			
		3-5	98	15.776	3.921			
		Total	**310**	**15.858**	**3.610**			
2	Entrepreneurial_ Bricolage	Zero	32	14.469	4.220	0.394	0.758	Insignificant
		1-3	38	13.579	4.098			
		3-5	98	13.980	4.142			
		Above 5	142	14.261	4.015			
		Total	**310**	**14.110**	**4.075**			
3	Entrepreneurial_ Orientation	Zero	32	16.188	2.558	0.722	0.539	Insignificant
		1-3	38	15.816	3.170			
		3-5	98	15.561	3.136			
		Above 5	142	16.035	2.395			
		Total	**310**	**15.874**	**2.760**			
4	knowledge_ Management	Zero	32	14.125	3.661	4.461	0.006**	Significant
		1-3	38	16.026	3.613			
		3-5	98	16.469	3.240			
		Above 5	142	15.218	4.245			
		Total	**310**	**15.600**	**3.870**			

Sl. No.	Constructs	Categories	N	Mean	SD	F	P	Remarks
5	Dynamic_ Capabilities	Zero	32	20.125	3.338	0.562	0.641	Insignificant
		1-3	38	20.632	3.962			
		3-5	98	19.755	4.005			
		Above 5	142	19.887	3.444			
		Total	**310**	**19.961**	**3.677**			
6	Networking_ Capabilities	Zero	32	16.406	2.746	0.336	0.800	Insignificant
		1-3	38	16.868	3.206			
		3-5	98	16.469	3.396			
		Above 5	142	16.254	3.629			
		Total	**310**	**16.413**	**3.414**			
7	Market_ Orientation	Zero	32	11.406	5.002	1.801	0.147	Insignificant
		1-3	38	11.605	5.086			
		3-5	98	11.439	4.855			
		Above 5	142	10.211	4.566			
		Total	**310**	**10.894**	**4.787**			
8	Market_ info	Zero	32	14.375	4.086	1.306	0.272	Insignificant
		1-3	38	14.579	3.717			
		3-5	98	15.398	3.145			
		Above 5	142	15.366	3.208			
		Total	**310**	**15.177**	**3.357**			

Source: Primary
**Statistically significant at 1% level

Table 4.27 shows the results of the ANOVA table showing the relationship between the prior experience of founders and various resources, capabilities, and strategies employed by startup companies. Among the eight hypotheses, the result indicated that seven variables showed insignificant results, except for knowledge management capabilities. Specifically, intellectual capital (p-value = 0.782), entrepreneurial bricolage (p-value =0.758), entrepreneurial orientation (p-value = 0.539), dynamic capabilities (p-value = 0.641), market orientation (p-value =0.147), and market information acquisition (p-value =0.272) all had p-values above 0.05, indicating their relationships were not significant.

Regarding knowledge management capabilities, there was a significant relationship with the previous experience of founders at a 5% significance level. The mean knowledge management capabilities for the zero-experience group were 14.125, with a standard deviation of 3.661. For the 1-3 experience group, it was 16.026 (standard deviation of 3.613), for the 3-5 group, it was 16.469 (standard deviation of 3.24), and for the above-5 age group, it was 15.218 (standard deviation of 4.245). The Welch's F (homogeneity assumption violated) test indicated that knowledge management capabilities varied based on the prior experience of founders (Welch's F (3, 94.71) = 4.461, p = 0.06). As a result, hypothesis H4d was supported, and hypotheses H1a, H1b, H1c, H1e, H1f, H1g, and H1h were not supported due to their significance values being above the threshold limit.

4.6.4.1. Multiple Comparisons of Prior Experience and Knowledge Management Capabilities

Table 4.28 shows the post hoc analysis of knowledge management (dependent) and prior experience of founders (independent). It is found that previous experience with '3-5 and Zero' and '3-5 and above 5' is significantly related to knowledge management capabilities. Therefore, it can be concluded that the results of the remaining previous experience of the founders and the knowledge management practices are significant at the 5% level of significance. Although the ANOVA table also indicates a significant difference between prior experience and knowledge management capabilities, this significance is only observed between the '3-5' and 'above 5' groups and the '3-5' and 'zero' groups, while the other groups show insignificant relationships.

Table 4.28

Post Hoc Test on Prior Experience and Knowledge Management

(I) Prior business experience	(J) Prior experience	Mean Difference (I-J)	Std. Error	Sig.
Zero	1-3	-1.90132	0.87313	0.140
	3-5	-2.34439*	0.72525	0.012
	Above 5	-1.09331	0.73873	0.457
1-3	Zero	1.90132	0.87313	0.140
	3-5	-0.44307	0.67130	0.912
	Above 5	0.80801	0.68584	0.643
3-5	Zero	2.34439*	0.72525	0.012
	1-3	0.44307	0.67130	0.912
	Above 5	1.25108	0.48374	0.050
Above 5	Zero	1.09331	0.73873	0.457
	1-3	-0.80801	0.68584	0.643
	3-5	-1.25108	0.48374	0.050

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.5. Incubation-Wise Analysis of Startup Resources, Entrepreneurial Capabilities, and Marketing Strategies

The table below explains the significance of founders who have been through incubation programmes and those who have not, about firm resources, entrepreneurial abilities, and marketing strategies. The following hypotheses have been developed:

H5: There is a significant difference between incubation based on firm resources, entrepreneurial capabilities, and marketing strategies.

H5a: There is a significant difference between incubation and intellectual capital.

H5b: There is a significant difference between incubation and entrepreneurial bricolage.

H5c: There is a significant difference between incubation and entrepreneurial orientation.

H5d: There is a significant difference between incubation and knowledge management capabilities.

H5e: There is a significant difference between incubation and dynamic capabilities.

H5f: There is a significant difference between incubation and networking capabilities.

H5g: There is a significant difference between incubation and market information acquisition.

H5h: There is a significant difference between incubation and market orientation.

Table 4.29

Independent Sample T-Test Showing Incubation and Firm Resources, Capabilities, and Marketing Strategies

Constructs	Incubated or not	N	Mean	SD	T	P value	Remarks
Intellectual Capital	Incubated	183	16.86	3.15	6.01	<0.001**	Significant
	Non incubated	127	14.42	3.75			
Entrepreneurial Bricolage	Incubated	183	15.40	3.26	6.81	<0.001**	Significant
	Non incubated	127	12.27	4.41			
Entrepreneurial_ Orientation	Incubated	183	16.842	2.280	8.15	<0.001**	Significant
	Non incubated	127	14.480	2.803			
knowledge_ Management	Incubated	183	15.230	4.102	-2.10	0.0368*	Significant
	Non incubated	127	16.134	3.456			
Dynamic_ Capabilities	Incubated	183	21.082	3.435	6.91	<0.001**	Significant
	Non incubated	127	18.346	3.414			
Networking_ Capabilities	Incubated	183	16.956	2.674	3.17	0.002**	Significant
	Non incubated	127	15.630	4.148			

Constructs	Incubated or not	N	Mean	SD	T	P value	Remarks
Market_ Orientation	Incubated	183	8.574	3.727	-12.58	<0.001**	Significant
	Non incubated	127	14.236	4.130			
Market_ Info	Incubated	183	14.672	3.568	-3.35	<0.001**	Significant
	Non incubated	127	15.906	2.891			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

The study applied an independent sample t-test to investigate if there were any incubation-wise differences in firm resources, entrepreneurial capabilities, and marketing strategies. Table 4.29 exhibits details on the number of respondents, the mean, standard deviations, t-values, and significance levels. All eight proposed hypotheses were found to be statistically significant, supporting hypotheses H5a to H5h. First, the researcher examined the relationship between business incubation and two kinds of firm resources, namely intellectual capital and entrepreneurial bricolage. From Table 4.29, it can be inferred that there is a significant difference between people entering incubation facilities and their development of intellectual capital since its p-value is less than 0.05 (<0.001). Similarly, incubated startups had a higher mean score (mean: 16.58, SD: 3.154) compared to non-incubated startups (mean: 14.417, SD: 3.749). Moreover, the relationship between incubation and entrepreneurial bricolage was also identified using an independent sample t-test, and the result indicates that there is a significant connection between incubation and entrepreneurial bricolage since its p-value is less than 0.05 (P <0.001). The mean score for entrepreneurial bricolage was higher in incubated startups (mean: 15.393, SD: 3.261) than in non-incubated startups (mean: 12.260, SD: 4.417). In summary, the researcher can conclude that the level of firm resources in startup companies is developed based on the people choosing incubation facilities. Thus, in this context, both hypotheses H5a and H5b were supported. The second section of Table 4.29 shows the result of the relationship between business incubation and entrepreneurial orientation. The study found that business incubation has a significant role in shaping the entrepreneurial

orientation of startup companies since its p-value is less than 0.05 (0.001). In addition to that, it is also found that incubated startups (mean: 16.84, SD: 2.8) have a higher entrepreneurial orientation than non-incubated startups (mean: 14.48, SD: 2.80).

The analysis also evaluated whether knowledge management, dynamic capabilities, and networking capabilities differed based on incubation. From the analysis, it is clear that the founder's choice of incubation facilities and their knowledge management capabilities are significantly related since the p-value is less than 0.05. From their mean score, it is interpreted that non-incubated startups (mean: 16.134 and SD: 3.45) have more knowledge management capabilities than incubated startups (mean: 15.23 and SD: 4.10). Similarly, incubation has a significant effect on both dynamic capabilities and networking capabilities since its p-value is less than 0.05 (P values: 0.001 and 0.002, respectively). It was found that incubated startups had higher mean scores for networking and dynamic capabilities, with mean scores of 21.082 and 16.956, respectively, compared to non-incubated startups. Regarding marketing strategies, specifically market orientation and market information, the influence of incubation was statistically significant (p-values for both cases: <0.001). Interestingly, non-incubated firms had a higher mean score for market orientation (mean: 14.236, SD: 4.130) compared to incubated startups (mean: 8.574, SD: 3.727). Likewise, the mean scores for market information acquisition strategies differed between incubated and non-incubated startups (mean: 14.67 and 15.906). In conclusion, all hypotheses in H5a–H5h were found to be significant, indicating that incubation has a substantial impact on firm resources and entrepreneurial potential. However, non-incubated startups demonstrated significant differences in their marketing strategies compared to their incubated counterparts.

4.6.5. Legal Form of Business on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

Table 4.30 describes key differences in the resources, entrepreneurial skills, and marketing strategies of businesses operating under different legal structures. As per the Kerala Startups Mission (KSUM), a startup is classified as a newly established business if it is formally registered as either a private limited company, a partnership

firm, or a limited liability partnership. In this context, the researcher seeks to determine whether there are any significant differences between the legal forms of business and their respective resources, capabilities, and strategies. To pursue this objective, the following hypothesis has been formulated:

Table 4.30

ANOVA Table Showing Legal Form of Business and Firm Resources, Capabilities, and Marketing Strategies

Constructs	Categories	N	Mean	SD	F	P	Remarks
Intellectual_ Capital	Private limited companies	159	16.585	3.32	6.933	0.001**	Significant
	Limited liability partners	90	15.178	3.79			
	Partnership	61	14.967	3.75			
	Total	**310**	**15.858**	**3.61**			
Entrepreneuri al_ Bricolage	Private limited companies	159	14.642	3.67	3.055	0.050*	Significant
	Limited liability partners	90	13.800	4.32			
	Partnership	61	13.180	4.55			
	Total	**310**	**14.110**	**4.07**			
Entrepreneuri al_ Orientation	Private limited companies	159	16.296	2.64	4.159	0.017*	Significant
	Limited liability partners	90	15.567	2.88			
	Partnership	61	15.230	2.73			
	Total	**310**	**15.874**	**2.76**			
Knowledge Management	Private limited companies	159	15.484	4.04	0.443	0.643	Insignificant
	Limited liability partners	90	15.922	3.72			
	Partnership	61	15.426	3.66			
	Total	**310**	**15.600**	**3.87**			
Dynamic Capabilities	Private limited companies	159	20.836	3.35	10.252	<0.001**	Significant
	Limited liability partners	90	19.067	4.20			
	Partnership	61	19.000	3.12			
	Total	**310**	**19.961**	**3.68**			
Networking Capabilities	Private limited companies	159	16.925	2.89	4.566	0.012*	Significant
	Limited liability partners	90	16.278	3.64			
	Partnership	61	15.279	4.05			
	Total	**310**	**16.413**	**3.41**			

Constructs	Categories	N	Mean	SD	F	P	Remarks
Market Orientation	Private limited companies	159	9.818	4.47	8.878	<0.001**	Significant
	Limited liability partners	90	11.822	4.85			
	Partnership	61	12.328	4.90			
	Total	**310**	**10.894**	**4.79**			
Market info	Private limited companies	159	15.107	3.17	1.811	0.165	Insignificant
	Limited liability partners	90	14.833	3.62			
	Partnership	61	15.869	3.39			
	Total	**310**	**15.177**	**3.36**			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

H6: There is a significant difference between legal forms of business in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H6a: There is a significant difference between legal forms of business and intellectual capital.

H6b: There is a significant difference among legal forms of business in entrepreneurial bricolage.

H6c: There is a significant difference between legal forms of business and entrepreneurial orientation.

H6d: There is a significant difference among legal forms of business in terms of knowledge management capabilities.

H6e: There is a significant difference between the legal form of business and its dynamic capabilities.

H6f: There is a significant difference among legal forms of business in terms of networking capabilities.

H6g: There is a significant difference among legal forms of business in the market for information acquisition.

H6h: There is a significant difference between legal forms of business and market orientation.

The outcomes of the ANOVA test for measuring the relationship between the legal form of business and their firm resources, entrepreneurial capabilities, and marketing strategies are summarized in Table 4.30. Eight hypotheses, ranging from H6a to H6h, were formulated. The P value for intellectual capital is less than 0.05. Therefore, the legal form of business significantly influences the framing of intellectual capital ($F(2,307) = 6.933$, $p = 0.001$). Levene's test reveals that the homogeneity of variance assumption is not satisfied in the case of entrepreneurial bricolage. Thus, the Welch F test was performed. According to the result, Welch's $F(2,137.41) = 3.055$, $p = 0.050$ implies that the entrepreneurial bricolage attitude of startup founders varied with the legal form of business. This suggests that both H6a and H6b are supported.

In terms of various capabilities exhibited by the founders, the relationship between knowledge management capabilities and the legal form of business yielded insignificant results ($F = 0.443$, $p = 0.663$). In addition to that, both networking and dynamic capabilities failed the homogeneity assumption, and researchers used Welch's F instead of Fisher's F. In both cases, relationships were found for dynamic capabilities (Welch $F(2,148.662) = 10.252$, $p<0.001$) and networking capabilities (Welch's $F(2,131.971) = 4.566$, $p=0.012$) since its p-value is less than 0.05. Thus, it can be concluded that different types of registration (limited liability partners, partnerships, and private limited companies) are developing different dynamic and networking capabilities. Finally, the researcher examined the connection between market orientation and market information concerning the legal forms of businesses. It was observed that there is a significant difference in market orientation ($F(2,307) = 8.878$, $p<0.001$). However, there were no significant relationships found between market information acquisition practices ($F(2,307) = 1.811$, $p = 0.165$). In both cases, the homogeneity assumptions are satisfied. Finally, it can be inferred that founders exhibit various kinds of resources, capabilities, and strategies based on the specific types of business organizations they are associated with.

4.6.5.1. Multiple Comparisons of Legal Forms of Business and Intellectual Capital

Table 4.31

Post Hoc Test on Legal Forms of Business and Intellectual Capital

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	1.40713*	0.46736	0.011
	Partnership	1.61769*	0.53360	0.011
Limited liability partners	Private limited companies	-1.40713*	0.46736	0.011
	Partnership	0.21056	0.58759	0.938
Partnership	Private limited companies	-1.61769*	0.53360	0.011
	Limited liability partners	-0.21056	0.58759	0.938

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.31 shows the post hoc test findings for the legal form of business and intellectual capital development. It is clear from the analysis of the post-hoc table that there is a significant difference in the mean score of founders' intellectual capital between a private limited company and a partnership firm (p = 0.011), as well as between a private limited company and a limited liability partnership (p = 0.011). However, there is no discernible difference in the mean score of founders' intellectual capital or legal form between a partnership company and limited liability partners. This view is supported by the fact that private limited companies are generally larger and support founders' intellectual capital, allowing the founders to attend social events and to have employee cooperation, employee and supervisor coordination at work, etc. In contrast, the same thing is inferior in limited liability and partnership firms.

4.6.5.2. Multiple comparisons of the legal form of business and entrepreneurial bricolage

Table 4.32

Post Hoc Test on Legal Forms of Business and Entrepreneurial Bricolage

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	0.84151	0.54001	0.267
	Partnership	1.46118	0.65088	0.069
Limited liability partners	Private limited companies	-0.84151	0.54001	0.267
	Partnership	0.61967	0.73900	0.680
Partnership	Private limited companies	-1.46118	0.65088	0.069
	Limited liability partners	-0.61967	0.73900	0.680

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.32 presents the outcomes of a post hoc test about entrepreneurial bricolage and legal forms of business. The findings of the ANOVA demonstrate a significant relationship between entrepreneurial bricolage and legal forms of business. Since the p-value for each pairwise comparison is more than 0.05, the result shows no significant difference between the groups in terms of their bricolage capacities.

4.6.5.3. Multiple Comparison of Legal Form of Business and Entrepreneurial Orientation

Table 4.33 demonstrates the findings of the post hoc test related to the legal form of business and entrepreneurial orientation of startup companies. As the P value indicates less than 0.05, the findings suggest a statistically significant relationship between a private limited company and a partnership firm in terms of the legal form of the business ($p = 0.036$). However, founders of limited liability partnerships and limited liability private limited companies are insignificant (since their p-value is more than 0.05). Private limited companies are presumably more entrepreneurially oriented than partnership firms.

Table 4.33

Post Hoc Test on Legal Forms of Business and Entrepreneurial Orientation

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	0.72893	0.36043	0.131
	Partnership	1.06609*	0.41151	0.036
Limited liability partners	Private limited companies	-0.72893	0.36043	0.131
	Partnership	0.33716	0.45315	0.758
Partnership	Private limited companies	-1.06609*	0.41151	0.036
	Limited liability partners	-0.33716	0.45315	0.758

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.5.4. Multiple Comparisons of Legal Forms of Business and Dynamic Capabilities

Table 4.34

Post Hoc Test on Legal Form of Business and Dynamic Capabilities

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	1.76981*	0.51629	0.002
	Partnership	1.83648*	0.47976	0.001
Limited liability partners	Private limited companies	-1.76981*	0.51629	0.002
	Partnership	0.06667	0.59625	0.993
Partnership	Private limited companies	-1.83648*	0.47976	0.001
	Limited liability partners	-0.06667	0.59625	0.993

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.34 indicates the post-hoc result of the legal form of business and its dynamic capabilities. From the table, it is evident that there is a significant difference between the mean score of dynamic capabilities for private limited companies and those for limited liability partners (p 0.002) and partnership firms (p 0.001), but that there is no

significant difference between the mean scores for dynamic capabilities and legal form for limited liability firms and partnership firms. It is also evident that private limited corporations possess a higher mean score (mean: 1.836 and 1.769) than partnership firms and limited liability partners.

4.6.5.5. Multiple Comparisons of Legal Forms of Business and Networking Capabilities

Table 4.35

Post Hoc Test on Legal Form of Business and Networking Capabilities

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	0.64675	0.44666	0.319
	Partnership	1.64584*	0.56688	0.013
Limited liability partners	Private limited companies	-0.64675	0.44666	0.319
	Partnership	0.99909	0.64498	0.272
Partnership	Private limited companies	-1.64584*	0.56688	0.013
	Limited liability partners	-0.99909	0.64498	0.272

Source: Primary
**The mean difference is significant at the 0.05 level*

Table 4.35 shows the post hoc test results for networking capabilities and legal forms of business. It can be concluded that only the private limited companies and partnership firms are considerably different at the 5% significant level (p-value is less than 0.05). Furthermore, private limited-liability partnership firms and limited liability- partnership firms do not significantly differ from one another. It is also evident that founders of private limited companies have greater mean networking capabilities on average than founders of partnership firms, with a mean score of 1.645, and that founders of partnership firms have lower mean networking capabilities. As a result, private limited companies are more likely than partnership companies to collaborate with other parties in the startup ecosystem.

4.6.5.6. Multiple Comparisons of Legal Forms of Business and Market Orientation

Table 4.36

Post Hoc Test on Legal Forms of Business and Market Orientation

(I) Legal form of business	(J) Legal form of business	Mean Difference (I-J)	Std. Error	Sig.
Private limited companies	Limited liability partners	-2.00461*	0.61598	0.005
	Partnership	-2.51026*	0.70329	0.002
Limited liability partners	Private limited companies	2.00461*	0.61598	0.005
	Partnership	-0.50565	0.77444	0.808
Partnership	Private limited companies	2.51026*	0.70329	0.002
	Limited liability partners	0.50565	0.77444	0.808

Source: Primary
*The mean difference is significant at the 0.05 level

As per the analysis of Table 4.36, the post hoc results of marketing orientation and legal form of business are identified. From the table, it is clear that there are significant differences between limited liability partners (private limited companies) and partnerships (private limited companies) since the p value is less than 0.05. It is also evident that there is no significant difference between limited liability partnerships and partnership firms since the p-value is greater than 0.05.

4.6.6. Number of Employees on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

The number of employees plays a significant role in nascent ventures as it shapes the coordination of efforts towards shared objectives. This context is where plans and strategies are evaluated, impacting both the collective and individual values of the company. Consequently, the following hypotheses have been formulated:

H7: There is a significant difference among the number of employees in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H7a: There is a significant difference in the number of employees in terms of intellectual capital.

H7b: There is a significant difference among the number of employees in entrepreneurial bricolage.

H7c: There is a significant difference among the number of employees in terms of entrepreneurial orientation.

H7d: There is a significant difference among the number of employees in terms of knowledge management capabilities.

H7e: There is a significant difference among the number of employees in terms of dynamic capabilities.

H7f: There is a significant difference among the number of employees in terms of networking capabilities.

H7g: There is a significant difference in the number of employees on the market for information acquisition.

H7h: There is a significant difference in the number of employees based on market orientation.

Table 4.37

ANOVA Table Showing Number of Employees and Firm Resources, Capabilities, and Marketing Strategies

Constructs	Category	N	Mean	SD	F	P	Remarks
Intellectual Capital	Below 10	4	16.75	2.22	0.223	0.952	Insignificant
	10-20	49	16.18	3.53			
	20-30	89	15.61	3.98			
	30-40	84	15.95	3.47			
	40-50	68	15.79	3.56			
	Above 50	16	15.75	3.17			
	Total	**310**	**15.85**	**3.61**			

Constructs	Category	N	Mean	SD	F	P	Remarks
Entrepreneurial bricolage	Below 10	4	15.00	1.63	2.209	0.079	Insignificant
	10-20	49	13.97	4.62			
	20-30	89	14.21	4.08			
	30-40	84	13.55	4.24			
	40-50	68	15.10	3.50			
	Above 50	16	12.37	3.44			
	Total	**310**	**14.10**	**4.07**			
Entrepreneurial orientation	Below 10	4	16.00	3.37	1.758	0.121	Insignificant
	10-20	49	15.24	2.90			
	20-30	89	15.74	2.78			
	30-40	84	16.02	2.94			
	40-50	68	16.52	2.08			
	Above 50	16	14.93	3.30			
	Total	**310**	**15.87**	**2.76**			
knowledge_ Management	Below 10	4	17.25	2.06	0.979	0.431	Insignificant
	10-20	49	16.44	3.71			
	20-30	89	15.17	3.80			
	30-40	84	15.67	3.87			
	40-50	68	15.25	4.25			
	Above 50	16	16.00	3.22			
	Total	**310**	**15.60**	**3.87**			
Dynamic_ Capabilities	Below 10	4	21.00	1.63	2.395	0.061	Insignificant
	10-20	49	20.75	2.65			
	20-30	89	19.57	3.67			
	30-40	84	19.44	4.18			
	40-50	68	20.80	3.40			
	Above 50	16	18.56	4.21			
	Total	**310**	**19.96**	**3.68**			

Constructs	Category	N	Mean	SD	F	P	Remarks
Networking_ Capabilities	Below 10	4	17.00	2.58	1.159	0.354	Insignificant
	10-20	49	16.71	3.28			
	20-30	89	16.07	3.51			
	30-40	84	15.97	3.96			
	40-50	68	17.01	2.38			
	Above 50	16	16.93	3.97			
	Total	**310**	**16.41**	**3.41**			
Market_ Orientation	Below 10	4	8.50	4.12	2.836	0.016*	Significant
	10-20	49	11.02	5.08			
	20-30	89	11.55	4.52			
	30-40	84	11.16	5.02			
	40-50	68	9.26	4.27			
	Above 50	16	12.93	4.93			
	Total	**310**	**10.89**	**4.79**			
Market_ information	Below 10	4	16.25	1.71	0.337	0.890	Insignificant
	10-20	49	15.16	3.13			
	20-30	89	15.07	3.52			
	30-40	84	15.46	3.31			
	40-50	68	14.86	3.57			
	Above 50	16	15.31	2.91			
	Total	**310**	**15.17**	**3.36**			

Source: Primary
*Statistically significant at a 5% level

Table 4.37 presents the outcome of an ANOVA test conducted to evaluate the relationship between the number of employees and the level of resources, capabilities, and strategies developed by startup companies. As a first step, the researcher evaluated the relationship between the number of employees and firm resources (intellectual capital and entrepreneurial bricolage). The results indicated that there is no significant relationship between the number of employees and resource mobilisation since the p-values for both cases are 0.952 and 0.079, respectively, both of which are above the significance threshold of 0.05. Thus, there is no relationship between firm resources

and the number of employees. Similarly, the relationship between the number of employees and entrepreneurial orientation was evaluated using ANOVA, and it indicated that there is no significant connection between entrepreneurial orientation and the number of employees, with a p-value of 0.121.

In the second stage, the number of employees with different categories of capabilities was identified, and Table 4.37 indicates that there is no significant connection between the number of employees and different capabilities such as knowledge management capabilities, dynamic capabilities, and networking capabilities, as the p-values are 0.431, 0.061, and 0.354, respectively, all above the significance level of 0.05. Finally, the researcher evaluated the relationship between the number of employees and marketing strategies. The results found that market information acquisition strategies and the number of employees is insignificant at the 5% level of significance (p-value: 0.890). However, marketing orientation and the number of employees is significant at the 5% level of significance. Additionally, it is evident that the homogeneity assumption is satisfied, and the researcher applied Fisher's F instead of Welch's F ($F(5, 27.28) = 2.93$, $p = 0.016$). Moreover, the mean score is higher among companies with more than 50 people (mean: 12.93 and SD: 4.93), indicating that when there is a large number of employees, firms tend to focus more on marketing-oriented practices. Therefore, H7h is supported, while H7a, H7b, H7c, H7d, H7e, H7f, and H7g are not supported since their significance values are above 0.05.

4.6.6.1. Multiple Comparisons of the Number of Employees and Market Orientation

Table 4.38 explains the result of a post hoc test to identify the group differences in the number of employees and market orientation strategies. The findings of the ANOVA show a significant relationship between market orientation and the number of employees. The p-value for each pair is more than 0.05, and the result indicates that there is no significant difference between the groups in terms of their market orientation.

Table 4.38

Post- Hoc Test on Number of Employees and Market Orientation

(I)	(J)	(I-J)	SE	Sig.
Below 10	10-20	-2.52041	2.45321	0.958
	20-30	-3.05056	2.41124	0.901
	30-40	-2.66667	2.41433	0.943
	40-50	-0.76471	2.42720	1.000
	Above 50	-4.43750	2.63724	0.726
10-20	Below 10	2.52041	2.45321	0.958
	20-30	-0.53015	0.83921	0.995
	30-40	-0.14626	0.84803	1.000
	40-50	1.75570	0.88403	0.558
	Above 50	-1.91709	1.35838	0.850
20-30	Below 10	3.05056	2.41124	0.901
	10-20	0.53015	0.83921	0.995
	30-40	0.38390	0.71765	0.998
	40-50	2.28586	0.75984	0.111
	Above 50	-1.38694	1.28104	0.947
30-40	Below 10	2.66667	2.41433	0.943
	10-20	0.14626	0.84803	1.000
	20-30	-0.38390	0.71765	0.998
	40-50	1.90196	0.76958	0.299
	Above 50	-1.77083	1.28684	0.863
40-50	Below 10	0.76471	2.42720	1.000
	10-20	-1.75570	0.88403	0.558
	20-30	-2.28586	0.75984	0.111
	30-40	-1.90196	0.76958	0.299
	Above 50	-3.67279	1.31084	0.168
Above 50	Below 10	4.43750	2.63724	0.726
	10-20	1.91709	1.35838	0.850
	20-30	1.38694	1.28104	0.947
	30-40	1.77083	1.28684	0.863
	40-50	3.67279	1.31084	0.168

Source: Primary

*The mean difference is significant at the 0.05 level

4.6.7. Sector on Firm Resources, Entrepreneurial Capabilities, and Strategies.

In this study, the researcher categorised all startups according to their respective industries, including software, health tech, education tech, hardware, and others. As a result, there is an interest in evaluating potential differences in strategies, capabilities, and resources utilised across these diverse sectors. To address this, the researcher has formulated the following hypothesis, aiming to examine whether significant differences exist in the strategies, capabilities, and resources deployed among these distinct industry sectors.

H8: There is a significant difference among sectors in firm resources, entrepreneurial capabilities, and marketing strategies.

H8a: There is a significant difference among sectors in intellectual capital.

H8b: There is a significant difference among sectors in entrepreneurial bricolage.

H8c: There is a significant difference among sectors in entrepreneurial orientation.

H8d: There is a significant difference among sectors in knowledge management capabilities.

H8e: There is a significant difference among sectors on dynamic capabilities.

H8f: There is a significant difference among sectors in networking capabilities.

H8g: There is a significant difference among sectors in market information acquisition.

H8h: There is a significant difference among sectors in market orientation.

Table 4.39

ANOVA Table Showing Sector on Resources, Capabilities, and Marketing Strategies

Constructs	Categories	N	Mean	SD	F	P	Remarks
Intellectual_ capital	Software	137	15.63	3.80	3.25	0.012*	Significant
	Health-tech	36	14.31	3.31			
	Edtech	49	16.57	3.50			
	Hardware	68	16.24	3.37			
	Others	20	17.20	2.97			
	Total	**310**	**15.86**	**3.61**			
Entrepreneurial_ Bricolage	Software	137	13.99	4.04	6.96	<0.001**	Significant
	Health-tech	36	11.39	4.23			
	Edtech	49	14.37	3.82			
	Hardware	68	15.09	4.00			
	Others	20	15.85	2.46			
	Total	**310**	**14.11**	**4.07**			
Entrepreneurial_ Orientation	Software	137	15.87	2.72	5.49	<0.001**	Significant
	Health-tech	36	14.03	3.08			
	Edtech	49	16.49	2.30			
	Hardware	68	16.34	2.68			
	Others	20	16.15	2.50			
	Total	**310**	**15.87**	**2.76**			
knowledge_ Management	Software	137	16.28	3.62	3.16	0.014*	Significant
	Health-tech	36	16.25	3.48			
	Edtech	49	14.76	4.35			
	Hardware	68	14.62	4.04			
	Others	20	15.15	3.56			
	Total	**310**	**15.60**	**3.87**			
Dynamic_ Capabilities	Software	137	19.98	3.80	5.354	0.010*	Significant
	Health-tech	36	17.94	2.84			
	Edtech	49	20.37	3.75			
	Hardware	68	20.63	3.04			
	Others	20	20.20	4.92			
	Total	**310**	**19.96**	**3.68**			

Constructs	Categories	N	Mean	SD	F	P	Remarks
Networking_ Capabilities	Software	137	16.15	3.61	3.061	0.021*	Significant
	Health-tech	36	15.28	4.27			
	Edtech	49	16.98	2.85			
	Hardware	68	16.65	2.83			
	Others	20	18.05	2.63			
	Total	**310**	**16.41**	**3.41**			
Market_ Orientation	Software	137	11.13	4.76	11.72	<0.001**	Significant
	Health-tech	36	15.11	3.80			
	Edtech	49	9.18	4.12			
	Hardware	68	10.10	4.55			
	Others	20	8.55	4.29			
	Total	**310**	**10.89**	**4.79**			
Market_ Info	Software	137	15.07	3.61	1.72	0.14	Insignificant
	Health-tech	36	16.47	2.30			
	Edtech	49	14.71	3.30			
	Hardware	68	15.18	3.21			
	Others	20	14.70	3.50			
	Total	**310**	**15.18**	**3.36**			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at 1% level

Table 4.39 presents the results of an ANOVA test conducted to evaluate the impact of sectors on firm resources, capabilities, and strategies inhibited by startup founders. In the first stage, the researcher examined the relationship between various industries' intellectual capital and entrepreneurial bricolage. In this scenario, intellectual capital satisfied the homogeneity assumption, while bricolage did not. Consequently, the Fisher test was applied for intellectual capital and Welch's F for bricolage. The analysis revealed a significant relationship for both of these variables ($F(4,305) = 3.250$, $p = 0.012$, and Welch's $F(4,90.86) = 6.96$, $p < 0.001$), supporting hypotheses H8a and H8b. Additionally, the study evaluated sector differences in entrepreneurial orientation and found significant differences ($F(4,305) = 5.49$, $p < 0.001$), suggesting that the risk-taking and innovation of founders vary across sectors.

Another section of Table 4.39 shows a significant relationship between sectors and various capabilities employed by the founders. The ANOVA test results suggest that founders are forming different capabilities based on their sectors. Specifically, significant differences exist between sectors and various capabilities such as knowledge management capabilities (F (4,305) = 3.16, p = 0.014), dynamic capabilities (Welch's F (4,84.36) = 5.534, p = 0.01), and networking capabilities (Welch's F (4,87.08) = 0.021). Therefore, it is crucial to employ various strategies and techniques in different startup categories to leverage these differences effectively. Finally, the researcher assessed the significant difference between sectors regarding marketing information acquisition and marketing orientation. The findings show that market orientation is significant (F (4,305) = 11.72, p < 0.001), while market information acquisition is not significant (F (4,305) = 1.722, p = 0.145). In both of these cases, the homogeneity assumption is satisfied. Therefore, newly established businesses should exercise caution when implementing sector-specific strategies.

4.6.7.1. Multiple Comparisons of Sectors and Intellectual Capital

Table 4.40

Post-Hoc Test on Sector and Intellectual Capital

(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.
Software	Health-Tech	1.32218	0.66654	0.417
	Edtech	-0.94369	0.59240	0.638
	Hardware	-0.60756	0.52793	0.857
	Others	-1.57226	0.85191	0.493
Health-tech	Software	-1.32218	0.66654	0.417
	Edtech	-2.26587	0.78123	0.080
	Hardware	-1.92974	0.73355	0.143
	Others	-2.89444	0.99253	0.077
Edtech	Software	0.94369	0.59240	0.638
	Health-tech	2.26587	0.78123	0.080
	Hardware	0.33613	0.66690	0.993
	Others	-0.62857	0.94434	0.979

(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.
Hardware	Software	0.60756	0.52793	0.857
	Health-tech	1.92974	0.73355	0.143
	Edtech	-0.33613	0.66690	0.993
	Others	-0.96471	0.90529	0.888
Others	Software	1.57226	0.85191	0.493
	Health-tech	2.89444	0.99253	0.077
	Edtech	0.62857	0.94434	0.979
	Hardware	0.96471	0.90529	0.888

Source: Primary
*The mean difference is significant at the 0.05 level

Table 4.40 presents the result of the post hoc test conducted to determine the group differences between intellectual capital and the various sectors in which startups live. As per the results of the ANOVA test, there are considerable differences between intellectual capital (the dependent variable) and various industries, including software, health technology, ed-tech, hardware, and others (the independent variable). Therefore, the researcher wanted to know whether there were any group differences among them. It was discovered that there were no differences since the significance value was more than 0.05. As per the results of the post hoc test, there are no group differences between them in terms of sector and intellectual capital (the p-value for all the items is above 0.05), and hence it is not significant. So, it can be concluded that the intellectual capital of the startup companies is developed not based on the industry in which they live.

4.6.7.2. Multiple Comparisons of Sectors and Entrepreneurial Bricolage

Table 4.41 shows the results of the post hoc test conducted between different sectors of startup operations—software, hardware, tech, and others—as independent variables and entrepreneurial bricolage as dependent variables. It is evident from the results that all the sectors are significantly related to health technology. I.e., 'software' and 'health-tech' (p-value = 0.014), 'ed-tech' and 'health-tech' (p-value = 0.011), 'hardware' and health-tech (p-value = 0.001), and 'others and health-tech (p = 0.001). Thus, it can be concluded that entrepreneurial bricolage is highly concentrated in the

health tech sector. They formulate technologies and plans based on the available resources in their hands and are oriented toward producing valuable products.

Table 4.41

Post- Hoc Test on Sectors and Entrepreneurial Bricolage

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.
Software	Health-tech	2.60381*	0.78502	0.014
	Edtech	-0.37465	0.64591	0.978
	Hardware	-1.09553	0.59549	0.355
	Others	-1.85730	0.64841	0.051
Health-tech	Software	-2.60381*	0.78502	0.014
	Edtech	-2.97846*	0.89189	0.011
	Hardware	-3.69935*	0.85609	0.000
	Others	-4.46111*	0.89371	0.000
Edtech	Software	0.37465	0.64591	0.978
	Health-tech	2.97846*	0.89189	0.011
	Hardware	-0.72089	0.73063	0.861
	Others	-1.48265	0.77437	0.322
Hardware	Software	1.09553	0.59549	0.355
	Health-tech	3.69935*	0.85609	0.000
	Edtech	0.72089	0.73063	0.861
	Others	-0.76176	0.73285	0.836
Others	Software	1.85730	0.64841	0.051
	Health-tech	4.46111*	0.89371	0.000
	Edtech	1.48265	0.77437	0.322
	Hardware	0.76176	0.73285	0.836

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.7.3. Multiple Comparisons of Sectors and Entrepreneurial Orientation

Table 4.42 shows that the result of the Scheffe post hoc test (homogeneity assumption satisfied and unequal sample size) demonstrates the considerable difference between the sector and entrepreneurial orientation. According to the group difference study of

the relationship between the sector and entrepreneurship, it can be concluded that there are substantial differences between software and health technology (p = 0.010), hardware and health technology (p = 0.02), and ed-tech and health technology (p = 0.02). Additionally, Ed-tech startups have a higher mean score than Health Tech (2.46).

Table 4.42

Post-Hoc Tests on Sectors and Entrepreneurial Orientation

(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.
Software	Health-tech	1.84084*	0.50262	0.010
	Edtech	-0.62118	0.44671	0.748
	Hardware	-0.46962	0.39810	0.845
	Others	-0.28139	0.64240	0.996
Health-Tech	Software	-1.84084*	0.50262	0.010
	Edtech	-2.46202*	0.58910	0.002
	Hardware	-2.31046*	0.55314	0.002
	Others	-2.12222	0.74844	0.093
Edtech	Software	0.62118	0.44671	0.748
	Health-tech	2.46202*	0.58910	0.002
	Hardware	0.15156	0.50288	0.999
	Others	0.33980	0.71210	0.994
Hardware	Software	0.46962	0.39810	0.845
	Health-tech	2.31046*	0.55314	0.002
	Edtech	-0.15156	0.50288	0.999
	Others	0.18824	0.68265	0.999
Others	Software	0.28139	0.64240	0.996
	Health-tech	2.12222	0.74844	0.093
	Edtech	-0.33980	0.71210	0.994
	Hardware	-0.18824	0.68265	0.999

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.7.4. Multiple Comparisons of Sectors and Knowledge Management Capabilities

Table 4.43 explains the result of a post hoc test to identify the group differences in sector and knowledge management capabilities. The findings of the ANOVA show a significant relationship between knowledge management capabilities and the sector of their operations. The p-value for each pair is more than 0.05, and the result indicates that there is no significant difference between the groups in terms of their knowledge management capabilities.

Table 4.43

Post-Hoc Tests on Sectors and Knowledge Management

(I) Sector	(J) Sector	Mean Difference (I-J)	S. E	Sig.
Software	Health-tech	0.03467	0.71493	1.000
	Edtech	1.52957	0.63541	0.218
	Hardware	1.66702	0.56626	0.073
	Others	1.13467	0.91375	0.819
Health-tech	Software	-0.03467	0.71493	1.000
	Edtech	1.49490	0.83794	0.529
	Hardware	1.63235	0.78680	0.368
	Others	1.10000	1.06459	0.899
Edtech	Software	-1.52957	0.63541	0.218
	Health-tech	-1.49490	0.83794	0.529
	Hardware	0.13745	0.71531	1.000
	Others	-0.39490	1.01289	0.997
Hardware	Software	-1.66702	0.56626	0.073
	Health-tech	-1.63235	0.78680	0.368
	Edtech	-0.13745	0.71531	1.000
	Others	-0.53235	0.97101	0.990
Others	Software	-1.13467	0.91375	0.819
	Health-tech	-1.10000	1.06459	0.899
	Edtech	0.39490	1.01289	0.997
	Hardware	0.53235	0.97101	0.990

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.7.5. Multiple Comparisons of Sectors and Dynamic Capabilities

Table 4.44 shows the findings of the post hoc test performed between the respondents' industry (an independent variable) and the founders' dynamic abilities (a dependent variable). There is a significant difference between 'Software and Health-Tech (0.006)', 'Hardware and Health-Tech'(0.001), and 'Edtech and Health-Tech(0.009)' at a 5 percent level.

Table 4.44

Post- Hoc tests on sectors and dynamic capabilities

(I) Sector	(J) Sector	Mean Difference (I-J)	SE	Sig.
Software	Health-tech	2.03366*	0.57346	0.006
	Edtech	-0.38924	0.62565	0.971
	Hardware	-0.65425	0.49065	0.671
	Others	-0.2219	1.14611	1
Health-tech	Software	-2.03366*	0.57346	0.006
	Edtech	-2.42290*	0.71416	0.009
	Hardware	-2.68791*	0.59944	0.000
	Others	-2.25556	1.19672	0.35
Edtech	Software	0.38924	0.62565	0.971
	Health-tech	2.42290*	0.71416	0.009
	Hardware	-0.26501	0.64954	0.994
	Others	0.16735	1.22259	1
Hardware	Software	0.65425	0.49065	0.671
	Health-tech	2.68791*	0.59944	0.000
	Edtech	0.26501	0.64954	0.994
	Others	0.43235	1.15932	0.996
Others	Software	0.2219	1.14611	1
	Health-tech	2.25556	1.19672	0.35
	Edtech	-0.16735	1.22259	1
	Hardware	-0.43235	1.15932	0.996

Source: Primary

*The mean difference is significant at the 0.05 level

4.6.7.6. Multiple Comparisons of Sectors and Networking Capabilities

Table 4.45 displays the results of the Games Howell test (failed homogeneity assumption and unequal sample size), which was used to determine whether there were any group differences among the sector and networking capabilities relationships. As per the table, it is evident that health technology startups differ significantly from other startups, with p values less than 0.05. It is also obvious that other startup categories have more networking skills than health tech businesses. Similar to this, the p-values of software-hardware (0.822), software-edtech (0.491), software-others (0.054), hardware-health tech (0.424), hardware-edtech (0.971), edtech-others (0.570), and health tech-edtech (0.246) are greater than 0.05. Indicating that there are no significant differences between them. Thus, the networking capabilities designed by the startups vary according to the different sectors in which they are operating.

Table 4.45

Post-Hoc Tests on Sectors and Networking Capabilities

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.
Software	Health-tech	0.87551	0.77622	0.791
	Edtech	-0.82631	0.51131	0.491
	Hardware	-0.49377	0.46172	0.822
	Others	-1.89672	0.66318	0.054
Health-tech	Software	-0.87551	0.77622	0.791
	Edtech	-1.70181	0.82070	0.246
	Hardware	-1.36928	0.79076	0.424
	Others	-2.77222*	0.92300	0.032
Edtech	Software	0.82631	0.51131	0.491
	Health--tech	1.70181	0.82070	0.246
	Hardware	0.33253	0.53312	0.971
	Others	-1.07041	0.71473	0.570
Hardware	Software	0.49377	0.46172	0.822
	Health tech	1.36928	0.79076	0.424
	Edtech	-0.33253	0.53312	0.971
	Others	-1.40294	0.68014	0.260

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.
Others	Software	1.89672	0.66318	0.054
	Health tech	2.77222*	0.92300	0.032
	Edtech	1.07041	0.71473	0.570
	Hardware	1.40294	0.68014	0.260

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.7.7. Multiple Comparisons of Sectors and Market Orientation

Table 4.46

Post Hoc Test on Sector and Market Orientation

(I) Sector	(J) Sector	Mean Difference (I-J)	SE	Sig.
Software	Health-tech	-3.97972*	0.84017	0.000
	Edtech	1.94771	0.74671	0.150
	Hardware	1.02845	0.66545	0.665
	Others	2.58139	1.07382	0.219
Health-tech	Software	3.97972*	0.84017	0.000
	Edtech	5.92744*	0.98473	0.000
	Hardware	5.00817*	0.92463	0.000
	Others	6.56111*	1.25107	0.000
Edtech	Software	-1.94771	0.74671	0.150
	Health-tech	-5.92744*	0.98473	0.000
	Hardware	-0.91927	0.84061	0.879
	Others	0.63367	1.19033	0.991
Hardware	Software	-1.02845	0.66545	0.665
	Health-Tech	-5.00817*	0.92463	0.000
	Edtech	0.91927	0.84061	0.879
	Others	1.55294	1.14111	0.763
Others	Software	-2.58139	1.07382	0.219
	Health-tech	-6.56111*	1.25107	0.000
	Edtech	-0.63367	1.19033	0.991
	Hardware	-1.55294	1.14111	0.763

Source: Primary
*The mean difference is significant at the 0.05 level

As per examination of group differences between various industries and market orientation, it can be deduced that there are notable differences between startups in the health tech-software sector ($p<0.001$), health tech-edtech sector (<0.001), health tech-hardware sector (<0.001), and health tech-others sector (<0.001). It is also discovered that, out of all these groups, startups in the health technology sector are most influenced by market orientation and least influenced by other categories.

4.6.8. Source of Funding for Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

The primary concern of every startup founder is to secure dependable funding for each firm. The current study examined four kinds of funding sources: internal sources of funding, seed funding, financial support from friends and family, and investments from angel or venture capital. The researcher aimed to determine if there were significant differences in the resources, capabilities, and strategies employed based on the funding source. To evaluate this, the following hypotheses have been formulated:

H9: ***There is a significant difference among funding sources in firm resources, entrepreneurial capabilities, and marketing strategies.***

H9a: *There is a significant difference among funding sources for intellectual capital.*

H9b: *There is a significant difference among funding sources for entrepreneurial bricolage.*

H9c: *There is a significant difference among funding sources in terms of entrepreneurial orientation.*

H9d: *There is a significant difference among funding sources on knowledge management capabilities.*

H9e: *There is a significant difference among funding sources on dynamic capabilities.*

H9f: There is a significant difference among funding sources on networking capabilities.

H9g: There is a significant difference among funding sources on market information acquisition.

H9h: There is a significant difference among funding sources on market orientation.

The analysis of variance (ANOVA) conducted in this study focused on exploring the relationships between different funding sources and various aspects of firm resources, entrepreneurial capabilities, and marketing strategies. The results of the ANOVA showed that, among the eight hypotheses proposed to investigate these relationships, only one variable had a statistically significant relationship.

Table 4.47

ANOVA Table Showing Funding Sources for Firm Resources, Capabilities, and Marketing Strategies

Constructs	Categories	N	Mean	SD	F	P	Remarks
Intellectual capital	Own funding	117	15.556	3.597			
	Seed money	86	15.791	3.872			
	Friends and family	69	15.652	3.501	2.4578	0.0630	Insignificant
	Angel or VC	38	17.316	2.960			
	Total	**310**	**15.858**	**3.610**			
Entrepreneurial Bricolage	Own funding	117	14.085	3.990			
	Seed money	86	14.407	3.867			
	Friends and family	69	12.986	4.377	3.5807	0.014*	Significant
	Angel investment or VC	38	15.553	3.804			
	Total	**310**	**14.110**	**4.075**			
Entrepreneurial orientation	Own funding	117	16.034	2.810			
	Seed money	86	15.616	2.800			
	Friends and family	69	15.551	2.852	1.4692	0.2229	Insignificant
	Angel investment or VC	38	16.553	2.238			
	Total	**310**	**15.874**	**2.760**			
Knowledge_ Management	Own funding	117	15.701	3.907			
	Seed money	86	15.872	3.652	1.0072	0.3898	Insignificant
	Friends and family	69	15.638	3.785			
	Angel investment or VC	38	14.605	4.365			
	Total	**310**	**15.600**	**3.870**			

Constructs	Categories	N	Mean	SD	F	P	Remarks
Dynamic Capabilities	Own funding	117	19.684	3.803	2.3976	0.0681	Insignificant
	Seed money	86	20.384	3.431			
	Friends and family	69	19.319	3.672			
	Angel or VC	38	21.026	3.628			
	Total	**310**	**19.961**	**3.677**			
Networking Capabilities	Own funding	117	16.658	3.174	2.1765	0.0908	Insignificant
	Seed money	86	16.686	3.294			
	Friends and family	69	15.493	4.013			
	Angel or VC	38	16.711	3.031			
	Total	**310**	**16.413**	**3.414**			
Market orientation	Own funding	117	10.487	4.721	2.3198	0.0754	Insignificant
	Seed money	86	10.802	4.980			
	Friends and family	69	12.159	4.696			
	Angel or VC	38	10.053	4.448			
	Total	**310**	**10.894**	**4.787**			
Market info	Own funding	117	15.333	3.361	0.3711	0.7739	Insignificant
	Seed money	86	15.128	3.616			
	Friends and family	69	15.246	3.017			
	Angel or VC	38	14.684	3.410			
	Total	**310**	**15.177**	**3.357**			

Source: Primary

*Statistically significant at a 5% level

Table 4.47 exhibits the result of the ANOVA conducted to determine the relationship between sources of funding and various resources, capabilities, and strategies employed by the startup founders. The table begins with the relationship between funding sources and different resources existing by startup companies, and the result indicates that there is no relationship between intellectual capital and funding sources since its p-value is more than 0.05 (p-value: 0.0630). On the contrary, the relationship between resources, capabilities, and strategies is significant at a five percent significance level (p-value: 0.014), which is less than 0.05, indicating that the type of funding used by startup companies is highly influenced by the bricolage capacity of the startup founders. In summary, entrepreneurs may strategically leverage their funding sources to support their creative problem-solving and resource utilisation to compete with their rivals. Thus, hypothesis H9b is supported.

The second section of Table 4.47 shows the result of the relationship between funding sources and the various capabilities exhibited by the startup founders. The result shows that there is no relationship between funding sources and the various capabilities exhibited by the founders since the p-value is more than 0.05 for all the cases. i.e., the p-value for knowledge management capabilities is 0.399, dynamic capabilities are 0.068, and networking capabilities are 0.091. The final section of Table 4.47 indicates the result of the relationship between marketing strategies and various resources, capabilities, and strategies used by the startup companies. The result also indicated that there is no relationship between the funding sources and various resources, capabilities, and strategies exhibited by the startup founders since its p-value is more than 0.05 (the P-value for market orientation is 0.075 and the P-value for market information acquisition is 0.773). As a result, it indicates that the relationship between funding sources and the various resources, capabilities, and strategies exhibited by the founders is least prevalent in the competing business realm.

4.6.8.1. Multiple Comparisons of Funding Sources and Entrepreneurial Bricolage

Table 4.48 shows the result of the post hoc analysis conducted to test the relationship between entrepreneurial bricolage (dependent) and funding sources (independent).

The result indicates that there is a significant difference between angel investment or venture capital with friends and family (p-value = 0.020), and there are no differences between the other groups. It is also evident that venture capital and angel investment have higher mean scores (mean: 2.56) than friends and family.

Table 4.48

Post Hoc Test on Funding Source and Entrepreneurial Bricolage

(I) Funding source	(J) Funding source	Mean Difference (I-J)	Std. Error	Sig.
Own funding	Seed money	-0.32151	0.57164	0.957
	Friends and family	1.09996	0.61088	0.357
	Angel investment or VC	-1.46716	0.75145	0.285
Seed money	Own funding	0.32151	0.57164	0.957
	Friends and family	1.42147	0.65044	0.191
	Angel investment or VC	-1.14565	0.78395	0.546
Friends and family	Own funding	-1.09996	0.61088	0.357
	Seed money	-1.42147	0.65044	0.191
	Angel investment or VC	-2.56712*	0.81300	0.020
Angel investment or VC	Own funding	1.46716	0.75145	0.285
	Seed money	1.14565	0.78395	0.546
	Friends and family	2.56712*	0.81300	0.020

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.9. Motivation-Wise Analysis of Startup Resources, Entrepreneurial Capabilities, and Marketing Strategies

Table 4.49 shows the result of a one-way analysis of variance (ANOVA) to identify the connection between motivation for starting a venture and the different resources, capabilities, and strategies adopted by the startup founder. In this study, the researcher identified four primary motivations for establishing new ventures: to serve society, revenue generation, wealth maximisation, and job security. To investigate the

significant relationships between these motivations and firm resources, capabilities, and marketing strategies, the following hypotheses were formulated:

H10: There is a significant difference between motivation and firm resources, entrepreneurial capabilities, and marketing strategies.

H10a: There is a significant difference between motivation and intellectual capital.

H10b: There is a significant difference between motivation and entrepreneurial bricolage.

H10c: There is a significant difference between motivation and entrepreneurial orientation.

H10d: There is a significant difference between motivation and knowledge management capabilities.

H10e: There is a significant difference between motivation and dynamic capabilities.

H10f: There is a significant difference between motivation and networking capabilities.

H10g: There is a significant difference between motivation and market information acquisition.

H10h: There is a significant difference between motivation and market orientation.

The result of the analysis of variance (ANOVA) interpreted the relationships between resources, capabilities, and strategies as motivations for launching new ventures. Among the eight hypotheses formulated, two relationships are significant (market orientation and entrepreneurial orientation) since their p-value is less than 0.05.

In the first section, the relationship between motivation and resources is identified, and the result indicates that there is no relationship between motivation and both of these resources (p-value for intellectual capital is 0.36 and entrepreneurial bricolage is 0.69). In addition to that, the relationship between motivation and entrepreneurial orientation is identified, and the results indicate that the entrepreneurial orientation of

founders is highly related to their motivation to start new ventures F (3,306) = 3.471, p = 0.017). The researcher also evaluated the motivation, capabilities, and marketing strategies employed by the founders, and it demonstrates that motivation has no role in developing different capabilities. Finally, the relationship between market orientation is identified. Here, the researcher applied Welch's F because the homogeneity assumption is not satisfied (shows a statistically significant relationship between the level of motivation and their market orientation (Welch's F (3,160.51) = 6.799, $p < 0.001$).

Table 4.49

ANOVA Table Showing Relationship among Motivation on Firm Resources, Capabilities, and Marketing Strategies

Constructs	Categories	N	Mean	SD	F	P	Remarks
Intellectual capital	Job security	63	15.254	3.906	1.06	0.3649	Insignificant
	Wealth maximization	94	16.298	3.476			
	Create income	70	15.886	3.701			
	Serve the society	83	15.795	3.442			
	Total	**310**	**15.858**	**3.610**			
Entrepreneurial_ Bricolage	Job security	63	13.778	4.206	0.48	0.690	Insignificant
	Wealth maximization	94	14.426	3.925			
	Create income	70	13.786	4.718			
	Serve the society	83	14.277	3.559			
	Total	**310**	**14.110**	**4.075**			
Entrepreneurial_ Orientation	Job security	63	15.698	2.780	3.47	0.017*	Significant
	Wealth maximization	94	16.149	2.548			
	Create income	70	15.057	3.064			
	Serve the society	83	16.386	2.580			
	Total	**310**	**15.874**	**2.760**			
Knowledge_ Management	Job security	63	15.698	3.554	0.12	0.9482	Insignificant
	Wealth maximization	94	15.606	3.705			
	Create income	70	15.743	4.204			
	Serve the society	83	15.398	4.048			
	Total	**310**	**15.600**	**3.870**			

Constructs	Categories	N	Mean	SD	F	P	Remarks
Dynamic_ Capabilities	Job security	63	19.381	3.665	1.91	0.1278	Insignificant
	Wealth maximization	94	20.160	3.705			
	Create income	70	19.457	3.933			
	Serve the society	83	20.602	3.357			
	Total	**310**	**19.961**	**3.677**			
Networking_ Capabilities	Job security	63	16.730	3.070	0.28	0.8380	Insignificant
	Wealth maximization	94	16.298	3.577			
	Create income	70	16.471	3.598			
	Serve the society	83	16.253	3.356			
	Total	**310**	**16.413**	**3.414**			
Market_ Orientation	Job security	63	12.206	4.900	6.79	<0.001**	Significant
	Wealth maximization	94	11.255	4.628			
	Create income	70	11.329	5.129			
	Serve the society	83	9.120	4.118			
	Total	**310**	**10.894**	**4.787**			
Market info	Job security	63	15.508	2.839	1.23	0.2966	Insignificant
	Wealth maximization	94	15.415	3.403			
	Create income	70	14.529	3.678			
	Serve the society	83	15.205	3.370			
	Total	**310**	**15.177**	**3.357**			

Source: Primary
*Statistically significant at a 5% level
**Statistically significant at1% level

4.6.9.1. Multiple Comparisons of Motivation and Entrepreneurial Orientation

Table 4.50 presents the group differences across motivations (an independent variable) and entrepreneurial orientation (a dependent variable). As per the table, it can be deduced that a significant difference exists only between serving society and generating income (p = 0.031). Similarly, the mean score for serving society is higher in entrepreneurial orientation compared to income generation (mean: 1.328).

Table 4.50

Post-Hoc Test on Motivation and Entrepreneurial Orientation

(I) Motivation	(j) Motivation	Mean Difference (I-J)	SE	Sig.
Job security	Wealth maximization	-0.45052	0.44412	0.794
	Create income	0.64127	0.47369	0.608
	Serve the society	-0.68713	0.45578	0.519
Wealth maximization	Job security	0.45052	0.44412	0.794
	Create income	1.09179	0.43062	0.095
	Serve the society	-0.23661	0.41084	0.954
Create income	Job security	-0.64127	0.47369	0.608
	Wealth maximization	-1.09179	0.43062	0.095
	Serve the society	-1.32840*	0.44263	0.031
Serve the society	Job security	0.68713	0.45578	0.519
	Wealth maximization	0.23661	0.41084	0.954
	Create income	1.32840*	0.44263	0.031

Source: Primary
*The mean difference is significant at the 0.05 level

4.6.9.2. Multiple Comparisons of Motivation and Market Orientation

Table 4.51 shows the result of the Games-Howell test (when the homogeneity assumption is not satisfied and there is an unequal sample size), which was conducted to evaluate the variations between motivation (an independent variable) and market orientation (a dependent variable). It can be concluded that there are noteworthy distinctions between different types of motivation. Specifically, there are significant

differences observed between job security motivation and serve the society motivation (p = 0.001), wealth maximisation and serving the society (0.008), and creating income and serving society (0.023). Additionally, job security motivation has a stronger impact on market orientation compared to the serve society group, with a mean score of 3.085.

Table 4.51

Post-Hoc Test on Motivation and Market Orientation

(I) Motivation	(J) Motivation	Mean Difference (I-J)	SE	Sig.
Job security	Wealth maximization	0.95103	0.78031	0.616
	Create income	0.87778	0.87000	0.744
	Serve the society	3.08587*	0.76510	0.001
Wealth maximization	Job security	-0.95103	0.78031	0.616
	Create income	-0.07325	0.77699	1.000
	Serve the society	2.13484*	0.65742	0.008
Create income	Job security	-0.87778	0.87000	0.744
	Wealth maximization	0.07325	0.77699	1.000
	Serve the society	2.20809*	0.76172	0.023
Serve the society	Job security	-3.08587*	0.76510	0.001
	Wealth maximization	-2.13484*	0.65742	0.008
	Create income	-2.20809*	0.76172	0.023

Source: Primary

*The mean difference is significant at the 0.05 level

4.7. Founder and Firm Characteristics: Innovation, Financial Performance and Adaptiveness

This section describes the role of firm and founder characteristics in various dimensions of startup performance, such as contribution to innovation, financial performance, and adaptiveness of startup companies.

4.7.1. Gender on Innovation, Financial Performance, and Adaptiveness

The following hypotheses were developed to determine the relationship between founders' gender and contribution to innovation, financial performance, and adaptability.

H11: There is a significant difference between males and females in innovation, financial performance, and adaptiveness.

H11a: There is a significant difference between males and females regarding innovation.

H11b: There is a significant difference between male and female financial performance.

H11c: There is a significant difference between males and females in their level of adaptiveness.

Table 4.52

Relationship between Gender and Innovation, Startup Performance, and Adaptiveness

Constructs	Gender	N	Mean	SD	t value	P value	Remarks
Innovation	Male	272	14.441	4.350	0.939	0.348	Insignificant
	Female	38	13.737	4.196			
Startup adaptiveness	Male	272	11.063	4.888	2.976	0.004**	Significant
	Female	38	9.053	3.741			
Financial Performance	Male	272	12.776	5.026	-1.379	0.169	Insignificant
	Female	38	13.974	4.929			

Source: Primary
** Significant@1%

The researcher conducted an independent sample t-test to examine potential differences in innovation, performance, and startup adaptiveness between male and female founders. The first section of Table 4.52 evaluates gender differences in

contributing to innovation, revealing no significant connection between gender and contribution to innovation in startup companies (p-value = 0.348), as the obtained p-value exceeds 0.05. Moreover, the analysis of gender differences in startup adaptiveness demonstrates a significant relationship (p-value = 0.004), indicating that male founders exhibit higher adaptiveness (mean: 11.063) compared to female founders (mean: 9.053). Regarding gender and financial performance relationships, the analysis reveals no significant association (p-value = 0.169), suggesting that gender does not significantly influence financial performance. In summary, gender does not play a significant role in innovation and financial performance among founders. However, there is a notable difference in startup adaptiveness, with male founders showing higher levels compared to female founders.

4.7.2. Educational Qualification: Innovation, Financial Performance, and Adaptiveness

To explore the impact of the educational qualifications of founders on innovation, financial performance, and startup adaptiveness, the following hypotheses were formulated:

H12: There is a significant difference among educational qualifications in innovation, startup adaptiveness, and financial performance.

H12a: There is a significant difference between educational qualifications and innovation.

H12b: There is a significant difference between educational qualifications and startup adaptiveness.

H12c: There is a significant difference between educational qualifications and financial performance.

Table 4.53

Relationship between Educational Qualification and Innovation, Financial Performance and Startup Adaptiveness

Construct	Categories	N	Mean	SD	F	P	Remarks
Innovation	Arts & Science	61	14.21	4.27	0.030	0.993	Insignificant
	IITs/NITs	110	14.36	4.11			
	IIMs	118	14.42	4.52			
	Others	21	14.38	4.83			
	Total	**310**	**14.35**	**4.33**			
Startup_ Adaptiveness	Arts and Science	61	8.89	3.88	47.036	<0.001**	Significant
	IITs/NITs	110	8.09	3.27			
	IIMs	118	13.88	4.55			
	Others	21	13.48	4.03			
	Total	**310**	**10.82**	**4.80**			
Financial Performance	Arts and Science college	61	16.44	2.71	71.116	<0.001**	Significant
	IITs/NITs	110	15.37	3.75			
	IIMs	118	9.21	4.36			
	Others	21	10.71	4.79			
	Total	**310**	**12.92**	**5.02**			

Source: Primary
**Significant@1%

Table 4.53 depicts the result of the ANOVA test conducted to evaluate the relationship between educational qualifications and their contribution to innovation, startup adaptiveness, and financial performance. The table has been divided into three sections. The first section investigates the relationship between founders qualified from different institutions and their contribution to innovation by using ANOVA. The result indicates that there is no significant relationship between educational qualification and innovation since its p-value is greater than 0.05 (0.993).

Moreover, the researcher evaluated the significant relationship between educational background and startup adaptability. Here, the researcher used Welch's F since its homogeneity assumptions are not satisfied. As a result, it can be determined that people with diverse educational backgrounds have varied levels of adaptability

(Welch's F (3,80.5) =47.03, p<0.001). Among these, IIM graduates have the highest mean score (mean: 13.88), and founders qualified from arts and science colleges possess the lowest mean score on startup adaptiveness, with a mean score of 8.89 and a standard deviation of 3.88. Thus, hypothesis H19b is supported. The researcher has also identified a significant connection between educational backgrounds and a startup's financial performance. The result shows that there is a significant relationship (Welch's F (3,81.09) =71.12, p<0.001). Thus, hypotheses H19c are supported. In contrast to the startup adaptiveness situation, founders qualified for arts and science colleges in this instance have the highest mean financial performance (mean: 16.44), followed by IITs and NITs (mean: 15.37).

Thus, it is possible to conclude that educational qualification affects startup adaptability and financial performance but not innovation. Additionally, as indicated in Table 4.54, the researcher conducted a post hoc test to determine the group differences between them.

4.7.2.1. Multiple Comparisons of Educational Qualifications on Startup Adaptiveness and Financial Performance

Table 4.54 displays the results of the Games-Howell test, which examined the group difference in the relationships between educational qualification, financial performance, and startup adaptiveness.

The first section evaluated the impact of educational background on startup adaptability and found a significant relationship between IIMs-Arts and Science (p <0.001), IIMs-IIITs/NITs (p <0.001), Others-Arts and Science Colleges (p<0.001), and Others-IITs/NITs (p<0.001). founders qualified from other institutions had a higher mean (5.38528*) than founders with IITs or NITs qualifications. In terms of the relationships between educational qualification and financial performance, there is a significant relationship between Arts and Science Colleges-IIMs (p<0.001), Arts and Science Colleges-Others (p<0.001), IITs/NITs-IIIMs (p <0.001), and IITs/NITs and Others (p<0.001). Compared to IIM-qualified founders, founders qualified in arts and science had the highest mean (7.23076).

Table 4.54

Post Hoc Test on Educational Qualification for Startup Adaptiveness and Financial Performance

DV	I	J	Mean Difference (I-J)	SE	Sig.
Startup Adaptiveness	Arts and science college	IITs/NITs	0.79434	0.58699	0.531
		IIMs	-4.99611*	0.65023	0.000
		Others	-4.59094*	1.01066	0.000
	IITs/ NITs	Arts and Science Colleges	-0.79434	0.58699	0.531
		IIMs	-5.79045*	0.52273	0.000
		Others	-5.38528*	0.93375	0.000
	IIMs	Arts and Science	4.99611*	0.65023	0.000
		IITs/NITs	5.79045*	0.52273	0.000
		Others	0.40517	0.97474	0.975
	Others	Arts and Science	4.59094*	1.01066	0.000
		IITs/NITs	5.38528*	0.93375	0.000
		IIMs	-0.40517	0.97474	0.975
Financial Performance	Arts and Science college	IITs/NITs	1.06990	0.49770	0.142
		IIMs	7.23076*	0.52985	0.000
		Others	5.72834*	1.10051	0.000
	IITs/ NITs	Arts and Science	-1.06990	0.49770	0.142
		IIMs	6.16086*	0.53715	0.000
		Others	4.65844*	1.10404	0.002
	IIMs	Arts and Science	-7.23076*	0.52985	0.000
		IITs/NITs	-6.16086*	0.53715	0.000
		Others	-1.50242	1.11890	0.545
	Others	Arts and Science	-5.72834*	1.10051	0.000
		IITs/NITs	-4.65844*	1.10404	0.002
		IIMs	1.50242	1.11890	0.545

Signifiance@5%
*The mean difference is significant at the 0.05 level

4.7.3. Prior Experience: Innovation, Financial Performance, and Adaptiveness

Table 4.55 indicates the results of the ANOVA test conducted to determine the relationship between prior experience and startup adaptability, performance, and innovation. Based on that, the following hypotheses were formulated:

H13: There is a significant difference among prior experience on innovation, startup adaptiveness, and financial performance.

H13a: There is a significant difference between prior experience and innovation.

H13b: There is a significant difference among prior experiences on startup adaptiveness.

H13c: There is a significant difference between prior experience and financial performance.

Table 4.55

ANOVA Table Showing Prior Experience on Innovation, Financial Performance, and Startup Adaptiveness

Constructs	Categories	N	Mean	SD	F	P	Remarks
Startup_ adaptiveness	Zero	32	9.7813	4.66			
	1-3	38	11.2895	4.61			
	3-5	98	10.9082	4.81	0.6653	0.5754	Insignificant
	Above 5	142	10.8592	4.88			
	Total	**310**	**10.8161**	**4.80**			
Financial Performance	Zero	32	13.5938	4.53			
	1-3	38	13.3947	4.722			
	3-5	98	13.1837	5.135	0.8070	0.4930	Insignificant
	Above 5	142	12.4648	5.130			
	Total	**310**	**12.9226**	**5.021**			
Innovation	Zero	32	14.2813	3.58			
	1-3	38	15.1053	4.018			
	3-5	98	14.7857	4.504	1.2882	0.2828	Insignificant
	Above 5	142	13.8732	4.422			
	Total	**310**	**14.3548**	**4.330**			

Source: Primary
*Significance @5%

Table 4.55 shows a significant relationship between prior experience in innovation, startup adaptiveness, and financial performance. The p-value of innovation is 0.575, startup adaptiveness is 0.493, and financial performance is 282. Since the p values are greater than 0.05, we can conclude that there is no significant relationship among them.

4.7.4. Incubation on Innovation, Financial Performance, and Adaptiveness

Table 4.56

Independent Sample T-Test Showing Incubation on Innovation, Financial Performance, and Startup Adaptiveness

Constructs	Incubated or not	N	Mean	SD	T	P	Remarks
Innovation	Incubated	183	14.290	4.180	-0.318	0.751	Insignificant
	Non incubated	127	14.449	4.554			
Startup_ Adaptiveness	Incubated	183	8.448	3.610	-12.559	<0.001**	Significant
	Non incubated	127	14.228	4.226			
Financial Performance	Incubated	183	15.219	4.024	11.343	<0.001**	Significant
	Non incubated	127	9.614	4.446			

Source: Primary
*Significance @5%
**Significance @1%

The entire population of respondents is divided into two groups based on whether or not they occupy incubation facilities. Some founders are housed at and have graduated from various business incubation centres and seek advice from experts. However, some founders work independently without associating with any incubation centres or bodies. Therefore, the researcher would like to know if there is any significant relationship between incubation and innovation, adaptability, and performance. Based on that, the following hypotheses were formulated:

H14: There is a significant difference between incubation and innovation, startup adaptiveness, and financial performance.

H14a: There is a significant difference between incubation and innovation.

H14b: There is a significant difference between incubation and startup adaptiveness.

H14c: There is a significant difference between incubation and financial performance.

The researcher conducted an independent t-test to determine if there are any significant differences in innovation, performance, and startup adaptiveness between incubated and non-incubated startup founders. The first section evaluates the relationship between business incubation and innovation. The results showed that there is no significant relationship between incubation and innovation among founders, with a p-value of 0.751, which is greater than the threshold value of 0.05. Similarly, there is a significant difference in startup adaptiveness between incubated and non-incubated founders. The p-value obtained (<0.001) is less than the threshold value of 0.05, indicating a significant relationship. Specifically, non-incubated founders exhibit higher adaptiveness (mean: 14.228) compared to incubated founders (mean: 8.448). Finally, the analysis revealed that there is a significant relationship between incubation and the financial performance of founders. The obtained p-value (<0.001) is lower than 0.05, suggesting that incubation significantly impacts financial performance. In summary, it can be concluded that incubation does not play a significant role in innovation. However, there is a significant difference between startup adaptiveness and financial performance.

4.7.5. Number of Employees on Innovation, Financial Performance and Adaptiveness.

In the majority of academic research on entrepreneurship and new ventures, firm size is measured based on the number of employees working in the firm. In the current study, the researcher is interested in finding out if there is a relationship between firm size and innovation, startup adaptability, and financial performance. Based on that, the following hypotheses have been developed:

H15: There is a significant difference among the number of employees in terms of innovation, startup adaptiveness, and financial performance.

H15a: There is a significant difference among the number of employees in terms of innovation.

H15b: There is a significant difference among the number of employees on startup adaptiveness.

H15c: There is a significant difference in the number of employees in terms of financial performance.

A one-way analysis of variance (ANOVA) was performed to compare innovation, startup adaptiveness, and performance of startup companies with the number of employees. The results show that there is a substantial difference in startup adaptiveness and performance with the number of employees and no impact on innovation. When it comes to startup adaptiveness, the mean score of startups with more than 50 employees is 12.25, with a standard deviation of 5.48. Therefore, it is claimed that there is a significant difference between startup adaptiveness and the number of employees (Welch's F (5,27.86) =6.114, p = 0.001). The researcher also looked into whether the number of employees had any bearing on financial performance, and it was found that the relationship is significant (Welch's F (5,58.95) =10.49, p <0.001). The highest mean score in this category is 40–50 (14.88) with a SD of 4.44.

Table 4.57

ANOVA Showing the Number of Employees on Performance Dimensions

Constructs	Categories	N	Mean	SD	F	P	Remarks
	Below 10	4	16.25	2.50			
	10-20	49	14.86	4.38			
	20-30	89	14.38	4.45			
Innovation	30-40	84	13.94	4.68	0.523	0.759	Insignificant
	40-50	68	14.21	3.74			
	Above 50	16	15.00	4.59			
	Total	**310**	**14.36**	**4.33**			

Constructs	Categories	N	Mean	SD	F	P	Remarks
Startup_ Adaptiveness	Below 10	4	9.75	3.69	6.114214	0.001**	Significant
	10-20	49	11.06	5.12			
	20-30	89	11.09	4.81			
	30-40	84	12.07	4.73			
	40-50	68	8.46	3.72			
	Above 50	16	12.25	5.48			
	Total	**310**	**10.82**	**4.80**			
Financial Performance	Below 10	4	15.50	0.58	10.493	<0.001**	Significant
	10-20	49	11.90	5.34			
	20-30	89	12.74	4.91			
	30-40	84	12.13	5.09			
	40-50	68	14.88	4.44			
	Above 50	16	12.25	5.35			
	Total	**310**	**12.92**	**5.02**			

Source: Primary

4.7.5.1. Multiple Comparisons of the Number of Employees on Startup Adaptiveness and Performance

Table 4.58 shows the result of the post hoc test conducted to determine the relationship between several employees on adaptiveness and financial performance. In the first section, the analysis found a significant difference between the "30-40" and "40-50" employee groups with a p-value of less than 0.05 (<0.001), as well as between the "20-30" and "40-50" groups with a p-value of 0.002. Alternatively, no significant group differences were observed among the other employee groups. It is noteworthy that the "30-40" employee group exhibited the highest average score of 3.62 compared to the "40-50" group.

Regarding financial performance, the Games-Howell test indicates significant differences between the "below 10" employee group and the "10-20" group (p-value of 0.001), between the "below 10" group and the "20-30" group (p-value of 0.001), as well as between the "below 10" group and the "30-40" group (p-value of <0.001).

Moreover, the "40-50" employee group demonstrated a significant relationship with the "10-20" group (p-value of 0.023) and the "30-40" group (p-value of 0.007). Consequently, it can be concluded that the "below 10" employee group exhibited the highest concentration of startup performance in comparison to the other groups.

4.7.6. Sector on Innovation, Startup Performance, and Adaptiveness

The researcher evaluated to determine if there are significant differences in innovation, adaptiveness, and performance among different sectors of new ventures. Based on that, the following hypotheses were formulated:

H16: There is a significant difference among sectors in innovation, startup adaptiveness, and financial performance.

H16a: There is a significant difference among sectors in innovation.

H16b: There is a significant difference among sectors in startup adaptiveness.

H16c: There is a significant difference among sectors in financial performance.

Table 4.58

Post Hoc Test on Number of Employees on Startup Adaptiveness and Financial Performance

Startup Adaptiveness					Financial Performance				
I	**J**	**(I-J)**	**SE**	**Sig.**	**I**	**J**	**(I-J)**	**SE**	**Sig.**
Below 10	10-20	-1.31122	1.98269	0.978	Below 10	10-20	3.60204*	0.8156	0.001
	20-30	-1.33989	1.91192	0.971		20-30	2.75843*	0.5949	0.001
	30-40	-2.32143	1.91363	0.813		30-40	3.36905*	0.6258	0.000
	40-50	1.29412	1.89729	0.973		40-50	0.61765	0.6113	0.912
	Above 50	-2.50000	2.29674	0.872		Above 50	3.25000	1.3678	0.221
10-20	Below 10	1.31122	1.98269	0.978	10-20	Below 10	-3.60204*	0.8156	0.001
	20-30	-0.02866	0.89153	1.000		20-30	-0.84361	0.9233	0.942
	30-40	-1.01020	0.89519	0.868		30-40	-0.23299	0.9435	1.000
	40-50	2.60534*	0.85970	0.037		40-50	-2.98439*	0.9339	0.023
	Above 50	-1.18878	1.55383	0.971		Above 50	-0.35204	1.5393	1.000
20-30	Below 10	1.33989	1.91192	0.971	20-30	Below 10	-2.75843*	0.5949	0.001
	10-20	0.02866	0.89153	1.000		10-20	0.84361	0.9233	0.942
	30-40	-0.98154	0.72509	0.754		30-40	0.61062	0.7608	0.967
	40-50	2.63401*	0.68080	0.002		40-50	-2.14078	0.7490	0.054
	Above 50	-1.16011	1.46246	0.965		Above 50	0.49157	1.4346	0.999

Startup Adaptiveness				
I	**J**	**(I-J)**	**SE**	**Sig.**
30-40	Below 10	2.32143	1.91363	0.813
	10-20	1.01020	0.89519	0.868
	20-30	0.98154	0.72509	0.754
	40-50	3.61555*	0.68558	0.000
	Above 50	-0.17857	1.46469	1.000
40-50	below 10	-1.29412	1.89729	0.973
	10-20	-2.60534*	0.85970	0.037
	20-30	-2.63401*	0.68080	0.002
	30-40	-3.61555*	0.68558	0.000
	Above 50	-3.79412	1.44328	0.140
Above 50	below 10	2.50000	2.29674	0.872
	10-20	1.18878	1.55383	0.971
	20-30	1.16011	1.46246	0.965
	30-40	0.17857	1.46469	1.000
	40-50	3.79412	1.44328	0.140

Financial Performance				
I	**J**	**(I-J)**	**SE**	**Sig.**
30-40	Below 10	-3.36905*	0.6258	0.000
	10-20	0.23299	0.9435	1.000
	20-30	-0.61062	0.7608	0.967
	40-50	-2.75140*	0.7738	0.007
	Above 50	-0.11905	1.4477	1.000
40-50	below 10	-0.61765	0.6113	0.912
	10-20	2.98439*	0.9339	0.023
	20-30	2.14078	0.7490	0.054
	30-40	2.75140*	0.7738	0.007
	Above 50	2.63235	1.4415	0.472
Above 50	below 10	-3.25000	1.3678	0.221
	10-20	0.35204	1.5393	1.000
	20-30	-0.49157	1.4346	0.999
	30-40	0.11905	1.4477	1.000
	40-50	-2.63235	1.4415	0.472

Source: Primary

*The mean difference is significant at the 0.05 level

Table 4.59

ANOVA Table Showing Sector and Innovation, Startup Adaptiveness, and Financial Performance

		N	Mean	SD	F	P	Remarks
Innovation	Software	137	15.0073	4.27973	1.815	0.126	Insignificant
	Health-Tech	36	14.0000	4.81070			
	Edtech	49	13.5306	4.18381			
	Hardware	68	13.6618	4.35242			
	Others	20	14.9000	3.62593			
	Total	**310**	**14.3548**	**4.33058**			
Startup_ adaptiveness	Software	137	10.6496	4.84251	15.873	<0.001**	Significant
	Health-Tech	36	15.0833	3.40902			
	Edtech	49	10.0408	4.43452			
	Hardware	68	10.1471	4.66574			
	Others	20	8.4500	3.95335			
	Total	**310**	**10.8161**	**4.80241**			
Financial Performance	Software	137	13.1095	4.91797	9.838	<0.001**	Significant
	Health-tech	36	8.3889	3.99484			
	Edtech	49	14.1633	4.56594			
	Hardware	68	13.6912	4.93013			
	Others	20	14.1500	4.72702			
	Total	**310**	**12.9226**	**5.02168**			

Source: Primary
**significance@1%

Table 4.59 indicates the results of the analysis of the variance of innovation, startup adaptiveness, and performance across different sectors of startup companies. As per the findings, there are no significant differences in innovation between the sectors ($F(4,305) = 1.815$, $p = 0.126$).

Moreover, the relationship between sector and startup adaptability (Welch's $F(4,86.6) = 15.873$, $p < 0.001$). This shows that there are considerable differences

between sectors and startup adaptiveness. Similar to this, the mean startup adaptability scores for the various industries are as follows: software (10.6496), health-tech (15.0833), edtech (10.0408), hardware (10.1471), and others (8.4500). The overall mean score for startup adaptability across all sectors is 10.8161. The research shows a substantial difference in startup adaptability. In the final section of Table 4.59, the result indicates that there are notable differences in how each sector performed (F (4,305) = 9.838, p =0.001). The mean scores for the various sectors are listed as follows: software (13.1095), health-tech (8.3889), edtech (14.1633), hardware (13.6912), and others (14.1500). This shows that there are large differences between the mean performance scores for various industries.

4.7.6.1. Multiple Comparisons on the Relationship Between Sectors on Adaptiveness and Financial Performance

The post hoc results for the sector-adaptiveness relationships (Games Howell because it deviates from the homogeneity assumption) and the sector-startup performance relationship (Scheffe because it adheres to the homogeneity assumption) are presented in Table 4.60. The distinctions between each group are described in detail below.

Table 4.60 shows the results of the post hoc test conducted between the sector of startups (an independent variable) and the startup's adaptiveness and performance (a dependent variable). It is clear from the result that there is a significant difference in the startup adaptiveness of the respondents concerning their sector. Startup adaptiveness is significantly different between 'Health Tech and Software, 'Health Tech and Hardware', 'Health Tech and EdTech', and Health Tech and Others', with a p-value less than 0.05 (<0.001). Among all these sectors, health tech placed the most preference on startup adaptiveness compared to other sectors.

The next section of Table 4.60 shows the result of the post hoc test conducted to determine the relationship between the sector and financial performance. Startup performance is significantly different among the respondents concerning various sectors. There exists a significant difference in startup performance in the 'software and health tech', hardware and health tech', edtech and health tech', and others and health tech'. As per the analysis, it is clear that education technology startups

possessed a higher mean score compared with health tech startup companies (5.77). Thus, it can be concluded that the sector and innovation are insignificant, and financial performance and adaptability are significant.

Table 4.60

Post Hoc Analysis on Sector and Startup Adaptiveness and Financial Performance

Startup Adaptiveness					Financial Performance				
(I)	**(j)**	**(I-J)**	**SE**	**Sig.**	**(I)**	**(j)**	**(I-J)**	**SE**	**Sig.**
Software	Health-tech	-4.43370*	0.70	0.000	Software	Health-tech	4.72060*	0.89	0.000
	Edtech	0.60882	0.76	0.929		Edtech	-1.05378	0.79	0.778
	Hardware	0.50258	0.70	0.952		Hardware	-0.58169	0.71	0.954
	Others	2.19964	0.98	0.190		Others	-1.04051	1.14	0.933
Health-tech	Software	4.43370*	0.70	0.000	Health-tech	Software	-4.72060*	0.89	0.000
	Edtech	5.04252*	0.85	0.000		Edtech	-5.77438*	1.04	0.000
	Hardware	4.93627*	0.80	0.000		Hardware	-5.30229*	0.98	0.000
	Others	6.63333*	1.05	0.000		Others	-5.76111*	1.33	0.001
Edtech	Software	-0.60882	0.76	0.929	Edtech	Software	1.05378	0.79	0.778
	Health-tech	-5.04252*	0.85	0.000		Health-tech	5.77438*	1.04	0.000
	Hardware	-0.10624	0.85	1.000		Hardware	0.47209	0.89	0.991
	Others	1.59082	1.09	0.592		Others	0.01327	1.26	1.000
Hardware	Software	-0.50258	0.70	0.952	Hardware	software	0.58169	0.71	0.954
	Health-tech	-4.93627*	0.80	0.000		Health-tech	5.30229*	0.98	0.000
	Edtech	0.10624	0.85	1.000		Edtech	-0.47209	0.89	0.991
	Others	1.69706	1.05	0.497		Others	-0.45882	1.21	0.998
Others	Software	-2.19964	0.98	0.190	Others	Software	1.04051	1.14	0.933
	Health-tech	-6.63333*	1.05	0.000		Health-tech	5.76111*	1.33	0.001
	Edtech	-1.59082	1.09	0.592		Edtech	-0.01327	1.26	1.000
	Hardware	-1.69706	1.05	0.497		Hardware	0.45882	1.21	0.998

Source: Primary
*Mean difference is significant at 0.05 level.

4.7.7. Funding Sources: Innovation, Financial Performance, and Adaptiveness

To compare innovation, startup adaptiveness, and financial performance between the funding sources of the respondents, the researcher set the following hypotheses:

H17: There is a significant difference among funding sources on innovation, startup adaptiveness, and financial performance.

H17a: There is a significant difference in funding sources for innovation.

H17b: There is a significant difference among funding sources on startup adaptiveness.

H17c: There is a significant difference among funding sources in financial performance.

Table 4.61

ANOVA Table on Funding Source and the Dimension of Startup Performance

Sector	Sector	N	Mean	SD	F	P	Remarks
Innovation (Welch's F)	Own funding	117	15.248	3.9214	3.548	0.0164*	Significant
	Seed money	86	13.907	4.9101			
	Friends and family	69	14.058	4.2802			
	Angel or VC	38	13.158	3.8381			
	Total	**310**	**14.355**	**4.3306**			
Startup_ Adaptiveness	Own funding	117	10.350	4.8054	2.261	0.081	Insignificant
	Seed money	86	11.209	4.8534			
	Friends and family	69	11.768	4.8055			
	Angel or VC	38	9.632	4.4139			
	Total	**310**	**10.816**	**4.8024**			
Financial Performance	Own funding	117	12.735	4.8803	2.008	0.113	Insignificant
	Seed money	86	13.221	5.1344			
	Friends and family	69	12.043	5.3177			
	Angel or VC	38	14.421	4.3968			
	Total	**310**	**12.923**	**5.0217**			

Source: Primary
**significance@1%

The results of a one-way ANOVA were displayed in Table 4.61 to determine whether there were significant variations in the respondents' funding sources concerning innovation, startup adaptability, and financial performance. The results indicated that sources of funding have a significant effect on innovation (Welch's F (3,128.4) is 3.548 and the P value is 0.0164) since the p-value is less than 0.05. Likewise, startup adaptiveness and funding sources are insignificant at the 5% level (F (3,306) of 2.261 and a p-value of 0.081, which is more than 0.05. In the case of financial performance, the F (3,306) value is 2.008 and the P value is 0.113, which is insignificant at the 5 percent level. Hence, it can be concluded that there is a significant difference only in innovation concerning the funding sources of respondents. Hence, the research hypothesis H24a is supported and H24b and H24c are not.

4.7.7.1. Multiple Comparisons of Innovation and Funding Sources

Table 4.62

Post Hoc Test on Funding Source and Innovation

I	J	Mean Difference (I-J)	SE	Sig.
Own funding	Seed money	1.34089	0.64169	0.161
	Friends and family	1.18989	0.63003	0.238
	Angel or VC	2.08997*	0.72048	0.026
Seed money	Own funding	-1.34089	0.64169	0.161
	Friends and family	-0.15099	0.73881	0.997
	Angel or VC	0.74908	0.81731	0.796
Friends and family	Own funding	-1.18989	0.63003	0.238
	Seed money	0.15099	0.73881	0.997
	Angel or VC	0.90008	0.80819	0.682
Angel investment or VC	Own funding	-2.08997*	0.72048	0.026
	Seed money	-0.74908	0.81731	0.796
	Friends and family	-0.90008	0.80819	0.682

Source: Primary
*Mean difference is significant at 0.05 level.

Table 4.62 shows the results of the post hoc test conducted between the source of funding of the respondents (an independent variable) and the innovation of startup companies (a dependent variable). The result shows that there is a significant difference in innovation between the categories 'angel investment or venture capital and 'own fundings'. In all other categories, the difference in innovation is insignificant. It is also clear that own funding has possessed the highest mean score compared to angel investment or venture capitalists (mean: 2.08).

4.7.8. Motivation for Innovation, Financial Performance, and Adaptiveness

The researcher applied a one-way ANOVA test to compare the innovation, startup adaptiveness, and financial performance between the motivations of the respondents. Thus, the following hypotheses were formulated:

Table 4.63

ANOVA Table on Motivation and Innovation, Performance and Adaptiveness

Constructs	Categories	N	Mean	SD	F	P	Remarks
Innovation	Job security	63	14.5556	4.14565	0.4907	0.6890	Insignificant
	Wealth maximization	94	14.2447	4.63666			
	Create income	70	14.7714	4.34115			
	Serve the society	83	13.9759	4.13485			
	Total	**310**	**14.3548**	**4.33058**			
Startup_ adaptiveness	Job security	63	11.6984	4.73026	1.4335	0.2330	Insignificant
	Wealth maximization	94	11.0000	4.98816			
	Create income	70	10.6429	4.59374			
	Serve the society	83	10.0843	4.77597			
	Total	**310**	**10.8161**	**4.80241**			
Financial Performance	Job security	63	11.7619	4.89804	4.3634	0.005**	Significant
	Wealth maximization	94	13.1383	5.16939			
	Create income	70	11.9857	5.13723			
	Serve the society	83	14.3494	4.52482			
	Total	**310**	**12.9226**	**5.02168**			

Source: Primary

H18: There is a significant difference between motivation for innovation, startup adaptiveness, and financial performance.

H18a: There is a significant difference between motivation and innovation.

H18b: There is a significant difference between motivation and startup adaptiveness.

H18c: There is a significant difference between motivation and financial performance.

Table 4.63 shows the result of a one-way ANOVA conducted to find out whether there is a significant difference in innovation, startup adaptiveness, and performance concerning the motivation of the respondents. From the analysis, it is clear that there is no significant connection between motivation and innovation (F value (3,306) = 0.4907 and P value = 0.689), which is insignificant at the 5 percent level. Furthermore, the result reveals that there is no connection between adaptiveness and motivation (F value (3,306) = 1.433 and P value = 0.2330), which is insignificant at the 5 percent level. In the case of startup performance, the F value (3,306) is 4.3634 and the P value is 0.005, which is significant at the 5 percent level. Hence, it can be concluded that there is a significant difference only in startup performance concerning the motivation of the respondents (F = 4.3634, p =0.0050*). But in the case of innovation (F =0.4907, p > 0.05) and startup adaptiveness (F = 1.4335, p > 0.05), there is no significant difference concerning the motivation of the respondents. Thus, the research hypothesis is that H25c is supported while H25a and H25b are not.

4.7.8.1. Multiple Comparison of Motivation and Financial Performance

Table 4.64

Post Hoc on Motivation and Financial Performance

(I) Motivation	(J) Motivation	(I-J)	SE	Sig.
Job security	Wealth maximization	-1.37639	0.80461	0.405
	Create income	-0.22381	0.85818	0.995
	Serve the society	-2.58749*	0.82573	0.021

(I) Motivation	(J) Motivation	(I-J)	SE	Sig.
Wealth maximization	Job security	1.37639	0.80461	0.405
	Create income	1.15258	0.78015	0.536
	Serve the society	-1.21110	0.74431	0.450
Create income	Job security	0.22381	0.85818	0.995
	Wealth maximization	-1.15258	0.78015	0.536
	Serve the society	-2.36368*	0.80192	0.035
Serve the society	Job security	2.58749*	0.82573	0.021
	Wealth maximization	1.21110	0.74431	0.450
	Create income	2.36368*	0.80192	0.035

Source: Primary
*Mean difference is significant at 0.05 level.

Table 4.64 shows the results of the post hoc test conducted between the motivation of the respondents (an independent variable) and the startup performance (a dependent variable). The result shows that there is a significant difference in startup performance between the categories ' serve ' society' and job security'—'serve society' and 'create income' (p = 0.021 and 0.35, respectively). In all other categories, the difference in startup performance is insignificant.

4.8. Handling Liability of Newness (LON) Among Startup Companies

The concept of the liability of newness has a wide concern in the current academic literature. The term was first coined by Stinchcombe in 1965 (Abatecola et al., 2012). In a general sense, it is the initial difficulties faced by the new ventures that lead to the failure of their business (Ulvenblad et al., 2013). It may arise due to various factors such as barriers to entry, difficulty in laws and regulations, difficulty in competing with customers, lack of administrative records, poor clarity on their roles, etc.

The current research focuses on the Aldrich & Auster (1986) classification of liability for newness, namely internal liability for newness and external liability for newness. Internal liability for newness consists of developing administrative routines, clarifying roles and functions, lacking informal structures, and communicating vision to the employees. Likewise, external liabilities include judging market potential, handling

marketing, securing equipment and machines, establishing contacts with suppliers, etc.

Further, academic research on entrepreneurship provided several contributions to handling the liability of newness, such as academic education and previous experiences (Ulvenblad et al., 2013), financial bootstrapping (Winborg, 2015), social capital (Laursen et al., 2016), entrepreneurial competencies (Abatecola & Uli, 2016), etc. The current research begins by evaluating prior experience and academic education on handling the liability of newness. Apart from that, it adds to the academic literature by evaluating the involvement of business incubation centres, firm resources (intellectual capital and entrepreneurial bricolage), entrepreneurial capabilities (knowledge management, dynamic capabilities, and networking capabilities), and marketing strategies (market orientation and marketing information acquisition) in handling both the liability of newness.

The researcher also checks whether the age of the business and liabilities are related by using the ANOVA test. The detailed description of each variable in handling both internal liability and external liability of newness is discussed below.

4.8.1. Educational Qualification and Liability of Newness

To compare the two levels of liability of newness—internal and external liabilities—between respondents of educational qualification, the researcher fixed the following hypotheses:

H19: There is a significant difference between educational qualifications and internal and external liability for newness.

H19a: There is a significant difference between educational qualifications and the internal liability of newness.

H19b: There is a significant difference between educational qualifications and the external liability of newness.

Table 4.65 shows the result of a one-way ANOVA test conducted to test the significance of the difference in the two categories of liability of newness among the

respondents with different educational qualifications. The F value corresponding to the internal liability of newness is Welch's F (3,79.337) =41.692, p<0.001, which is significant at the 0.01 level. In the case of external liability of newness, Welch's F (3,83.56) =3.316, p = 0.030, which is significant at the 0.05 level. Hence, the research hypotheses H26a and H26b are supported. Thus, the study follows the findings of Ulvenblad et al. (2013).

Table 4.65

Analysis of Variance of Liability of Newness and Educational Qualification of Founders

Constructs	Category	N	Mean	SD	F value	P value	Remarks
ILON	Arts and Science	61	9.60	4.075	41.69	<0.001**	Significant
	IITs/NITs	110	8.49	3.188			
	IIMs	118	14.00	4.475			
	Others	21	13.14	4.258			
	Total	**310**	**11.12**	**4.684**			
ELON	Arts and Science	61	15.65	4.167	3.136	0.030*	Significant
	IITs/NITs	110	14.70	4.217			
	IIMs	118	16.23	3.386			
	Others	21	16.19	3.140			
	Total	**310**	**15.57**	**3.884**			

Source: Primary
*significance@5%
**significance@1%

4.8.1.1. Multiple Comparisons of Educational Qualifications & the Liability of Newness

Table 4.66 shows the results of the post hoc test conducted between different categories of educational qualification—qualified from Arts and Science colleges, IITs/NITs, IIMs, and others—as independent variables and the two categories of liability of newness—internal and external liabilities as dependent variables. It is

evident from the results that internal liabilities significantly differ between 'IIMs—Arts and Science Colleges, IIMs—IITs/NITs, 'Others—Arts and Science Colleges' and 'Others and IITs/NITs. It is also found that the mean score of internal liabilities is highly concentrated on IIMs, IITs, and NITs. So, it can be inferred that the internal liabilities can be effectively managed based on their educational qualifications. Similarly, it is found that external liabilities significantly differ between 'IIMs and IITs/ NITs', and all the other groups of educational qualifications are not significantly different as per the results of the post hoc test. Further, researchers can conclude that IIM-qualified founders have more external liabilities than IITs or NITs (mean: 1.52). Thus, both internal and external liabilities of newness are better handled by those founders who possess higher educational qualifications.

Table 4.66

Post -Hoc Test of Liability of Newness and Educational Qualification of Founders

Internal Liability of Newness					External Liability of Newness				
(I)	**(J)**	**(I-J)**	**SE**	**Sig.**	**(I)**	**(J)**	**(I-J)**	**SE**	**Sig.**
Arts and Science	IITs/NITs	1.11	0.60	0.2	Arts and Science	IITs/NITs	0.946	0.66	0.49
	IIMs	-4.40*	0.66	0.0		IIMs	-0.581	0.61	0.78
	Others	-3.53*	1.06	0.0		Others	-0.534	0.86	0.92
IITs/NITs	Arts and Science	-1.11	0.60	0.2	IITs/NITs	Arts and Science	-0.946	0.66	0.49
	IIMs	-5.51*	0.51	0.0		IIMs	-1.52*	0.50	0.01
	Others	-4.65*	0.97	0.0		Others	-1.48	0.79	0.26
IIMs	Arts and Science	4.40*	0.66	0.0	IIMs	Arts and Science	0.58	0.61	0.78
	IITs/NITs	5.51*	0.51	0.0		IITs/NITs	1.52*	0.50	0.01
	Others	0.86	1.01	0.8		Others	0.04	0.75	1
Others	Arts and Science	3.53*	1.06	0.0	Others	Arts and Science	0.53	0.86	0.92
	IITs/NITs	4.65*	0.97	0.0		IITs/NITs	1.48	0.79	0.26
	IIMs	-0.86	1.01	0.8		IIMs	-0.04	0.75	1

Source: Primary

*Mean difference is significant at 0.05 level

4.8.2. Prior Experience and Liability of Newness

The researcher conducted an analysis of variance (ANOVA) test to evaluate the relationship between prior experience and the two levels of liability of newness—internal and external liabilities. Based on that, the following hypotheses are formulated:

There is a significant difference between prior experience and the internal and external liabilities of newness.

H20a: There is a significant difference between prior experience and the internal liability of newness.

H20b There is a significant difference between prior experience and the external liability of newness.

Table 4.67

ANOVA Test of Liability of Newness and Prior Experience of Founders

Constructs	Categories	N	Mean	SD	F value	P value	Remarks
ILON	Zero	32	10.656	4.929	0.237	0.871	Insignificant
	1-3	38	10.816	4.649			
	3-5	98	11.347	4.532			
	Above 5	142	11.162	4.778			
	Total	**310**	**11.126**	**4.684**			
ELON	Zero	32	14.125	3.661	4.64	0.004**	Significant
	1-3	38	15.921	3.582			
	3-5	98	16.500	3.253			
	Above 5	142	15.176	4.266			
	Total	**310**	**15.577**	**3.884**			

Source: Primary
**significance@1%

Table 4.67 analyses the significant difference between internal and external liabilities and the prior experience of the sample respondents. In the case of internal liability of newness (p-value 0.871), the research hypothesis is not supported (H20a). Hence, it

is proven that there is no significant difference between the occurrence of internal liabilities and the prior experience of founders. In the case of external liability due to newness, the p-value is 0.004. As its p-value is below 05, the research hypothesis is supported (H20b), and it is concluded that there is a significant difference between prior experience and external liabilities. A detailed analysis is given in Table 4.69 (post-hoc analysis).

4.8.2.1. Multiple comparisons of prior experience and the liability of newness

Table 4.68

Post hoc test of external liability of newness and prior experience of founders

(I) Prior business experience	(J) Prior business experience	Mean Difference	Std. Error	Sig.
Zero	1-3	-1.79605	0.86978	0.175
	3-5	-2.37500*	0.72583	0.010
	Above 5	-1.05106	0.73962	0.492
1-3	Zero	1.79605	0.86978	0.175
	3-5	-0.57895	0.66757	0.822
	Above 5	0.74500	0.68254	0.696
3-5	Zero	2.37500*	0.72583	0.010
	1-3	0.57895	0.66757	0.822
	Above 5	1.32394*	0.48598	0.035
Above 5	Zero	1.05106	0.73962	0.492
	1-3	-0.74500	0.68254	0.696
	3-5	-1.32394*	0.48598	0.035

Source: Primary
*Mean difference is significant at 0.05 level.

Table 4.68 illustrates the post hoc analysis of external liability and the prior experience. A significant difference can be noted between prior experiences with 3-5 years of experience and zero (p-value = 010) and 3-5 years of experience and above 5 years of experience (p-value = 0.035). Thus, founders with zero prior experience are least affected by the external liability of newness. While sample respondents with 3–

5 years of experience are more affected by external liabilities, Hence, as prior experience increases, the occurrence of external liabilities also decreases.

4.8.3. Business Incubation and Liability of Newness

In this section, the researcher evaluated the relationship between the liability of newness and business incubation. Incubated and non-incubated startups are taken as major classifications. A t-test is employed to test whether there is any significant difference between the liability of newness and business incubation. The research hypothesis is as follows:

H21: There is a significant difference between business incubation and internal and external liability for newness.

H21a: There is a significant difference between business incubation and the internal liability of newness.

H21b: There is a significant difference between business incubation and external liability for newness.

Table 4.69

Independent sample t-test on the liability of newness and business incubation

Constructs	Categories	N	Mean	SD	t vale	p-value	Remarks
ILON	Incubated	183	8.978	3.651	-11.27	<0.001**	Significant
	Non incubated	127	14.220	4.267			
ELON	Incubated	183	15.191	4.121	-2.18	0.030*	Significant
	Non incubated	127	16.134	3.456			

Source: Primary
*significance@5%
**significance@1%

Academic literature on entrepreneurship and new ventures concentrated on evaluating whether business incubation centres can handle the liability of newness among startup companies, and Winborg (2015) found that incubated startups can handle these liabilities easier because of the involvement of expert advice, physical space, and

connecting with funding agencies. Thus, the researcher would like to know if there are any significant differences between them.

Table 4.69 exhibits that both internal and external liabilities of newness have significant differences among incubated and non-incubated startup companies. As the p-value (<0.001 for internal liability of newness and 0.030 for external liability of newness). Further, it can be inferred that non-incubated startups are more affected by both internal and external liabilities of newness (mean: 14.22 and 16.134, respectively). Thus, the study supports the findings of Winborg (2015).

4.8.4. Year of Establishment and Liability of Newness

Table 4.70 explains the result of the ANOVA conducted to determine the relationship between firm age and the liability of newness. Based on that, the following hypotheses were formulated:

H22: There is a significant difference between the year of establishment and the internal and external liabilities of newness.

H22a: There is a significant difference among years of establishment in the internal liability of newness.

H22b: There is a significant difference among years of establishment in the external liability of newness.

Table 4.70

Analysis of variance on the liability of newness and year of establishment

		N	Mean	SD	F	P	Remarks
ILON	Before 2015	12	8.500	3.477	2.4281	0.048*	Significant
	2015-16	118	10.924	4.694			
	2016-17	68	12.397	4.788			
	2017-18	100	10.790	4.749			
	After 2018	12	11.333	2.871			
	Total	**310**	**11.126**	**4.684**			

		N	Mean	SD	F	P	Remarks
ELON	Before 2015	12	17.167	2.552	2.2712	0.062	Insignificant
	2015-16	118	15.263	4.058			
	2016-17	68	16.544	3.444			
	2017-18	100	15.250	3.904			
	After 2018	12	14.333	4.519			
	Total	**310**	**15.577**	**3.884**			

Source: Primary
**significance@5%*

Table 4.70 analyses whether there is any significant difference between the age of the company and the internal and external liability of newness. In the case of internal liability due to newness, the p-value is less than 0.05 (0.048). Hence, we can conclude that there is a significant difference between the occurrence of internal liability due to newness and the age of the firm (F (4,305) =2.428, p = 0.048). It is also clear that internal liabilities are more concentrated on newly established ventures (mean: 11.33). So, it can be concluded that internal liabilities decrease gradually as they grow. In the case of external liability of newness, the p-value is 0.062, which is more than.05. Thus, the research hypothesis is not supported, and we can conclude that there is a significant difference between internal liabilities and the age of the startup companies and an insignificant difference between external liabilities and the age of the startup companies. The Scheffe test is done for post hoc analysis.

4.8.4.1. Multiple Comparison on Internal Liability of Newness and Year of Establishment

According to the results of the ANOVA test, there are considerable differences between the internal liability of newness and year of establishment, including before 2015, 2015-16, 2016-17, 2017-18, and after 2018. Therefore, the researcher wanted to know whether there were any group differences among them. It was discovered that there were no differences because the significance value was more than 0.05.

Table 4.71

Post Hoc Analysis on Internal Liability of Newness and Year of Establishment

(I) year of establishment	(J) year of establishment	Mean Difference (I-J)	Std. Error	Sig.
Before 2015	2015-16	-2.4237	1.4064	0.564
	2016-17	-3.8971	1.4533	0.129
	2017-18	-2.2900	1.4180	0.626
	After 2018	-2.8333	1.8949	0.693
2015-16	Before 2015	2.4237	1.4064	0.564
	2016-17	-1.4733	0.7067	0.363
	2017-18	0.1337	0.6309	1.000
	After 2018	-0.4096	1.4064	0.999
2016-17	Before 2015	3.8971	1.4533	0.129
	2015-16	1.4733	0.7067	0.363
	2017-18	1.6071	0.7296	0.305
	After 2018	1.0637	1.4533	0.970
2017-18	Before 2015	2.2900	1.4180	0.626
	2015-16	-0.1337	0.6309	1.000
	2016-17	-1.6071	0.7296	0.305
	After 2018	-0.5433	1.4180	0.997
After 2018	Before 2015	2.8333	1.8949	0.693
	2015-16	0.4096	1.4064	0.999
	2016-17	-1.0637	1.4533	0.970
	2017-18	0.5433	1.4180	0.997

Source: Primary
*Mean difference is significant at 0.05 level.

4.8.5. Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Handling the Liability of Newness among Startup Companies

In this section, the researcher evaluated ways of handling the liability of newness by incorporating resources, entrepreneurial capabilities, and marketing strategies. For that, the following hypotheses are formulated:

H23: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the internal liability of newness.

H23a: There is an inverse correlation between intellectual capital and the internal liability of newness.

H23b: There is an inverse correlation between entrepreneurial bricolage and the internal liability of newness.

H23c: There is an inverse correlation between entrepreneurial orientation and the internal liability of newness.

H23d: There is an inverse correlation between knowledge management capabilities and internal liability for newness.

H23e: There is an inverse correlation between dynamic capabilities and the internal liability of newness.

H23f: There is an inverse correlation between networking capabilities and the internal liability of newness.

H23g: There is an inverse correlation between market information acquisition and internal liability for newness.

H23h: There is an inverse correlation between market orientation and the internal liability of newness.

Table 4.72

Correlation table showing firm resources, entrepreneurial capabilities, and marketing strategies on internal and external liability of newness

Constructs	Internal Liability of Newness			External Liability of Newness		
	Correlation	p-value	Remarks	correlation	p-value	Remarks
Intellectual capital	-.291**	<0.001**	Significant	-0.082	0.149	Insignificant
Entrepreneurial bricolage	-.270**	<0.001**	Significant	-0.056	0.324	Insignificant

Constructs	Internal Liability of Newness			External Liability of Newness		
	Correlation	p-value	Remarks	correlation	p-value	Remarks
Entrepreneurial orientation	-3.77	<0.001**	Significant	0.118	.037.	Significant
Knowledge management capabilities	0.029	0.615	Insignificant	.991**	<0.001**	Significant
Dynamic capabilities	-.394**	<0.001**	Significant	-0.048	0.401	Insignificant
networking capabilities	-.218**	<0.001**	Significant	-0.034	0.546	Insignificant
Market information acquisition	.114*	0.046*	Significant	0.055	0.331	Insignificant
Market orientation	.355**	<0.001**	Significant	.205**	<0.001**	Significant

Source: Primary
*significance@5%
**significance@1%

H24: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the external liability of newness.

H24a: There is an inverse correlation between intellectual capital and the external liability of newness.

H24b: There is an inverse correlation between entrepreneurial bricolage and the external liability of newness.

H24c: There is an inverse correlation between entrepreneurial orientation and the external liability of newness.

H24d: There is an inverse correlation between knowledge management capabilities and external liability for newness.

H24e: There is an inverse correlation between dynamic capabilities and the external liability of newness.

H24f: There is an inverse correlation between networking capabilities and the external liability of newness.

H24g: There is an inverse correlation between market information acquisition and external liability for newness.

H24h: There is an inverse correlation between market orientation and the external liability of newness.

As per Table 4.72, the researcher conducted Pearson correlations between various resources, capabilities, and marketing strategies in handling the liability of newness. The table is divided into three sections. First, researchers assessed how entrepreneurial bricolage and intellectual capital were used to manage the risk associated with newness, finding a negative correlation between these resources and internal liability. Consequently, the internal liability of newness may decrease as intellectual capital and entrepreneurial bricolage grow (Pearson correlation for intellectual capital is -.291, $p<0.001$, and entrepreneurial bricolage is -.270, $p<0.001$). Additionally, it's evident that in both circumstances, the impact of entrepreneurial bricolage, intellectual capital, and external liabilities is insignificant at $p > 0.05$.

Researchers also assessed whether entrepreneurial orientation can handle the liability of newness among startup companies. Likewise, there's a negative correlation between founders' entrepreneurial orientation and internal and external liabilities, with the correlation for internal liabilities being -3.77, $p<0.001$, and for external liabilities being -0.118, $p=0.037$. Accordingly, the study supported the findings of Abatecola and Uli (2016) and found that as entrepreneurial orientation rises, external and internal liabilities could decrease.

Regarding different capabilities, networking capabilities and dynamic capabilities both have a negative relationship with the internal liability of newness. In other words, internal liabilities can be reduced as founders' dynamic capacities grow (Pearson correlation: -.394, $p<0.001$). The ability to network and internal liabilities also have a negative correlation (Pearson correlation: -2.18, $p<0.001$). Furthermore, there's no significant relationship between internal liabilities and knowledge management capabilities with a p-value greater than 0.05.

Finally, market orientation and market information strategies are significant at a p-value less than 0.05, but they contribute to a positive correlation. This finding contradicts the studies of Chorev and Anderson (2006), which state that when marketing efforts increase, firms can reduce liabilities. As a result, this study suggests that by utilising firm resources and abilities, it's possible to lower internal liabilities associated with newness to a certain amount, whereas external liabilities are more closely related to factors outside the control of the firm. Additionally, marketing strategies didn't offer enough assistance to young businesses in managing the risks associated with their inexperience.

4.9. Summary of hypotheses

From the discussion above, there are twenty-four main hypotheses about the first and second objectives. Table 4.73 presents an overview of the results for each of the twenty-four hypotheses. In this case, "×" denotes statistically insignificant relationships, whereas "✓" indicates that there is a significant relationship between the dependent and independent variables.

Table 4.73

Summary of hypotheses (Firm and Founder characteristics on Resources, Capabilities, and Strategies)

			Intellectual Capital(a)	Entrepreneurial Bricolage(b)	Entrepreneurial Orientation(c)	Knowledge Management(d)	Dynamic capabilities(e)	Networking Capabilities(f)	Market orientation(g)	Market Information(h)	Tools used
H1	**Founder characteristics**	Gender	×	×	✓	×	×	✓	×	×	Independent Sample t-test
H2		Age of respondents	✓	✓	✓	×	✓	×	✓	×	ANOVA
H3		Educational Qualification	✓	✓	✓	✓	✓	✓	✓	✓	ANOVA
H4		Previous experience	×	×	×	✓	×	×	×	×	ANOVA
H5	**Startup Characteristics**	Incubation	✓	✓	✓	✓	✓	✓	✓	✓	Independent Sample t-test
H6		Legal form of business	✓	✓	✓	×	✓	✓	✓	×	ANOVA
H7		Number of employees	×	×	×	×	×	×	✓	×	ANOVA
H8		Sector	✓	✓	✓	✓	✓	✓	✓	×	ANOVA
H9		Funding Source	×	✓	×	×	×	×	×	×	ANOVA
H10		Motivation	×	×	✓	×	×	×	✓	×	ANOVA

Table 4.74

Summary of hypotheses (Firm and Founder characteristics on Innovation, Adaptiveness, and financial performance)

			Innovation (a)	Startup Adaptiveness (b)	Financial Performance (c)	Tools used
H11	**Founder characteristics**	Gender	×	✓	×	Independent Sample t-test
H12		Educational Qualification	×	×	✓	ANOVA
H13		Previous experience	×	✓	✓	ANOVA
H14	**Startup Characteristics**	Incubation	×	✓	✓	Independent Sample t-test
H15		Number of employees	×	✓	✓	ANOVA
H16		Sector	×	✓	✓	ANOVA
H17		Funding Source	✓	×	✓	ANOVA
H18		Motivation	×	×	✓	ANOVA

Table 4.75

Summary Of Hypotheses (Firm and Founder Characteristics, Resources, Capabilities, And Marketing Strategies Handling Liability of Newness)

			Internal Liability of Newness (ILON)	External Liability of Newness (ELON)	Tools used
H19	**Founder characteristics**	Educational Qualification	✓	✓	ANOVA
H20		Previous experience	×	✓	ANOVA
H21	**Startup Characteristics**	Incubation	✓	✓	Independent Sample t-test
H22		Year of establishment	✓	×	ANOVA

			Internal Liability of Newness (ILON)	External Liability of Newness (ELON)	Tools used
23&24	Firm resources	Intellectual Capital	✓	×	Correlation
		Entrepreneurial Bricolage	✓	×	Correlation
		Entrepreneurial Orientation	✓	✓	Correlation
	Entrepreneurial Capabilities	Knowledge management	×	✓	Correlation
		Dynamic capabilities	✓	×	Correlation
		Networking capabilities	✓	×	Correlation
	Marketing strategies	Market information	×	×	Correlation
		Market orientation	×	✓	Correlation

4.10. Conclusion

This chapter focuses mostly on the examination of primary data related to pinpointing founder and company traits that contribute to the firm's resources, entrepreneurial capabilities, and marketing tactics. In addition, it is important to consider how these traits of the company and the founders will affect innovation, startup adaptability, and financial performance. Finally, the researcher described the many strategies used by beginning companies to manage the liability of newness.

First, the study starts by identifying founder and firm traits related to firm resources, entrepreneurial potential, and marketing techniques. In addition, there are six business characteristics (incubation, legal form, sector, motivation, funding sources, and personnel count) and four founder characteristics (gender, age, educational attainment, and prior work experience). According to the analysis, it is evident that

the firm resources, capabilities, and marketing strategies differ significantly from one another. Second, the study has shown that innovation and startup adaptability have been caused by a variety of circumstances, and if the founders are used well, they will be able to compete with one another. In conclusion, this research has offered a variety of approaches for dealing with the challenges startup entrepreneurs initially confront.

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Chapter 5

ANALYSIS OF FIRM RESOURCES, CAPABILITIES, AND STRATEGIES ON FINANCIAL PERFORMANCE, ADAPTIVENESS, AND INNOVATION- STRUCTURAL EQUATION MODELING

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5.1. Introduction

The three primary objectives of the study are covered in this chapter: to examine the impact of firm resources and entrepreneurial capabilities on the financial performance of startup companies; to assess the entrepreneurial orientation and marketing tactics used by founders to foster innovation and startup adaptability; and to investigate the mediating effect of entrepreneurial orientation on the relationship between firm resources, capabilities, and startup performance relationships. This chapter's primary goal is to construct research hypotheses and evaluate them using structural equation modeling (SEM) methods. At the end of this chapter, a summary of the results from the hypotheses is also provided.

This chapter is divided into five distinct sections. The first section deals with the introduction to the chapter, and the second consists of forming hypotheses concerning various variables in the entrepreneurship literature. The validity and model fit are measured in the third section using confirmatory factor analysis. In the fourth section, the researcher discusses the direct and indirect effects of structural equation modeling. The fifth section includes a hypothesis summary, and the final section includes conclusions.

Structural Equation Modelling (SEM) is a statistical technique that combines several dependent and independent variables. In other words, it is a more comprehensive version of multiple regression and factor analysis (Hair et al., 2014). It also illustrates how a latent variable and an observable variable are related. The entire SEM process can be divided into two parts: the techniques for structural equation modeling and the methods for measuring model fit and reliability. SEM also makes it possible to

pinpoint the role that a third variable—a mediator or moderator—plays in the relationship between the independent and dependent variables.

The current study employed Covariance-Based Structural Equation Modelling (CB-SEM) to predict the relationships, and further, the researcher used entrepreneurial orientation as a mediator in the relationship between firm resources, entrepreneurial capabilities, and new venture performance. The main objective of this mediation analysis is to understand how entrepreneurial orientation, alongside the various resources, capabilities, and strategies utilised by startup companies, contributes to the growth of these businesses. The bootstrapping method was used to analyze the mediation (5000 samples). The AMOS software version 23 performs the aforementioned test methods.

5.2. Hypotheses Development

Academic research on entrepreneurship and new ventures has long emphasised the importance of assessing the growth of new ventures in terms of their contribution to innovation, financial performance, and adaptability in the current economy. The various hypotheses the researcher created for this model are explained in the following five sections.

5.2.1. Firm Resources and Start-Up's Financial Performance

According to excerpts from the resource-based view (Grant, 1991), integrating resources is the main strategy an organisation may use to create a sustainable competitive advantage. The growing body of literature in the IC field incorporates the founders' strategies as a form of resource orchestration theory to span a range of resources (Rehman et al., 2021). Resource orchestration theory is based on the idea of how a business organisation configures its existing resources and their capabilities according to changing environments and business conditions (Sirmon et al., 2007).

5.2.1.1. Intellectual Capital and Financial Performance

A wide range of scholarly articles and theories have been established in the body of literature to depict the IC dimensions in the context of entrepreneurship and new

ventures (Al-Jinini et al., 2019; Anwar, Khan, et al., 2018; Mention, 2012). These often refer to the ways of accumulating knowledge in the organisation, which results in enhanced performance (Al-Jinini et al., 2019). In other words, it is the ways of developing, exploiting, and maintaining human resources, their interrelationships, and the infrastructure facilities available in the organisation (Hejazi et al., 2016).

In recent years, many typologies and alternatives for classifying the various components of intellectual capital have been put forth. However, a certain classification based on three dimensions has come to a degree of acceptance. It encompasses relational, structural, and human capital (Ahmed et al., 2019). The primary component of intellectual capital is human capital, often known as the collection of abilities, skills, and knowledge that a founder, co-founder, or team members possess (Q. Yu et al., 2022). Similarly, relational capital relies on the notion that firms cannot function as a single entity and must instead maintain relationships with multiple players in the ecosystem to generate value (Hormiga et al., 2011). The third and last element of intellectual capital is structural capital. This element depends on the organisation's infrastructure for converting human capital into productive results; in other words, it is the outcome of the processes, policies, and business strategies used by the company (Mention, 2012). Researchers also concurred that intellectual capital and intangible resources accessible to the organisation play a role in maintaining the variation between book value and market value. Thus, in the current competitive context, it has a wide range of applications (Peña, 2002). Therefore, the following proposition was developed:

SM.H1: There is a positive relationship between intellectual capital and the financial performance of startup companies.

5.2.1.2. Entrepreneurial Bricolage and Financial Performance

From a resource-constrained perspective, Fu et al. (2020) have argued entrepreneurial bricolage acts as a stepping stone for new venture growth. The foundation for the definition of entrepreneurial bricolage is resource orchestration theory (ROT). Three approaches can be used to define entrepreneurial bricolage. The first step is to use the resources that are already at hand; the second is to look for inexpensive resources so

that the initial challenges associated with the acquisition cost may be reduced; and the third is to combine the current resources for new actions (Z. Wang et al., 2018). According to studies, organisations with high levels of bricolage can manage resource constraints by working together to create a supportive learning environment and to make use of the resources that are in their hands (An et al., 2017). These collaborations assist businesses in addressing the difficult opportunities available (Sivathanu & Pillai, 2019).

However, several firms with bricolage capacity experienced a detrimental impact on their growth. Instead of focusing on the current resources, an entity trying to produce new products needs to have the necessary skills and capabilities. Bricolage has adverse effects in this situation (Bojica et al., 2014). According to Peng et al. (2022), a firm with a better bricolage capacity can enhance innovation through an entrepreneurial orientation and operational flexibility. Researchers have proposed several classifications for analysing bricolage, including material-based bricolage, customer-based bricolage, manpower-based bricolage, etc. (Ning et al., 2020). Through the entrepreneurial bricolage approach, founders are developing various skills as a result of continuously scanning the environment and identifying opportunities (X. Yu et al., 2019). The use of entrepreneurial bricolage in new initiatives is widespread for several reasons. Beginning with, these businesses are very innovative and take advantage of opportunities in their early phases using their resources (X. Yu & Wang, 2021). Additionally, it aids entrepreneurs in transforming their passion into a means of survival (Su et al., 2022). Based on the foregoing, one may claim that business model innovation is one of the results of the founders' bricolage behaviour (Guo et al., 2015). Similar to Kerala, many businesses have used the aforementioned tactics with their current resources to create valuable products. Therefore, the following proposition was developed:

SM.H2: Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.

5.2.2. Entrepreneurial Capabilities and Start-Up's Financial Performance

Based on the examination of the literature review, the researcher adhered to the three capabilities—knowledge management capabilities, dynamic capabilities, and networking capabilities.

5.2.2.1. Knowledge Management and Financial Performance

Knowledge is the most important resource needed for the survival, growth, and the creation of distinctive value for the organisation(Payal et al., 2019). This idea of knowledge management originated from the knowledge-based theory (KBT) which is an extension of the resource-based view theory (RBVT). While the latter focuses on the strategic assets needed for a firm to succeed in its ventures, the former focuses on the various methods used to create, establish, and maintain value in an organisation(Donate & De Pablo, 2015). In other words, knowledge management is the process of producing, sharing, and using knowledge for problem-solving and decision-making (Nazari et al., 2022).

Scholars agree that knowledge management has a wide range of applications in several fields, including manufacturing (Tan & Wong, 2015), public sector organisations (Balasubramanian et al., 2020), SMEs (Bozbura, 2007), and start-ups and new enterprises (Oliva & Kotabe, 2019). In the studies of Donate and De Pablo (2015), they examined whether knowledge-oriented leadership has mediated the relationship between the knowledge management process and bringing innovation to ventures. The study discovered that effective leaders can invest in research and development strategies and strategic resources in a way that will enable them to bring unique resources. Additionally, Tan and Wong (2015) developed an interactive method for boosting the manufacturing performance of Malaysian manufacturing enterprises by utilising knowledge management processes, knowledge resources, and knowledge factors. Their research revealed that the term "knowledge management" also covered the working environment, infrastructure, and managerial support. Based on the above, the following hypothesis was developed and tested:

SM.H3: Knowledge management has a positive influence on the financial performance of startup founders.

5.2.2.2. Dynamic Capabilities and Financial Performance

Dynamic capabilities are widely used nowadays in startups and service industries due to increased competitiveness (Teixeira et al., 2021). According to Kongrode et al. (2023), it is also used in startup firms' marketing management and talent management processes. Dynamic capabilities are required to integrate required resources and act in a changing environment (W. Wu et al., 2008). Previous literature stressed its current importance after analysing earlier studies on dynamic capabilities. The researcher frequently measures different aspects of dynamic capabilities with various concepts, such as innovations (Schoemaker et al., 2018), social capital (Huynh & Patton, 2014), entrepreneurial resources (Wu, 2008), etc. As previously stated, the foundation of the research work is financial performance and dynamic capabilities (Arthurs & Busenitz, 2006). It is simply a technique to increase the efficiency, effectiveness, and quickness of organisational reactions to the environment. Based on the above, the following hypothesis was developed and tested:

SM.H4: The higher the dynamic capabilities of startup founders, the higher their financial performance.

5.2.2.3. Networking Capabilities and Financial Performance

Networking capabilities are the capacity of a firm to systematically utilise and investigate relationships with external organisations to generate value in their endeavour (Mu, 2013). In the modern era, networking on both a social and business level is widely seen as important. Business networks are crucial for sustaining relationships with many stakeholders in the start-up ecosystem, such as clients, suppliers, and various funding agencies, whereas social networks aid newly founded companies in gathering market information (Adomako et al., 2018). Similarly, Anwar, Rehman, et al. (2018) assessed whether financial, political, and business networking had an impact on new venture performance with the mediating role of competitive advantages. Their research supported the social networking theory of

entrepreneurship and revealed that founders with strong ties can successfully navigate the early obstacles. Furthermore, a study conducted by Boso et al. (2013) determined how networking links, company performance, market orientation, and entrepreneurial orientation are related to one another. According to the findings, businesses that have connections to governmental organisations and funding agencies are better prepared to assess market conditions. Academic research also concurred that a founder's networking skills are a prerequisite to various other actions, such as gathering market intelligence, creating value, improving learning, and creating new knowledge (Zacca et al., 2015). Therefore, the following proposition was developed:

H5: There is a positive relationship between networking capabilities and the financial performance of startup founders.

5.2.3. Resources and Capabilities on Entrepreneurial Orientation

This section includes six hypotheses in the model, including entrepreneurial orientation's impact on financial performance (H6) and its addition as a mediating factor in the relationships between a firm's resources, capabilities, and financial performance (H7–H11).

5.2.3.1. Entrepreneurial Orientation and Financial Performance

Miller (1983) popularised the idea of entrepreneurial orientation (EO), which has since been utilised and modified across various industries, nations, and cultures (Amin, 2015). Incorporating innovation into a business organisation is mostly indicated by entrepreneurial orientation (Al-Jinini et al., 2019; Q. Yu et al., 2022). The literature demonstrates that the development of entrepreneurial orientation has a major positive impact on the performance of new ventures, and previous research has shown that entrepreneurial orientation is an essential component for value creation in new ventures (Boso et al., 2013; Cho & Lee, 2018; Kropp et al., 2006; Rezaei & Ortt, 2018). Prior studies have shown that the three widely acknowledged components of entrepreneurial orientation are innovativeness, risk-taking, and proactiveness (Anwar et al., 2021).

Additionally, numerous academic researchers have highlighted the direct and indirect connections between entrepreneurial orientation and firm performance. They included knowledge management, intellectual capital, and entrepreneurial orientation (Q. Yu et al., 2022), entrepreneurial, market, and learning orientation (Kropp et al., 2006), and entrepreneurial orientation, entrepreneurial education, and entrepreneurial performance (Cho & Lee, 2018). Thus, it can be suggested that:

H6: There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.

5.2.3.2. Effect of Intellectual Capital on Entrepreneurial Orientation

The prior research has mostly investigated direct or unmediated impacts when examining the relationship between intellectual capital and firm performance. However, given the current environment in which businesses operate, it is thought that performing additional research to look at the impact of a few other variables may offer additional insight that will help us better understand how intellectual capital affects financial performance. In other words, intellectual capital by itself doesn't affect how well new businesses perform. Instead, the effect of these interactions is amplified by the presence of a third variable. Consequently, the results of previous research concurred that the development of social capital and an entrepreneurial orientation have an impact on one's capacity for innovation and intellectual capital (Wu et al., 2008). Similarly, the business environment is characterised by intense competition and technological advancements, and as a response, firms invest in intellectual capital to identify opportunities and encourage their founders to take calculated risks (Al-Jinini et al., 2019). Moreover, the effective utilisation of intellectual capital is a way to extend human resources as well as entrepreneurial orientation attributes (Q. Yu et al., 2022). As a result of this discussion, the following hypothesis is established:

H7: Intellectual capital has a positive influence on the entrepreneurial orientation of startups.

5.2.3.3. Effect of Entrepreneurial Bricolage on Entrepreneurial Orientation

According to the analysis, researchers have found that only a small number of studies have focused on linking entrepreneurial bricolage and entrepreneurial orientation. However, several studies show a link between resource bricolage and innovation as one of the components of entrepreneurial orientation (Guo et al., 2016; Ning et al., 2020). In addition, it was demonstrated in the investigations of Peng et al. (2022) that the degree of entrepreneurial bricolage affects entrepreneurial orientation. Likewise, through the existing resources utilised, business organisations always try to find new opportunities (An et al., 2018). Despite this, few studies in the bricolage environment examine how innovativeness, risk-taking, and proactive behaviours are affected in entrepreneurship research. Thus, the current study took into account and proposed the following hypothesis:

H8: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startups.

5.2.3.4. Effect of Knowledge Management on Entrepreneurial Orientation

As previously mentioned, there is an association between knowledge management and an entrepreneurial orientation. Prior research by Wiklund & Shepherd (2003) and Q. Yu et al. (2022) also emphasised the significance of EO concerning knowledge management and business performance relationships. According to Wiklund and Shepherd (2003), EO directs businesses to bring knowledge-based resources and to take advantage of opportunities. According to earlier research, organisations that are concerned with strategies for growth and taking risks would also be concerned with fostering KM processes (Latif et al., 2021).

Additionally, EO helps founders develop an entrepreneurial attitude so that their products are creative, risk-taking, and proactive. Instead, these mindsets are necessary for a business to use the knowledge management process to take advantage of its opportunities. Similar to this, knowledge management entails several processes, including acquisition, conversion, sharing, protection, etc., and during each of these stages, businesses focus on innovating (Madhoushi, 2011). Additionally, Q. Yu et al.

(2022) assessed the significance of supporting innovation and entrepreneurial orientation in the context of intellectual capital and knowledge management processes, and they discovered that the connections between all of these elements positively support innovation in their enterprises. In light of the discussion above, the following assumptions regarding the impact of the KM-EO relationship are proposed:

H9: There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.

5.2.3.5. Effect of Dynamic Capabilities on Entrepreneurial Orientation

According to the theory of dynamic capabilities, entrepreneurial orientation and dynamic capabilities are two sides of the same coin and are both continually on the lookout for marketing opportunities (Abu-Rumman et al., 2021). The relationship between dynamic capacities, entrepreneurial orientation, and the financial performance of newly founded businesses has been empirically explored in a few articles over the past years. However, few studies (Pundziene et al., 2021) have specifically examined the connections between the three ideas. Based on that, researchers developed the following hypothesis:

H10: The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards startups.

5.2.3.6. Effect of Networking Capabilities on Entrepreneurial Orientation

With the help of several initiatives run by the Kerala Startup Mission (KSUM), the startup community in Kerala today is well-known throughout the world. Networking events are one of the most effective initiatives aimed at fostering startup growth. Startup Mission hosts a variety of networking events, including Startup Meet, Investor Café, Investor Connect, and Huddle Global Startup Events, to help entrepreneurs grow their businesses to new heights. Similar to that, this networking event motivates company founders to assess their rivals critically, improve their products, and react quickly to market developments. There is a favourable association between the interconnection of founders and their entrepreneurial orientation (Anwar et al., 2022). Academic literature has also emphasised the relevance of networking abilities in

contributing to an entrepreneurial mindset among startup founders. Similar to this, high levels of EO generate value through interactions with outside parties since they make valuable and scarce resources available (Lee et al., 2001). In addition, earlier studies agreed that there were differences in the associations between networking skills and entrepreneurial orientation. According to studies by Parida et al. (2016), established small businesses' networking skills have a greater impact on their entrepreneurial orientation than do freshly launched businesses because the latter are completely oblivious to the state of the market. Therefore:

H11: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation of startups.

5.2.4. Entrepreneurial Orientation on Innovation and Startup Adaptiveness

The founders' attitude towards innovation, risk-taking, and being proactive in the environment is measured by their entrepreneurial orientation. Therefore, the researcher is interested in learning if there is a relationship between entrepreneurial orientation in generating innovation and startup adaptability. Therefore, this section is divided into two sections: the impact of entrepreneurial orientation on contributing innovation and the degree of adaptability.

5.2.4.1. Effect of Entrepreneurial Orientation on Innovation

It has been proven by the study that entrepreneurial orientation has a positive effect on innovation. The study by Al-Jinini et al. (2019) provided evidence in favour of this, where they claimed that raising founders' levels of entrepreneurial orientation will also raise the total degree of innovation in their enterprises. To put it another way, newly founded companies increase their competitiveness by designing a product or process that was the outcome of experiments carried out by the founders (Iqbal et al., 2021). The impact of several factors on innovative performance, such as invention speed and quality, has been extensively employed in the academic literature on entrepreneurship (Wang et al., 2018). Based on that, the researcher developed the following hypothesis:

H12: The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.

5.2.4.2. Effect of Entrepreneurial Orientation on Startup Adaptability

Adaptability is an important factor in the success of every organisation, and the literature stresses many factors contributing to organisational adaptability (Niu, 2010; X. Yu et al., 2019). The current study focused on assessing startup adaptability in light of their entrepreneurial orientation, including their innovative, risk-taking, and proactive behaviors. To support this, Savitri et al. (2021) conducted a study to see whether there is a relationship between innovation, adaptability, entrepreneurial orientation, and business performance in establishments situated in coastal areas. The study supported these interconnections. Based on the above, the following hypotheses were created and examined:

H13: Entrepreneurial orientation positively contributes to startup adaptiveness.

5.2.5. Marketing Strategies on Contributing Innovation and Startup Adaptiveness

In contrast to traditional marketing research, modern research emphasises the significance of adhering to successful marketing strategies in the setting of small and medium firms (Adel et al., 2020). Here, the researcher found two marketing tactics used by new businesses, including market information acquisition and market orientation strategies.

5.2.5.1. Market Orientation on Innovation and Startup Adaptability

According to Hai et al. (2021), the idea of market orientation developed with Peter Drucker's management principle. According to Matsuno and Mentzer (2000), there is a significant association between performance, market orientation, and the type of strategy used. Similar to the relationship between market orientation and performance, there is an inverse association between market turbulence and competitive intensity (Zaid, 2022). These days, start-up businesses are focusing on relational marketing strategies and developing products in response to consumer needs. Enhancing market

orientation in newly founded businesses paves the foundation for customer changes and environmental adaptation. According to various startup company reports, the main cause of startup failures is an inability to meet market demand (Goswami et al., 2023). Based on the above, the following hypotheses were developed and tested:

SM.H14: Marketing orientation positively contributes to innovation in startup companies.

SM.H15: There is a positive relationship between market orientation and startup adaptability.

5.2.5.2. Market Information Acquisition on Innovation and Startup Adaptability

According to earlier research on market information, researchers defined "market information" as "data about customers, suppliers, and value chain members" (Song et al., 2010). In recent years, a substantial body of research has been produced that demonstrates the existence of strong positive connections between firm success and the degree of market information that the firm acquires and applies in newly launched endeavors (Kawakami et al., 2012; Keh et al., 2007; Parry & Song, 2010; Song et al., 2010). Consequently, it can be concluded that market research done before launching their enterprises will help them grasp the existing market situation (Peters & Brush, 1996). In the case of Kerala, where the market is dominated by dynamic activities, the requirement for a formalised plan for information collection will be stronger. As a result of the institution's involvement in the startup ecosystem, they have access to up-to-date data on the market's size, technological advancements in their industry, possible competitors, marketing choices, and methods for obtaining capital from various sources. According to the literature, the stages of information usage at the organisational level include market information acquisition and market information utilisation (Parry & Song, 2010; Song et al., 2010). The research used in this study focused on how startups may adapt to the market and contribute to innovation based on their level of information acquisition. Empirically, a few studies have focused on the direct influence of market information acquisition on fostering innovation and

startup adaptability, whereas the majority of studies have focused on its impact on financial performance. Based on the above, the following hypotheses were developed.

H16: The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.

H17: The higher the market information acquisition, the higher the startup adaptability.

The Interrelationship of Resources, Capabilities, and Marketing Strategies among Startup Performance, Innovation, and Adaptiveness: A Structural Equation Modelling Approach

Table 5.1.

Hypotheses of Model Building

Hypotheses No.	Hypotheses
SM.H1	There is a positive relationship between intellectual capital and the financial performance of startup companies.
SM.H2	Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.
SM.H3	Knowledge management has a positive influence on the financial performance of startup companies.
SM.H4	The higher the dynamic capabilities of startup founders, the higher their financial performance.
SM.H5	There is a positive relationship between networking capabilities and the financial performance of startup companies.
SM.H6	There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.
SM.H7	Intellectual capital has a positive influence on the entrepreneurial orientation of startups.
SM.H8	Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startups.
SM.H9	There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.
SM.H10	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards startups.
SM.H11	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards startups.

Hypotheses No.	Hypotheses
SM.H12	The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.
SM.H13	Entrepreneurial orientation positively contributes to startup adaptiveness.
SM.H14	Marketing orientation positively contributes to innovation in startup companies.
SM.H15	There is a positive relationship between market orientation and startup adaptability.
SM.H16	The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.
SM.H17	The higher the market information acquisition, the higher the startup adaptability.

SM.H1to SM. H17 indicate Structural Model Hypotheses

Table 5.2

The mediation hypotheses in the model

Hypothesis No	Mediation hypotheses in the model
MED.H1	Entrepreneurial orientation mediates the relationship between intellectual capital and the financial performance of startup companies.
MED.H2	Entrepreneurial orientation mediates the relationship between entrepreneurial bricolage and the financial performance of startup companies.
MED.H3	Entrepreneurial orientation mediates the relationship between knowledge management capabilities and the financial performance of startup companies.
MED.H4	Entrepreneurial orientation mediates the relationship between the dynamic capabilities and financial performance of startup companies.
MED.H5	Entrepreneurial orientation mediates the relationship between networking capabilities and the financial performance of startup companies.

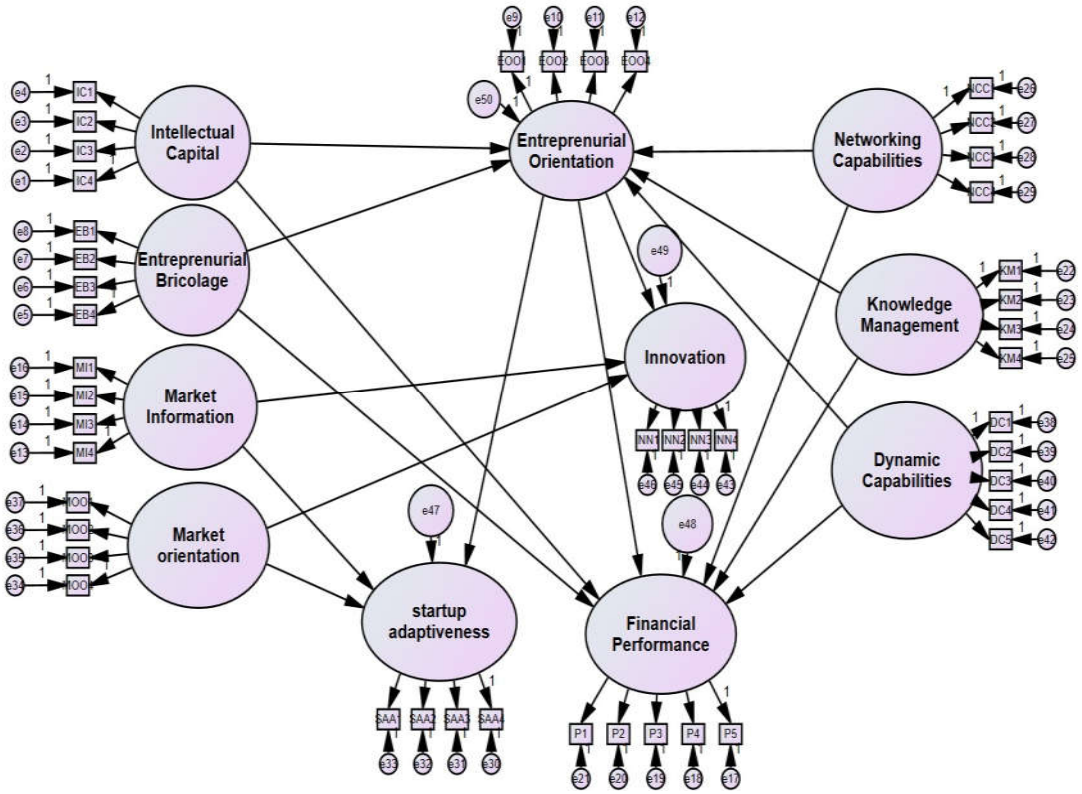
MED.H1 to H5 indicate the Mediation Model Hypothesis

Figure 5.1 below illustrates the 11-construct measurement model of firm resources, entrepreneurial capabilities, and marketing strategies on financial performance, innovation, and startup adaptability. The below-mentioned model was developed to

understand the link between dependent, independent, and mediating variables. Two-headed arrows are utilised to covariate the different constructs and the measured variables are represented with an error term. Finally, path estimates are measured using single-headed arrows.

Figure 5.1

The hypothesized Structural Equation Model (SEM) Model showing the interrelationship of firm resources, entrepreneurial capabilities, and marketing strategies among startup performance, innovation, and adaptiveness



5.3. Confirmatory Factor Analysis (CFA) for Measurement Model and Assessment of Validity of the Model.

There are two types of factor analysis: Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Exploratory factor analysis (EFA) is a multivariate statistical technique aimed at determining the link between the study's variables (Watkins, 2018). Contrarily, confirmatory factor analysis is a statistical

method used to determine whether components are consistent with researchers' understanding.

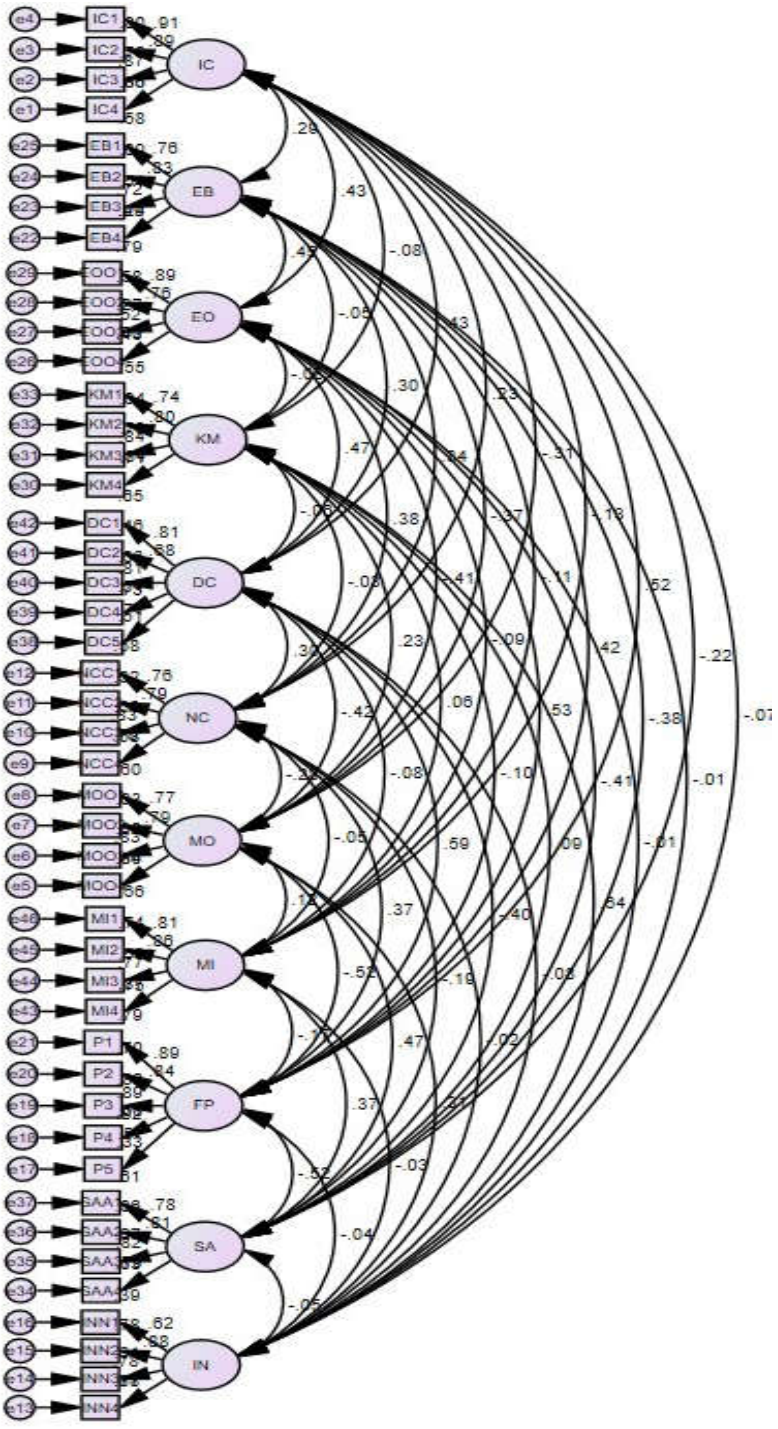
While doing Confirmatory Factor Analysis (CFA), the researcher must have sufficient background of the variables used and it must be sufficiently known to the researcher. Because the former examined the extent of relationships between research variables. CFA is the first stage of structural equation modeling. In the current study, the researcher used eleven constructs consisting of seven independent variables, one mediating variable, and three dependent variables. While doing CFA researchers have to follow the following procedures.

1. Begin with this, the researcher gathers all variables—dependent, independent, or mediator—on a single sheet and connects them using covariances (double-sided arrows). Following that, save the process and run the analysis by selecting the analysis properties and choosing the necessary options from the box, such as the standardized estimate, modification indices, factor loading, etc.
2. To validate the measurement model, researchers must then verify the three indicators of the result: Uni-dimensionality, validity, and model fit measures.
    - Uni-dimensionality is measured based on checking the factor loading of all items used in the study.
    - Convergent and discriminant validity CR, AVE, and the correlation matrix respectively.
    - Finally, model fit measures are checked based on the various indicators.
3. Once all of these requirements have been met, the researcher may choose to use a CB-SEM (Covariance Based-Structural Equation Model) or PLS-SEM (Partial Least Square Method).

Below is the graphical representation of Confirmatory Factor Analysis (CFA) by listing firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performance.

Figure 5.2

Confirmatory Factor Analysis (CFA) Model showing the interrelationship of firm resources, entrepreneurial capabilities, and marketing strategies among financial performance, innovation, and adaptiveness.



5.3.1. Convergent validity

The results of the convergent validity of the several constructs employed in the model are shown in the following table.

Table 5.3

Convergent validity of various constructs

Constructs	Item	Factor loading	CR	AVE
Intellectual Capital	IC1	0.908	0.925	0.756
	IC2	0.892		
	IC3	0.870		
	IC4	0.804		
Entrepreneurial bricolage	EB1	0.761	0.799	0.507
	EB2	0.834		
	EB3	0.715		
	EB4	0.500		
Entrepreneurial orientation	EO1	0.887	0.805	0.517
	EO2	0.762		
	EO3	0.516		
	EO4	0.659		
Dynamic Capabilities	DC1	0.808	0.865	0.563
	DC2	0.677		
	DC3	0.811		
	DC4	0.733		
	DC5	0.712		
Networking capabilities	NC1	0.765	0.866	0.618
	NC2	0.788		
	NC3	0.828		
	NC4	0.762		
Knowledge Management	KM1	0.740	0.880	0.648
	KM2	0.799		
	KM3	0.837		
	KM4	0.841		

Constructs	Item	Factor loading	CR	AVE
Market Information Acquisition	MIA1	0.810	0.897	0.685
	MIA2	0.862		
	MIA3	0.767		
	MIA4	0.867		
Market orientation	MO1	0.773	0.875	0.637
	MO2	0.795		
	MO3	0.825		
	MO4	0.799		
Innovation	IN1	0.622	0.873	0.635
	IN2	0.881		
	IN3	0.782		
	IN4	0.876		
Financial performance	FP1	0.888	0.904	0.659
	FP2	0.839		
	FP3	0.893		
	FP4	0.824		
	FP5	0.570		
Startup adaptiveness	SA1	0.778	0.878	0.643
	SA2	0.812		
	SA3	0.821		
	SA4	0.794		

Source: Primary

In social science research, researchers established its construct validity in two ways, such as convergent validity and discriminant validity. Convergent validity is the degree to which the new scale is closely related to other variables and other measures of the same constructs. There are many ways to achieve convergent validity, including by examining the factor loading, average variance extracted (AVE) values, and composite reliability (CR). The threshold values for convergent validity measures are as follows:

- The factor loading of all the items must be above 0.5 (Hair et. al., 2010).

- The average variance extracted, or AVE, of each construct must be above 0.5 (Hair et. al., 2010).
- The composite reliability (CR) of each construct must be above 0.7 (Hair et. al., 2010).

Table 5.3 illustrates the convergent validity measurement of all scaled items used in the study. From the table, it is clear that the current study met all of the requirements, and it is an acceptable indicator of convergent validity with factor loadings ranging from 0.500 to 908. Each construct has a composite reliability (CR) that is likewise greater than 0.7 and varies from 0.799 to 0.925. The range of the average extracted variance (AVE), which is above 0.5, is 0.507 to 0.756. As a result, the entire construct satisfied the criteria for convergent validity.

5.3.2. Discriminant Validity

Discriminant validity is a condition where two factors differ statistically. It can be estimated by taking the square root of AVE and comparing it to construct correlations (Fornell and Larcker, 1981); all constructs' upper diagonal values must be greater than their lower diagonal values. Table 5.4 shows the measurement model's overall construct correlation. The square root of the AVE must be greater than the off-diagonal values in the rows and columns, satisfying the discriminant validity condition. As an alternative, discriminant validity estimates the degree to which the results of a measure are uncorrelated with the results of conceptually separate variables.

The researcher also confirms its discriminant validity by comparing the average variance extracted (AVE) and the maximum shared variance (MSV). Every component in this model met the criteria for its discriminant validity, with AVE values exceeding MSV. In terms of intellectual capital, it is 0.756 and 0.272, respectively. The entrepreneurial bricolage is between 0.507 and 0.201. It is 0.517 and 0.284 for entrepreneurial orientation. Additionally, it met the criteria for discriminant validity

for various capabilities, including dynamic capabilities (0.563 and 0.346) and networking capabilities (0.618 and 0.145). Similar to this, the results of marketing strategies are satisfactory when compared using AVE and MSV, with market information acquisition scoring (0.685 and 0.135) and market orientation scoring (0.637 and 0.268), respectively. The researcher concludes by confirming the discriminant validity of the model concerning its various dependent variables, including innovation (0.635 and 0.411), financial performance (0.659 and 0.346), and startup adaptability (0.643 and 0.275).

In general, the convergent and discriminant validity criterion assessment revealed that the measurement model was adequate and met the validity requirement to move forward with the estimation of the parameter that characterizes the structural equation model

Table 5.4

Discriminant validity among various constructs

	IC	EB	EO	DC	MI	SA	KM	NC	IN	PER	MO
IC	**0.870**										
EB	0.287	**0.712**									
EO	0.434	0.448	**0.719**								
DC	0.428	0.303	0.469	**0.750**							
MI	-0.127	-0.112	-0.093	-0.085	**0.827**						
SA	-0.220	-0.384	-0.406	-0.399	0.368	**0.802**					
KM	-0.076	-0.049	-0.084	-0.06	0.058	0.091	**0.805**				
NC	0.233	0.336	0.381	0.301	-0.054	-0.195	-0.025	**0.786**			
IN	-0.069	-0.008	-0.01	-0.079	-0.032	-0.054	0.641	-0.02	**0.797**		
PER	0.521	0.417	0.532	0.589	-0.170	-0.525	-0.097	0.375	-0.042	**0.812**	
MO	-0.312	-0.367	-0.408	-0.420	0.118	0.475	0.234	-0.281	0.312	-0.518	**0.798**

Source: Primary

The discriminant validity of the different constructs is shown in Table 5.4. The square root of AVE scores are the numbers in bold, and they must be higher than the values of the latent variable correlation between the constructs to prove that there is no relationship. Consequently, it can be determined that there is no issue with discriminant validity among the constructs.

5.3.3. Model Fit Indices of the CFA Model for the Constructs Used in the Model

Table 5.4 explains the model fit estimate of eleven constructs and forty-six variables, indicating a good fit. In this study, the researcher employed five model fit indicators that satisfied Holmes-Smith's (2006) criteria, with at least one index from each of three categories—absolute fit measures, incremental fit measures, and parsimonious fit measures—being satisfied.

Table 5.5.

Model fit indices of the CFA model for the various constructs.

Name of category	Index	Standard	Estimate	Conclusion	Source
Parsimonious fit	PGFI	>0.5	0.612	The model is a good fit	Jöreskog and Sörbom, (1993)
	PNFI	>0.5	0.745	The model is a good fit	Hu & Bentler (1999)
Incremental fit	CFI	0.9	0.964	The model is a good fit	Bentler (1990)
	TLI	0.9	0.960	The model is a good fit	Bentler and Bonett (1980)
Absolute fit	GFI	0.9	0.913	The model is a good fit	Joreskog and Sorbom (1984)
	RMSEA	<0.08	0.032	The model is a good fit	Browne and Cudeck, 1993
	CMIN/DF	<3	1.324	Excellent	Marsh and Hocevar (1985)

Source: Primary

As per the findings of Table 5.5, CMIN/DF is 1.324, which falls well within the recommended upper limit. In this study, the researcher used the Tucker-Lewis Index (TLI) and Comparative Fit Indices (CFI), two incremental fit indices. CFI values near 1 suggest a very excellent fit. However, CFI values below 0.90 are typically not indicative of a well-fitting model (Hair et al., 2010). The CFI in this CFA model was discovered to be 0.964, exceeding the cut-off point of 0.90 established by Hair et al. (2010). TLI was also discovered to have 0.960, which is greater than the threshold. According to Browne and Cudeck (1993), a close fit between the model and the degrees of freedom is indicated by an RMSEA value of 0.05 or less. In this context, an RMSEA value of 0.08 or less would suggest a tolerable approximation error, and the current research met the aforementioned requirement by obtaining an RMSEA value of 0.032.

In conclusion, parsimonious fit (PGFI and PNFI), incremental fit (CFI and TLI), as well as absolute fit (GFI and RMSEA, and CMIN/DF) indices were all acceptable. As a result, the CFA results indicate that this measurement model offers a good fit.

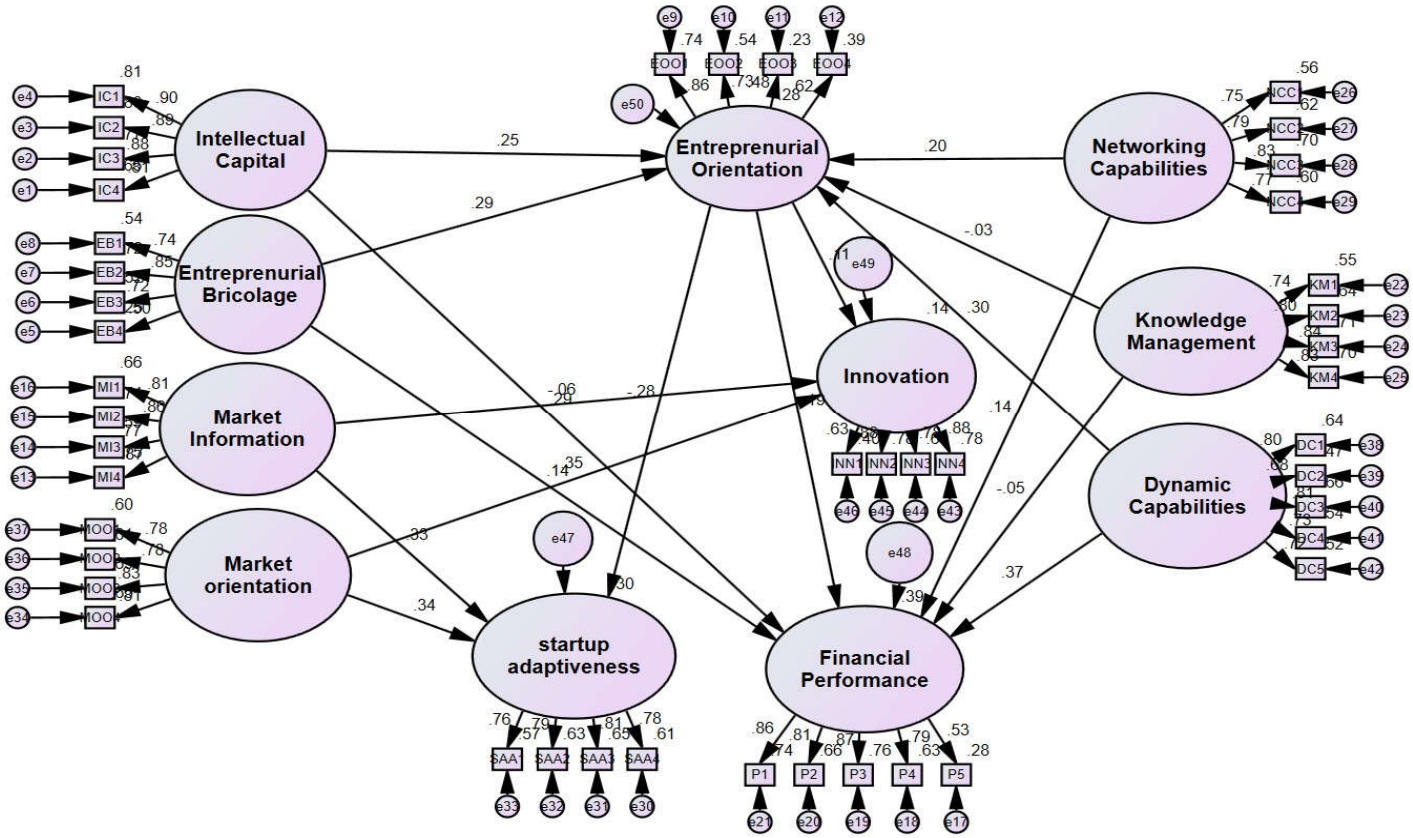
5.4. CB-SEM Model for firm resources, entrepreneurial capabilities and Marketing strategies on startup Performance, adaptiveness, and innovation

Figure 5.3 displays the findings of the SEM analysis. A single-headed arrow indicates how dependent and independent variables are related. The symbol "*" denotes beta coefficients with a significance level of less than 5% (P<0.05), whereas the symbol "**" denotes P<0.01. The standardised coefficients and p-value from the estimated structural model are summarised in Table 5.5.

The independent variables used in the study consist of intellectual capital, entrepreneurial brilliance, knowledge management capabilities, dynamic capabilities, networking capabilities, market information acquisition, and market orientation. The dependent variable consists of financial performance, innovation, and startup adaptiveness. Here, the researcher applied entrepreneurial orientation as the mediator between firm resources, entrepreneurial capabilities, and financial performance relationships. Through this model, the researcher fulfilled the three objectives of the study.

Figure 5.3

Tested Structural Equation Model (SEM) Model showing the interrelationship of firm resources, entrepreneurial capabilities, and marketing strategies on firm performance, innovation, and startup adaptability.



5.4.1. Result of Hypotheses Testing

Table 5.6

Table showing Path Estimates

	Exogenous Variable		Endogenous variable	Estimate	SE	CR	p-value	Hypotheses status
SM.H1	Intellectual Capital	→	Financial Performance	0.288	0.045	4.691	<0.001**	Supported
SM.H2	Entrepreneurial Bricolage	→	Financial Performance	0.144	0.059	2.348	0.019*	Supported
SM.H3	Knowledge Management	→	Financial Performance	-0.045	0.039	-0.867	0.386	Not Supported
SM.H4	Dynamic Capabilities	→	Financial Performance	0.366	0.057	5.350	<0.001**	Supported
SM.H5	Networking Capabilities	→	Financial Performance	0.138	0.046	2.434	0.015*	Supported
SM.H6	Entrepreneurial Orientation	→	Financial Performance	0.192	0.065	2.749	0.006**	Supported
SM.H7	Intellectual Capital	→	Entrepreneurial orientation	0.250	0.046	4.241	<0.001**	Supported
SM.H8	Entrepreneurial Bricolage	→	Entrepreneurial orientation	0.295	0.071	4.280	<0.001**	Supported
SM.H9	Knowledge management	→	Entrepreneurial orientation	-0.032	0.048	-0.539	0.590	Not Supported
SM.H10	Dynamic capabilities	→	Entrepreneurial orientation	0.296	0.055	4.808	<0.001**	Supported
SM.H11	Networking Capabilities	→	Entrepreneurial orientation	0.202	0.053	3.318	<0.001**	Supported
SM.H12	Entrepreneurial orientation	→	Innovation	0.110	0.112	1.787	0.044*	Supported
SM.H13	Entrepreneurial orientation	→	Startup adaptiveness	-0.283	0.102	-4.627	<0.001**	Supported
SM.H14	Market orientation	→	Innovation	0.355	0.064	5.648	<0.001**	Supported
SM.H15	Market orientation	→	Startup adaptiveness	0.337	0.057	5.525	<0.001**	Supported
SM.H16	Market information acquisition	→	Innovation	-0.063	0.081	-1.062	0.288	Not Supported
SM.H17	Market information acquisition	→	Startup adaptiveness	0.327	0.074	5.515	<0.001**	Supported

*** denotes significance at a 1% level*
** Denotes significant at 5%*

The following paragraph explains the result of each hypothesis based on the structural equation modeling (SEM) technique.

5.4.1.1. Firm Resources on Financial Performance of Startup Companies.

This section includes assumptions about the effects of **intellectual capital (H1)** and **entrepreneurial bricolage (H2)** on the financial performance of newly founded enterprises in Kerala.

SM.H1: There is a positive relationship between intellectual capital and the financial performance of startup companies.

It is evident from the results that intellectual capital positively influences startup performance (β -values 0.288, $p < 0.001$). Keeping the other paths constant, the standardised beta coefficient of 0.288 depicts the partial impact of intellectual capital on the financial performance of startup companies. The calculated positive sign denotes that such an effect is positive, and that startup performance would increase by 0.288 for every unit of standard deviation increase in intellectual capital, and this coefficient value is significant at the 1% level. Therefore, it can be observed that the hypothesis of intellectual capital having a favorable impact on financial performance is valid.

The study supports the findings of previous literature, concurring that intellectual capital has a considerable impact on the performance of respective endeavours (Abualoush et al., 2018; Al-Jinini et al., 2019; Obeidat et al., 2020). Prior studies have looked at the value of intellectual capital in a wide range of industries and have demonstrated that intellectual capital components are extensively utilized in the healthcare sector. In their investigation, the researchers applied intellectual capital navigators (ICN) to promote values and uphold service quality in the healthcare industry. It additionally states that maintaining the effectiveness of patient management and service quality requires the appropriate usage of various intellectual capital components (Peng & Pike, 2014). Additionally, researchers confirmed that founders' human capital plays a crucial role in early-stage ventures and that these ventures will employ a variety of approaches for allocating resources. Founders' prior

knowledge and networking abilities enable the business to find the best combination of diverse resources (Ng et al., 2014).

This study directly contradicts some of the studies, which indicated that social capital and intellectual capital components had a detrimental impact on financial performance as a result of reliance on stakeholder management (Ahmed et al., 2020; Mcdowell et al., 2018). However, in the context of Kerala-based startup communities, intellectual capital plays a crucial role in financial performance and further supports structural model hypothesis one (SM.H1).

SM.H2: Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.

Regarding the impact of entrepreneurial bricolage on financial performance relationships (H2), The standardised beta coefficient of 0.144, which holds the other paths constant, reflects the partial impact of entrepreneurial bricolage on financial performance. The estimated positive sign shows that the effect is positive, with a financial performance gain of 0.144 for every unit of increased standard deviation in entrepreneurial bricolage at a significant level of 5%. Consequently, it can be said that the hypothesis, which states that entrepreneurial bricolage has a favourable impact on financial performance, is supported.

Thus, the current study validates the findings of previous literature that the use of entrepreneurial bricolage contributes to growth and sustained performance in their respective ventures (Sivathanu & Pillai, 2020; Peng et al., 2022; X. Yu & Wang, 2021). The positive impact of entrepreneurial bricolage and firm growth can be explained for some reasons. First, entrepreneurial bricolage focused on collaborative entrepreneurship by strengthening values rather than just managing time and resource constraints (de Klerk, 2015). Second, the value of bricolage is emphasized for its fast adaptation to changing environments (Tindiwensi et al., 2020). In addition, the beneficial effect of entrepreneurial bricolage on innovation is also due to dynamic capabilities (Ning et al., 2020) as well as market orientation (Tindiwensi et al., 2020).

However, there are differences in the results of other researchers who acknowledge that sector matters in these relationships, so any business focused on innovation and improving its current offering cannot be appropriate for a company that is heavily focused on entrepreneurial bricolage behaviours (Bojica et al., 2014). Thus, the present study implies that the entrepreneurial bricolage among Kerala's startup founders will also enable them to increase revenue from their new ventures. So, it supports the above hypothesis (SM.H2).

5.4.1.2. Entrepreneurial Capabilities on Financial Performance of Startup Companies

This section includes assumptions about the effects of knowledge management (SM.H3), dynamic capabilities (SM.H4), and networking capabilities (SM.H5) on the financial performance of startup companies in Kerala.

SM.H3: Knowledge management has a positive influence on the financial performance of startup companies.

Since the standardised beta coefficient (-0.045) has a p-value greater than 0.05, the results show that there is no relationship between knowledge management and financial performance. Therefore, the claim that knowledge management has no impact on financial performance can be established.

The results of the current study are in direct opposition to other scholarly works that claim knowledge management significantly affects startup companies' performance (Donate & Pablo, 2015; Payal et al., 2019). According to studies by Tan and Wong (2015), the many aspects of knowledge management, including the knowledge management strategy, knowledge management components, and knowledge management infrastructure, significantly affect the manufacturing performance of Malaysian enterprises.

In the case of the current study, the study validates the conclusions of past studies that claim that one component of knowledge management techniques, such as knowledge transfer, has a negligible impact on the success of the corresponding endeavours (Donate & Pablo, 2015). As a result, it is possible to conclude that knowledge

management has little impact in Kerala because of several factors. First of all, knowledge management needs significant investments in infrastructure and technology, making its implementation and maintenance challenging for startups and new businesses. Second, many people are hesitant to share and save knowledge electronically owing to security concerns. Third, even though new businesses are implementing these technologies, the company must conduct an extensive review of all actions after implementation.

Based on the aforementioned, it can be concluded that knowledge management in the context of Kerala startups has a detrimental impact on the financial performance of startup businesses; hence, hypothesis (SM.H3) cannot be validated.

SM.H4: The higher the dynamic capabilities of startup founders, the higher their financial performance.

The standardised beta coefficient, 0.366, represents the partial effect of dynamic capabilities on financial performance, holding the other paths constant. The calculated positive sign reveals that such an effect is positive: financial performance increases by 0.366 for every unit of standard deviation increase in dynamic capabilities, with significance at the 1% level. Therefore, it can be interpreted that the hypothesis that dynamic capabilities have a positive effect on financial performance is accepted.

The results of the current study are consistent with those of several studies that have shown that dynamic capabilities are necessary for newly founded firms to compete in the current market environment (Kongrode et al., 2023; Teixeira et al., 2021). Additionally, it has been found in earlier research that business incubators and accelerators aid startup organisations by nurturing their dynamic capabilities and enabling them to achieve their growth objectives (Celia., 2020). As a result, the startup environment in Kerala is also characterized by a large number of supporting organizations in the form of business incubators, accelerators, and funding organizations that are dedicated to helping fledgling businesses reach their fullest potential. The majority of the funding is altered by assessing how these firms are

responding to the changing environment. Thus, firms can attract investors by developing effective dynamic capabilities.

Thus, it is possible to conclude that founders' dynamic abilities have a favourable impact on financial performance, further supporting the hypothesis (SM.H4).

SM.H5: There is a positive relationship between networking capabilities and the financial performance of startup founders.

By allowing the other paths to be constant, the standardised beta coefficient of 0.138 illustrates the partial impact of founders' networking skills on contributing to financial performance. The computed positive sign suggests that the effect is such that financial performance would increase by 0.138 for every unit of standard deviation increase in networking capability, with significance at a 5% level. In light of this, it can be said that the hypothesis that networking capabilities have a favourable impact on financial performance is accepted.

The study's findings are in line with those of a large body of academic research, which asserts that networking enables newly founded businesses to gain strategic advantages, engage with other parties in the startup ecosystem, and attract investors (Mu, 2013). According to studies by Anwar et al. (2018), networking capabilities serve as the first step in acquiring additional resources like capital, information, expertise, and social capital. The study also disputes the findings of Parida et al. (2010), which claimed that established small businesses could contribute more to the association between networking abilities and financial performance than newly founded founders because of ambiguous marketing roles. As a result, hypothesis SM.H5 is also validated by the current study, which confirms the strong relationship between financial performance and networking skills. A new program called Startup Infinity was recently introduced by the Kerala Startup Mission, and it has helped local businesses expand internationally. All of them are the outcome of the networking skills that the startup founders built.

5.4.1.3 Firm Resources and Entrepreneurial Capabilities on Entrepreneurial Orientation

SM. H6: There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.

The standardised beta coefficient of 0.192 represents the partial effect of the entrepreneurial orientation of founders on contributing financial performance, holding the other paths constant. The calculated positive sign reveals that such an effect is so positive that financial performance would increase by 0.192 for every unit of standard deviation increase in entrepreneurial orientation, with significance at the 5% level. Therefore, it can be concluded that the hypothesis that entrepreneurial orientation has a positive effect on financial performance is accepted.

The current study is in line with the findings of prior academic literature stating that there is a significant connection between entrepreneurial orientation and the performance of newly established ventures (Boso et al., 2013; Cho & Lee, 2018). In the context of Kerala, the entrepreneurial orientation of founders in terms of their innovative, risk-taking, and proactive behaviours contributes to performance in many ways, such as being adaptive to the environment, attracting investors, utilising resources, and being customer focused. Thus, it can be concluded that the entrepreneur's mindset is essential for a firm to contribute to startup performance, which supports Hypothesis SM.H6.

SM.H7: Intellectual capital has a positive influence on the entrepreneurial orientation of startups.

Keeping the other paths constant, the standardised beta coefficient of 0.250 depicts the partial impact of intellectual capital on entrepreneurial orientation. The computed positive sign suggests that this effect is positive, increasing entrepreneurial orientation by 0.250 for every unit of increased intellectual capital with significance at a 1% level. In conclusion, the hypothesis that intellectual capital positively influences entrepreneurial orientation is supported. It suggests that the intellectual capital among

Kerala's startup founders will also aid them in developing an entrepreneurial mindset that is innovative, risk-taking, and proactive.

The current study supports the findings of a large body of academic literature by demonstrating the important contribution that intellectual capital makes to entrepreneurial orientation (Al-Jinini et al., 2019; Anwar, Khan, et al., 2018). Numerous elements contribute to these positive roles. First, intellectual capital in the form of human expertise, knowledge, and efficiency can be combined to explore new marketing opportunities. Second, having intellectual capital makes learning more effective, and with their prior knowledge, individuals make decisions concurrently while analysing what they have learned from both successes and failures. Thus, the founders' level of risk-taking depends on their prior experiences and the availability of relevant intellectual resources.

In Kerala, many companies adopted the conglomerate strategy of launching their new businesses using the knowledge gained from their past experiences. As such, the first unicorn startup from Kerala, known as "Open," might be used as an example. who created their neo-banking platform for startups after experiencing the failure of their prior companies. Therefore, the founders' intellectual capital can operate as a creative means of bringing innovation, being risk-takers, and having the potential to move in line with their rivals. So, it follows that hypothesis SM.H7 is supported.

SM.H8: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startups.

Keeping the other paths constant, the standardised beta coefficient of 0.295 illustrates the partial impact of entrepreneurial bricolage on entrepreneurial orientation. The computed positive sign suggests that this effect is positive, with an increase in entrepreneurial orientation of 0.295 for every unit increase in entrepreneurial bricolage that is statistically significant at the 1% level. In conclusion, the idea that entrepreneurial bricolage has a favorable impact on entrepreneurial orientation is substantiated. It suggests that entrepreneurial bricolage among Kerala's startup founders will also aid them in developing an entrepreneurial attitude that is

imaginative, risk-taking, and proactive while working within the constraints of the minimal resources available.

The academic literature emphasised the significance of bricolage behaviour adoption in contributing to innovativeness, risk-taking, and proactivity, and it can be seen that there are differences of view on its impact on financial accomplishment. According to some scholars, their ability to compete is negatively impacted by their excessive dependency on available resources (Ning et al., 2020). It thus goes against the research's conclusions. Additionally, several studies have indicated that entrepreneurial bricolage is a viable method for innovating in a resource-constrained setting (Senyard, 2009). There are many examples of bricolage behaviour in Kerala. Using the resources they already had, a startup from Kerala called Food Foods created a new product that is so delicious that, after such a short period, they are focused on producing other products with the resources they already have. Thus, the researcher can therefore conclude that entrepreneurial bricolage affects founders' entrepreneurial mindset.

SM.H9: There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.

Since its p-value is greater than 0.05, the standardised beta coefficient of -0.032 indicates that knowledge management has no impact on entrepreneurial orientation. Thus, it may be concluded that there is no evidence to support the claim that knowledge management influences entrepreneurial orientation favourably. It shows that the entrepreneurial mindset among Kerala startup founders is unaffected by knowledge management. The results of the current study go against the conclusions of other studies that claim entrepreneurial orientation serves as a mediator between knowledge management, knowledge-oriented leadership, and project success (Latif et al., 2021).

As previously mentioned, knowledge management has a detrimental impact on founders' mindsets due to a variety of factors, including a narrow focus on future trends, a lack of tacit knowledge, the dilution of culture, etc. As a result, the researcher can conclude that among startups situated in Kerala, the association between

knowledge management and entrepreneurial orientation is minor and does not support hypothesis SM. H9.

SM.H10: *The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards startups.*

The standardised beta coefficient of 0.296, which holds the other pathways constant, reflects the partial impact of dynamic capabilities on entrepreneurial orientation. According to the predicted positive sign, a rise in entrepreneurial orientation of 0.296 would occur for every unit increase in dynamic abilities, with significance at the 1% level. In conclusion, the hypothesis that dynamic capabilities positively influence entrepreneurial orientation is supported. It suggests that the dynamic capabilities of Kerala's startup founders will also aid them in developing an inventive, risk-taking, and proactive entrepreneurial mindset.

The current study backs up the conclusions of Abu-Rumman et al. (2021), contending that a strong relationship exists between entrepreneurial orientation, networking, dynamic capabilities, and financial performance. Additionally, it goes against earlier research from Wilden et al. (2013) that revealed dynamic capabilities favourably contribute to financial performance and negatively contribute to sales performance. Dynamic qualities play a significant role in the entrepreneurial mindset of the founders of Kerala startups, as seen by their ability to innovate and take risks. Thus, using the example of education technology enterprises, it can be seen that COVID-19 has had a significant impact on all industries. These entrepreneurs have expanded their modes of operation by incorporating online modes. Many startups, such as Entri, Interval, and others, are going through these shifting market conditions.

SM.H11: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation of startups.

The standardised beta coefficient of 0.202 represents the partial effect of networking capabilities on entrepreneurial orientation, holding the other paths constant. The calculated positive sign indicates that such an effect is positive, and that entrepreneurial orientation would increase by 0.205 for every unit of standard

deviation increase in networking capabilities, with significance at the 1% level. Therefore, it can be concluded that the hypothesis that networking capabilities have a positive effect on entrepreneurial orientation is supported. It indicates that networking capabilities among the startup founders of Kerala will also help them to create an entrepreneurial mindset of innovation, risk-taking, and proactiveness within the limits of the limited resources available.

The current study has proven that there is a direct relationship between networking capabilities and entrepreneurial orientation. However, there is a contradiction between them. Some scholars argue that an organization is considered an open system, and all decisions are taken as a form of collaboration (Mu, 2013). Even if this is the case, new ventures may have a better idea of how to cope with them than established firms. As in the case of Kerala, many networking events are conducted in the form of networking dinners, investor cafés, founder's meetings, etc., which encourage the startup community to scale their business models and compete with their counterparts. Apart from that, brand building, customer acquisition, and value chain development are possible. The only unicorn startup from Kerala, Open Financial Technologies, attracted funding by following the same strategy. Thus, it can be summarized that hypothesis 11 is supported by indicating that the networking capabilities and entrepreneurial orientation of the founders are highly interconnected.

5.4.1.4 Entrepreneurial Orientation on Innovation and Adaptiveness

SM.H12: The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.

The standardised beta coefficient of 0.110 represents the partial effect of entrepreneurial orientation on innovation, holding the other paths constant. The calculated positive sign indicates that such an effect is positive, and that innovation would increase by 0.110 for every unit of standard deviation increase in entrepreneurial orientation, with significance at the 5% level. Therefore, it can be concluded that the hypothesis that entrepreneurial orientation has a positive effect on innovation is supported. It indicates that entrepreneurial orientation among the startup founders of Kerala will also help them create innovative.

The innovative performance of a firm is purely based on its creative mindset as well as its ways of exhibiting it. Innovation can have two different outcomes: it might improve processes or produce new products. Product innovation focuses on making new items using their ideas, whereas process innovation focuses on altering various components of their process. The importance of technical innovation has increased in recent years (Al-Jinini et al., 2019).

The current study validates a large body of academic literature that claims that fostering an entrepreneurial mindset is the best method to boost innovation in recently launched businesses. Innovative performance is the result of the combined effect of various components, such as a firm's ability to invest in technology, develop an innovative culture, have proficient business policies, and recruit competent staff for research and development activities (Iqbal et al., 2021). As a result, it can be concluded that the innovative performance of new ventures is based on entrepreneurial orientation.

SM.H13: Entrepreneurial orientation positively contributes to startup adaptiveness.

The standardised beta coefficient of -0.283 represents the partial effect of entrepreneurial orientation on startup adaptiveness, holding the other paths constant. The calculated negative sign indicates that such an effect is negative and that startup adaptiveness would decrease by 0.283 for every unit of standard deviation increase in entrepreneurial orientation, with significance at the 1% level. Therefore, it can be concluded that the hypothesis that entrepreneurial orientation has a positive effect on startup adaptiveness is not supported. It indicates that entrepreneurial orientation among startup founders in Kerala negatively impacts startup adaptiveness.

The results of the current study are in direct opposition to those of numerous academic studies that claimed that people's ability to adapt was positively impacted by an intense reliance on entrepreneurial orientation. Firms cannot maintain their position as market leaders for an extended period. As an example, Currently, the spread of COVID has had a significant short-term impact on business conditions. Numerous entrepreneurs in Kerala created a remedy to revive this situation because it hurts their funding, sales, and profitability. All of these startup businesses adhere to the traits of

creativity, risk-taking, and initiative. The scalability of startups ends when the crisis is resolved. Therefore, it may be inferred that entrepreneurial attitudes and startup adaptability change depending on the circumstances.

According to earlier research, it is also acknowledged that entrepreneurial orientation and startup adaptability have a positive impact on innovation in SMEs that operate in coastal regions (Savitri et al., 2021). Another view is that the firm's desire to comprehend the market environment promotes entrepreneurial activity and increases risk tolerance and the ability to remain competitive for a long time. As a result, in the context of Kerala, entrepreneurial orientation and startup adaptability are adversely impacted in that a firm is overly focused on innovation and risk-taking to get the greatest amount of funding from investors without knowing its market. Thus, the hypothesis concerning entrepreneurial orientation contributing to startup adaptiveness is not supported.

5.4.1.5 Marketing Strategies on Innovation and Adaptiveness

SM.H14: Marketing orientation positively contributes to innovation in startup companies.

The standardised beta coefficient of 0.355, while holding the other pathways constant, reflects the partial impact of marketing orientation on innovation. The predicted positive sign suggests that this effect is favourable, and that innovation would rise by 0.355 for every unit of increased market orientation, with significance at the 1% level. As a result, it is possible to conclude that the hypothesis supporting the positive impact of market orientation on innovation is appropriate. This suggests that startup founders in Kerala will perform more innovatively if they are market oriented.

The relationship between market orientation and innovative performance is the foundation for the market orientation literature. Numerous empirical studies have supported a wide range of claims, including that financial performance may be measured. However, empirical research in the context of startups has not been examined. This study investigates how a startup's innovative performance and degree of adaptability are affected by market orientation. Because of this, the current study is

consistent with the research of Goswami et al. (2023), which contends that young entrepreneurs make up startup communities and that these individuals are competitive with their rivals by creating their distinct modes of operation. They should therefore desire to change their marketing techniques to increase their consumer base and their performance.

Therefore, it may be concluded that, in the context of Kerala, hypothesis SM.14 is accepted by admitting that market orientation leads to innovative performance. Because of intensive market research, a firm entitled "Genrobotics" created a robotic solution for cleaning manholes. It now draws interest from a wide range of investors and has won numerous prizes for its inventions.

SM.H.15: There is a positive relationship between market orientation and startup adaptability.

While keeping the other paths constant, the standardised beta coefficient of 0.337 shows the partial impact of marketing orientation on startup adaptability. With a substantial effect at the 1% level, the predicted positive sign indicates that startup adaptability would rise by 0.337 for every unit of increased market orientation. In conclusion, the idea that market orientation has a favourable impact on startup adaptability is supported. It suggests that market orientation among Kerala startup founders will also aid them in developing startup adaptability.

Startup adaptability refers to the circumstances in which young businesses continue to operate for an extended period despite abrupt environmental changes, adjusting their marketing methods while absorbing insights from their failures. Additionally, according to the literature, startup adaptability is the outcome of the interaction between many startup ecosystem components, such as entrepreneurial orientation (Savitri et al., 2021), knowledge management (Niu, 2010), bricolage (X. Yu et al., 2020), etc. Therefore, in the current market condition, businesses are heavily investing their time, money, and marketing efforts to help comprehend the market position, evaluate prospective customers, and conduct research and development to better adapt to the market situation. Thus, the hypothesis concerning market orientation on startup adaptiveness is supported (SM. H15).

SM.H16: The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.

As per the analysis, it is clear that there is no significant relationship between market information acquisition and innovation by startup companies; hence, the p-value is greater than 0.05. Therefore, it can be summed up that the hypothesis that market information acquisition has a positive effect on innovativeness is not supported. It indicates that market information negatively contributes to innovative performance.

The impact of market information on contributing to financial performance has been widely shown (Parry & Song, 2010; Song et al., 2010), but it has less of an impact on innovative performance. The purpose of the current study is to fill a gap in the academic literature by examining the significance of contributing to innovative performance. The findings of the current study are consistent with those of earlier studies, which contend that different techniques for gathering market data will result in different levels of innovation. Furthermore, they contend that the retrospective approach to market information hurts product innovation, whereas the forward-looking method has a favourable impact (Cillo et al., 2010). The study also contradicts many findings, stating that the source of information also affects ways of contributing to product innovation. Further, it argues that collecting market information from customers and marketing experts has contributed more to product innovation (Dąbrowski, 2018).

However, according to the current study, acquiring information about the market has a detrimental impact on innovative performance. Startup communities must strike a balance between fostering innovation and implementing efficient techniques for gathering information about the market if they want to mitigate these negative consequences. This can be accomplished by employing several techniques, including rigorous learning, the adoption of new technologies, and developing a flexible and agile approach to decision-making. As a result, Hypothesis SM.H16 is not supported.

SM.H17: The higher the market information acquisition, the higher the startup adaptability.

The standardised beta coefficient of 0.327 represents the partial effect of marketing information acquisition on startup adaptability, holding the other paths constant. The

calculated positive sign indicates that such an effect is positive, and that startup adaptiveness would increase by 0.327 for every unit of standard deviation increase in market information acquisition, with significance at the 1% level. Therefore, it can be summed up that the hypothesis that market information acquisition has a positive effect on startup adaptiveness is supported. It indicates that market information acquisition among startup founders in Kerala will also help them improve startup adaptability.

So, it is established that startups situated in Kerala are constantly seeking to attract different investors through a variety of means and adapt to the industry for an extended period. As a result, the hypothesis that market information influences startup adaptability is supported.

5.4.2. Mediation Analysis

Mediation analysis is the process of understanding the relationship between dependent and independent variables under the influence of a third variable. To conduct a mediation analysis, it is necessary to consider the theoretical significance of the relationship between the variables.

The result of mediation analysis may take three forms: full mediation, partial mediation, or no mediation.

There are two widely used ways for computing the mediation, including the Barron and Kenny approach and bootstrapping. According to Barron and Kenny's (1986) method, three presumptions must be met: the independent variable must have a considerable impact on the mediator, the mediator must have a significant effect on the dependent variable, and both the independent and mediator must have a significant effect on the dependent variable.

However, as an extension, bootstrapping techniques have been created, allowing testing without the normality assumption. The bootstrapping method of 5,000 samples was used in the present study. The current study consists of five independent variables (intellectual capital, entrepreneurial bricolage, knowledge management, dynamic capabilities, and networking capabilities), one mediating variable (entrepreneurial orientation), and one dependent variable (financial performance).

Table 5.7

Table Showing Mediation Analysis

Hypotheses path	Direct effect without the mediator	standardized Direct effect	standardized indirect effect	Standardized total effect	BC (L)	BC (UL)	Result
IC → EO → FP	0.519 (<.001**)	0.288 (<.001**)	0.048 (.004**)	0.336 (<0.00**)	0.012	0.108	Partial mediation
EB → EO → FP	0.411 (<.001**)	0.144 (0.037*)	0.056 (.004**)	0.200 (.001**)	0.017	0.117	Partial mediation
KM → EO → FP	-0.098 (.119)	-0.045 (0.381)	-0.006 (0.545)	-0.051 (0.340)	-0.042	0.018	No mediation
DC → EO → FP	0.586 (<.001**)	0.366 (<.001**)	0.057 (.006**)	0.423 (.001**)	0.017	0.116	Partial mediation
NC → EO → FP	0.375 (<.001**)	0.138 (.047*)	0.039 (.006**)	0.177 (.011*)	0.009	0.088	Partial mediation

*** denotes significant at a 1% level*
**Denotes significant at a 5% level*

The following section explains the result of mediation analysis in the hypothesized model.

MED.H1 Entrepreneurial Orientation Mediates the Relationship Between Intellectual Capital and Financial Performance of Startup Companies in Kerala

Hypothesis MED.H1 Sought to investigate the mediating role of entrepreneurial orientation between intellectual capital and the financial performance of startup companies in Kerala. The research evaluated both the direct and indirect effects of intellectual capital on financial performance. The mediation results are presented in Table 5.7.

In the initial phase, the unmediated model showed a significant direct relationship between intellectual capital (independent variable) and financial performance (dependent variable) ($\beta = 0.519$, $p < 0.001$). Subsequently, a mediation model was constructed with an entrepreneurial orientation as a mediator. In this model, intellectual capital retained its significant direct impact on financial performance ($\beta = 0.288$, $p < 0.001$), while the indirect effect through entrepreneurial orientation was also notable ($\beta = 0.048$, $p = 0.004$). These results suggest that the significant direct relationship between intellectual capital and financial performance remained evident in both the unmediated and mediated models, indicating partial mediation. The introduction of entrepreneurial orientation as a mediator resulted in a decrease in the strength of the direct relationship, from $\beta = 0.519$ to $\beta = 0.288$. Consequently, entrepreneurial orientation was identified as a partial mediator, demonstrating its role in influencing the connection between intellectual capital and the financial performance of newly established ventures.

By confirming the RBVT in the context of Kerala, the current study has demonstrated that internal business capabilities—such as intellectual capital and an entrepreneurial orientation—have a greater impact on financial performance than external capabilities.

MED.H2 Entrepreneurial Orientation Mediates the Relationship Between Entrepreneurial Bricolage and Financial Performance of Startup Companies in Kerala

Hypothesis MED.H2 evaluated the role of entrepreneurial orientation as a mediating variable between entrepreneurial bricolage and the financial performance of startup companies operating in Kerala. To measure this, the direct and indirect effects of entrepreneurial bricolage on financial performance were investigated. Table 5.7 presents the mediation results.

In the first step, the direct relationship between entrepreneurial bricolage (the independent variable) and financial performance (the dependent variable) is explained in the unmediated model (without the mediating variable, entrepreneurial orientation), and the result shows that the direct effect of entrepreneurial bricolage on financial performance is found to be significant (β =.411, p = <.001). In the next step, entrepreneurial orientation was added as a mediator in the model. Here, entrepreneurial bricolage had a significant direct effect on financial performance (β =.0.144, p =.025). The indirect effect of entrepreneurial bricolage on financial performance was also significant (β =.056, p = 0.004). Results revealed that a direct and significant relationship between entrepreneurial bricolage and financial performance was significant in the case of the unmediated model, and it was found that a direct relationship between entrepreneurial bricolage and financial performance was also significant when the mediator entrepreneurial orientation was introduced into the model and the result was partial mediation. Due to the influence of entrepreneurial orientation as a mediator, the direct relationship between entrepreneurial bricolage and the financial performance of newly established ventures was reduced from β=0.411 to β=.144. Thus, the entrepreneurial orientation partially mediated the association between entrepreneurial bricolage and financial performance.

The current study has demonstrated that Kerala startup founders rely on both their strategies for innovation, risk-taking, and proactiveness, in addition to their restricted resources, to contribute to the financial performance of startup enterprises.

MED.H3 Entrepreneurial Orientation Mediates the Relationship Between Knowledge Management Capabilities and Financial Performance of Startup Companies in Kerala

Hypothesis MED.H3 scrutinised the role of entrepreneurial orientation as a mediating variable between the knowledge management capabilities of founders and the financial performance of startup companies operating in Kerala. To measure this, the direct and indirect effects of knowledge management on financial performance were investigated. Table 5.7 presents the mediation results.

In the first step, the direct relationship between knowledge management (an independent variable) and financial performance (a dependent variable) is explained in the unmediated model (without mediating the variable entrepreneurial orientation), and the result shows the direct effect of entrepreneurial bricolage on financial performance is found to be insignificant (β = -0.098, p = 0.119). In the next step, entrepreneurial orientation was added as a mediator in the model. Here, knowledge management had an insignificant direct effect on financial performance (β = -.045, p = 0.381). The indirect effect of knowledge management on financial performance was also insignificant (β = -0.006, p = 0.545). Results revealed that a direct, significant relationship between knowledge management and financial performance was insignificant in the case of the unmediated model, and it was also found that a direct relationship between knowledge management and financial performance was insignificant when the mediator entrepreneurial orientation was introduced into the model and the result was no mediation.

MED.H4 Entrepreneurial Orientation Mediates the Relationship Between Dynamic Capabilities and Financial Performance of Startup Companies in Kerala

Hypothesis MED.H4 analysed the role of entrepreneurial orientation as a mediating variable between the dynamic capabilities of founders and the financial performance of startup companies operating in Kerala. To measure this, the direct and indirect effects of dynamic capabilities on financial performance were investigated. Table 5.7 presents the mediation results.

In the first step, the direct relationship between dynamic capabilities (the independent variable) and financial performance (the dependent variable) is explained in the

unmediated model (without mediating the entrepreneurial orientation variable), and the result shows that the direct effect of dynamic capabilities on financial performance is found to be significant (β =.586, p = <.001). In the next step, entrepreneurial orientation was added as a mediator in the model. Here, the dynamic capabilities had a significant direct effect on financial performance (β =.0.366, p = <.001). And the indirect effect of the dynamic capabilities on financial performance was also significant (β =.057, p = 0.006). Results revealed that the direct significant relationship between dynamic capabilities and financial performance was significant in the case of the unmediated model, and it was found that the direct significant relationship between dynamic capabilities and financial performance was also significant when the mediator entrepreneurial orientation was introduced into the model and the result was partial mediation. Due to the influence of entrepreneurial orientation as a mediator, the direct relationship between dynamic capabilities and the financial performance of newly established ventures was reduced from β=.586 to β=.366. Thus, the entrepreneurial orientation partially mediated the association between dynamic capabilities and financial performance.

In the setting of Kerala, a founder with dynamic capabilities and an entrepreneurial mindset is constantly seeking to improve performance by fusing a learning environment with efficient marketing tactics.

MED.H5 Entrepreneurial orientation mediates the relationship between networking capabilities and the financial performance of startup companies in Kerala.

Hypothesis MED.H5 analysed the role of entrepreneurial orientation as a mediating variable between the networking capabilities of founders and the financial performance of startup companies operating in Kerala. To measure this, the direct and indirect effects of networking capabilities on financial performance were investigated. Table 5.7 presents the mediation results.

In the first step, the direct relationship between networking capabilities (an independent variable) and financial performance (a dependent variable) is explained in the unmediated model (without mediating the entrepreneurial orientation variable). The result shows that the direct effect of networking capabilities on financial performance is found to be significant (β =.375, p = <.001). Entrepreneurial

orientation was added as a mediator in the model in the next step. Here, the networking capabilities had a significant direct effect on financial performance (β =.0.138, p = 0.047). And the indirect effect of networking capabilities on financial performance was also significant (β =.039, p = 0.006). Results revealed that a significant direct relationship between networking capabilities and financial performance was significant in the case of the unmediated model, and it was found that a direct relationship between networking capabilities and financial performance was also significant when the mediator entrepreneurial orientation was introduced into the model, resulting in partial mediation. Due to the influence of entrepreneurial orientation as a mediator, the direct relationship between networking capabilities and the financial performance of newly established ventures was reduced from β=.375 to β=.138. Thus, the entrepreneurial orientation partially mediated the association between networking capabilities and financial performance.

So, it can prove that, in the setting of Kerala-based startups, both networking capabilities and entrepreneurial orientation are important. As a result, the four variables previously discussed (intellectual capital, entrepreneurial bricolage, networking capabilities, and dynamic capacities) have been mediated by entrepreneurial orientation.

Table 5.8

Structural Hypotheses Summary

Hypotheses No	Hypotheses	Result
SM.H1	There is a positive relationship between intellectual capital and the financial performance of startup companies.	Supported
SM.H2	Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.	Supported
SM.H3	Knowledge management has a positive influence on the financial performance of startup founders.	Not Supported
SM.H4	The higher the dynamic capabilities of startup founders, the higher their financial performance.	Supported
SM.H5	There is a positive relationship between networking capabilities and the financial performance of startup founders.	Supported

Hypotheses No	Hypotheses	Result
SM.H6	There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.	Supported
SM.H7	Intellectual capital has a positive influence on the entrepreneurial orientation of startup founders.	Supported
SM.H8	entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startup founders.	Supported
SM.H9	There is a positive relationship exist between knowledge management and the entrepreneurial orientation of startup founders.	Not Supported
SM.H10	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation.	Supported
SM.H11	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation.	Supported
SM.H12	The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.	Supported
SM.H13	Entrepreneurial orientation positively contributes to startup adaptiveness.	Supported
SM.H14	Marketing orientation positively contributes to innovation in startup companies.	Supported
SM.H15	There is a positive relationship between market orientation and startup adaptability.	Supported
SM.H16	The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.	Not Supported
SM.H17	The higher the market information acquisition, the higher the startup adaptability.	Supported

Table 5.9

Mediation Hypotheses Summary

Hypothesis No	Mediation hypothesis in the model	Result
MED.H1	Entrepreneurial orientation mediates the relationship between intellectual capital and the financial performance of startup companies in Kerala.	Partial Mediation
MED.H2	Entrepreneurial orientation mediates the relationship between entrepreneurial bricolage and the financial performance of startup companies in Kerala.	Partial Mediation
MED.H3	Entrepreneurial orientation mediates the relationship between knowledge management capabilities and the financial performance of startup companies in Kerala.	No Mediation
MED.H4	Entrepreneurial orientation mediates the relationship between dynamic capabilities and the financial performance of startup companies in Kerala.	Partial Mediation
MED.H5	Entrepreneurial orientation mediates the relationship between networking capabilities and the financial performance of startup companies in Kerala.	Partial Mediation

5.5. Conclusion

This chapter identifies the interplay between firm resources, entrepreneurial capabilities, and marketing strategies concerning financial performance, innovation, and startup adaptability. It delves into both the direct and indirect impacts of entrepreneurial orientation on firm resources, capabilities, and financial performance. The first section employs AMOS-SEM to analyse these relationships, where "Resources, Capabilities, and Marketing Strategies" serve as independent variables, while financial performance, innovation, and adaptability are dependent variables. Initially, a model is constructed to illustrate how business resources and competencies, along with entrepreneurial orientation and marketing tactics, contribute to innovation

and startup adaptability. Moreover, the chapter conducts a mediation analysis concerning entrepreneurial orientation's influence on firm resources, capabilities, and financial performance. The findings underscore the significant role of effectively utilising resources, capabilities, and strategies for newly established enterprises. In conclusion, the researcher aligns with the Resource-Based View Theory (RBVT) and the Resource Orchestration Theory (ROT).

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Chapter 6

THE EFFECT OF FIRM RESOURCES, CAPABILITIES, AND STRATEGIES ON VARIOUS DIMENSIONS OF STARTUP PERFORMANCE: A MULTIGROUP ANALYSIS AMONG INCUBATED AND NON-INCUBATED STARTUPS IN KERALA

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6.1 Introduction

This chapter attempts to accomplish the sixth objective, i.e., to predict the differences in a model on the effect of firm resources, capabilities, and marketing strategies on various aspects of startup performance among incubated and non-incubated startups in Kerala. In this chapter, the researcher attempts to investigate the multi-group moderating effects of business incubation on the link between firm resources, capabilities, marketing strategies, and various aspects of startup performance. The chapter's main goal is to identify group differences by comparing the effects of firm resources, capabilities, and marketing strategies on various aspects of startup performance across incubated and non-incubated firms in Kerala. The impact of multigroup moderation was examined using IBM SPSS AMOS 21 software. This chapter also explains the summary of the hypothesis testing.

This chapter is divided into eight distinct sections. The first section of the chapter is an introduction, and the second is a brief overview of multi-group analysis using AMOS. In the third and fourth chapters, two distinct CB-SEM models for firm resources, entrepreneurial capabilities, and marketing tactics are discussed concerning various startup performance aspects for both incubated and non-incubated firms, respectively. The fifth section includes the analysis and interpretation of multigroup moderation by using two different methods: the measurement invariance method and the critical ratio for differences method. The sixth section includes a summary of the findings of a comparative analysis of business resources, capabilities, and marketing strategies on various aspects of startup performance in Kerala for both incubated and non-incubated firms. The seventh section includes a summary of hypotheses, and the final section includes a conclusion.

6.2 Multigroup Analysis

Multigroup analysis is used to ascertain whether the model is the same across groups. To ascertain whether the model is consistent across the groups under study, measurement invariance should be evaluated before the structural invariance test. This test is considered a different moderation test (Hair et al., 2006). According to Hair et al. (2010), multigroup analysis can be used to assess the moderating effects of the path coefficient and the validity of the conceptual model and hypotheses. According to Nyaga et al. (2009), the multigroup analysis should be utilised if the constructs and item sets are believed to be the same across groups. Additionally, multigroup analysis is a suitable method for group analysis and ultimately yields the results for two models (Bansel et al., 2016). The critical ratio for differences method and the measurement invariance method are the two multigroup moderation analysis methods available in AMOS. Table 6.1 shows the hypotheses proposed in connection with multi-group moderation analysis.

In this study, two sample groups—incubated and non-incubated startups—are used to examine firm resources, capabilities, marketing approaches, and various facets of startup performance.

Table 6.1

Hypotheses of the Multigroup Moderation Model

Hypotheses No	Hypotheses
MG.H1	**Business incubation has a significant impact on the relationship among firm resources, capabilities, marketing strategies, and various dimensions of startup performance.**
MG.H1a	Business incubation moderates the relationship between intellectual capital and entrepreneurial orientation.
MG.H1b	Business incubation moderates the relationship between entrepreneurial bricolage and entrepreneurial orientation.
MG.H1c	Business incubation moderates the relationship between knowledge management and entrepreneurial orientation.
MG.H1d	Business incubation moderates the relationship between networking capabilities and entrepreneurial orientation.

Hypotheses No	Hypotheses
MG.H1e	Business incubation moderates the relationship between entrepreneurial bricolage and financial performance.
MG.H1f	Business incubation moderates the relationship between networking capabilities and financial performance.
MG.H1g	Business incubation moderates the relationship between knowledge management and financial performance.
MG.H1h	Business incubation moderates the relationship between dynamic capabilities and financial performance.
MG.H1i	Business incubation moderates the relationship between market information acquisition and startup adaptiveness.
MG.H1j	Business incubation moderates the relationship between market orientation and startup adaptiveness.
MG.H1k	Business incubation moderates the relationship between market information acquisition and innovation.
MG.H1l	Business incubation moderates the relationship between market orientation and innovation.
MG.H1m	Business incubation moderates the relationship between entrepreneurial orientation and financial performance.
MG.H1n	Business incubation moderates the relationship between entrepreneurial orientation and innovation.
MG.H1o	Business incubation moderates the relationship between entrepreneurial orientation and startup adaptiveness.
MG.H1p	Business incubation moderates the relationship between intellectual capital and financial performance.
MG.H1q	Business incubation moderates the relationship between dynamic capabilities and entrepreneurial orientation.

MG.H1, MG.H1a-MG.H1. q indicates multigroup moderation hypotheses

6.3. Covariance-Based Structural Equation Model (CB-SEM) for Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Various Dimensions of Startup Performance: Incubated Startups

Incubation centres are specialised institutions created to assist nurturing entrepreneurs in growing their business enterprises. It is a bundle of resources easily accessible to entrepreneurs. This section presents CB-SEM for firm resources, entrepreneurial

capabilities, and marketing strategies on various aspects of startup performance (financial performance, innovation, and startup adaptiveness) for incubated firms.

Figure 6.2. below is the structural model of firm resources, entrepreneurial capabilities, and marketing strategies for incubated startups' financial performance, innovation, and adaptability. In addition, table 6.3 shows the outcomes of the path estimations in the structural model of incubated startups.

Table 6.2

SEM Hypotheses for Incubated Startups

Hypotheses No	Hypotheses
SM.H1i	There is a positive relationship between intellectual capital and the financial performance of incubated startup companies.
SM.H2i	Entrepreneurial bricolage has a positive influence on the financial performance of incubated startup companies.
SM.H3i	Knowledge management has a positive influence on the financial performance of incubated startup companies.
SM.H4i	The higher the dynamic capabilities of startup founders, the higher the financial performance of incubated startup companies.
SM.H5i	There is a positive relationship between networking capabilities and the financial performance of incubated startup companies.
SM.H6i	There is a positive relationship between entrepreneurial orientation and the financial performance of incubated startup companies.
SM.H7i	Intellectual capital has a positive influence on the entrepreneurial orientation of incubated startups.
SM.H8i	Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of incubated startups.
SM.H9i	There is a positive relationship between knowledge management and the entrepreneurial orientation of incubated startups.
SM.H10i	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards incubated startups.
SM.H11i	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards incubated startups.
SM.H12i	The higher the entrepreneurial orientation of founders, the higher the innovation of incubated startup companies.

Hypotheses No	Hypotheses
SM.H13i	Entrepreneurial orientation positively contributes to the startup adaptiveness of incubated companies.
SM.H14i	Marketing orientation positively contributes to innovation in incubated startup companies.
SM.H15i	There is a positive relationship between market orientation and incubated startup adaptability.
SM.H16i	The higher the market information acquisition done by startup founders, the higher the innovation of incubated startup companies.
SM.H17i	The higher the market information acquisition, the higher the incubated startup's adaptability.

SM.H1i to SM. H17i indicate Structural Model Hypotheses for incubated startups

Figure 6.1

Covariance-based structural equation model (CB-SEM) for firm resources, entrepreneurial capabilities, and marketing strategies on various dimensions of startup performance: Incubated startups

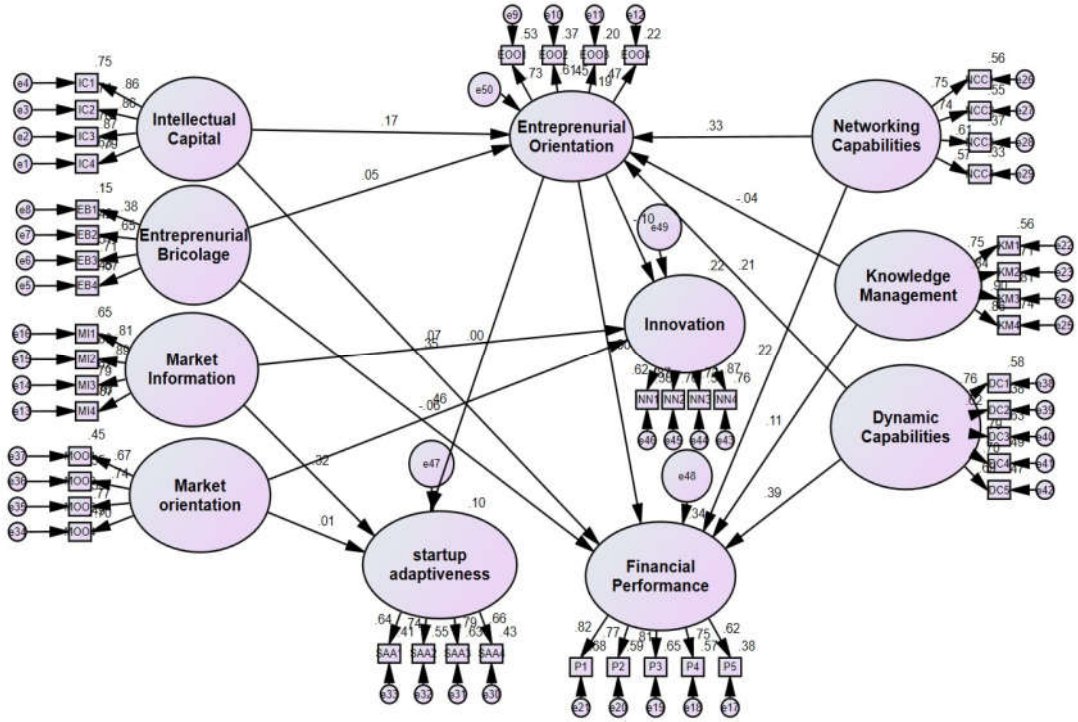


Table 6.3

Path analysis- Incubated Startups

Exogenous Variable		Endogenous variable	Estimate	SE	CR	p-value	Hypotheses status
Intellectual Capital	→	Financial Performance	0.351	.064	4.210	<0.001**	Supported
Entrepreneurial Bricolage	→	Financial Performance	-0.057	.055	-.709	.479	Not supported
Knowledge Management	→	Financial Performance	0.106	.051	1.471	.141	Not supported
Dynamic Capabilities	→	Financial Performance	0.393	.085	4.361	<0.001**	Supported
Networking Capabilities	→	Financial Performance	0.222	.084	2.465	.014*	Supported
Entrepreneurial Orientation	→	Financial Performance	0.030	.123	.036	.971	Not supported
Intellectual Capital	→	Entrepreneurial orientation	0.173	.050	1.933	.050*	Supported
Entrepreneurial Bricolage	→	Entrepreneurial orientation	0.048	.053	.484	.629	Not supported
Knowledge management	→	Entrepreneurial orientation	-0.036	.049	-.413	.680	Not supported
Dynamic capabilities	→	Entrepreneurial orientation	0.208	.069	2.211	.027*	Supported
Networking Capabilities	→	Entrepreneurial orientation	0.334	.075	3.264	.001**	Supported
Entrepreneurial orientation	→	Innovation	0.101	.210	1.175	.040*	Supported
Entrepreneurial orientation	→	Startup adaptiveness	0.004	.165	.045	.964	Not supported
Market orientation	→	Innovation	0.456	.116	5.072	<0.001**	Supported
Market orientation	→	Startup adaptiveness	0.007	.081	.083	.934	Not supported
Market information acquisition	→	Innovation	0.073	.094	.967	.334	Not supported
Market information acquisition	→	Startup adaptiveness	0.320	.080	3.619	<0.001**	Supported

Source: Primary
*Denotes significance at 5% level
**Denotes significant at 1% level

6.3.1 Results of Path Analysis of Firm Resources, Capabilities, Marketing Strategies, and Various Dimensions of Startup Performance Among Incubated Startups.

In the context of incubated startups, the results of each hypothesis based on the structural equation modeling (SEM) technique are explained in the next section.

SM.H1i: There is a positive relationship between intellectual capital and the financial performance of incubated startup companies.

The findings show that intellectual capital has a significant impact on the financial performance of the businesses that have been incubated at or graduated from various business incubation centres (β -values 0.351, p <0.001). The standardised beta coefficient of 0.351 illustrates the partial influence of intellectual capital on the financial performance of new ventures while holding the other paths constant. The predicted positive sign indicates that such an effect is favourable and that financial performance would rise by 0.351 for each unit of the intellectual capital increase in the standard deviation. This coefficient value is significant at the 1% level. Consequently, intellectual capital has a positive effect on financial performance.

SM.H2i: Entrepreneurial bricolage has a positive influence on the financial performance of incubated startup companies.

The p-value is greater than 0.05 (p= 0.479), indicating that there is no significant difference in the link between entrepreneurial bricolage and financial performance among startup companies that have been incubated. It implies that there is no connection between entrepreneurial bricolage and the financial performance of start-up businesses housed in different business incubator facilities.

SM.H3i: Knowledge management has a positive influence on the financial performance of incubated startup companies.

Following the analysis, since the p-value is higher than 0.05 (p-value: 0141), it is obvious that knowledge management and financial performance of incubated startups are not statistically significant. In light of this, it may be said that knowledge

management techniques used by incubation centres don't affect their financial performance.

SM.H4i: The higher the dynamic capabilities of startup founders, the higher the financial performance of incubated startup companies.

The findings show that dynamic capabilities have an impact on the financial performance of the businesses that have been incubated at or graduated from different business incubation centers (β -values 0.393, p <0.001). The standardised beta coefficient of 0.393 illustrates the partial effect of dynamic skills on the financial performance of new businesses while holding the other pathways constant. According to the computed positive sign, this effect is positive, and startup performance would rise by 0.393 for every unit increase in dynamic capabilities. This coefficient value is significant at the 1% level. As a result, dynamic capabilities have a positive effect on financial performance.

SM.H5i: There is a positive relationship between networking capabilities and the financial performance of incubated startup companies.

The standardised beta coefficient of 0.222 represents the partial effect of networking capabilities on financial performance, holding the other paths constant. The calculated positive sign indicates that such an effect is positive and that financial performance would increase by 0.222 for every unit of standard deviation increase in networking capabilities, with significance at the 5% level. It indicates that networking capabilities developed by startup founders with the incubation and from their peer groups help firms create growth in their financial performance.

SM.H6i: There is a positive relationship between entrepreneurial orientation and the financial performance of incubated startup companies.

Given that the p-value is higher than 0.05 (p-value: 0.971), it is evident from the analysis that the entrepreneurial orientation and financial performance of incubated businesses are not statistically significant. Therefore, it may be inferred that startup founders creating entrepreneurial bricolage within incubation centres do not influence financial performance.

SM.H7i: Intellectual capital has a positive influence on the entrepreneurial orientation of incubated startups.

The standardised beta coefficient of 0.173, which maintains the other paths constantly, illustrates the partial impact of intellectual capital on entrepreneurial orientation. The effect is expected to be positive, with a gain in entrepreneurial orientation of 0.173 for every unit of increased standard deviation in intellectual capital at a significant level of 5%. As a result, it can be claimed that the development of intellectual capital in incubated businesses has a greater impact on entrepreneurial orientation.

SM.H8i: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of incubated startups.

Since the p-value is greater than 0.05 (p=0.629), there is no significant difference in the connection between entrepreneurial bricolage and entrepreneurial orientation among startup companies that have been incubated. Thus, it can be concluded that there is no connection between entrepreneurial bricolage and the entrepreneurial attitude of start-up businesses located in various business incubators.

SM.H9i: There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.

The analysis clearly shows that the knowledge management and entrepreneurial orientation of incubated companies are not statistically significant because the p-value is higher than 0.05 (p-value: 0.680). We can therefore conclude that the knowledge management techniques used in incubation centres do not support entrepreneurial orientation.

SM.H10i: The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards incubated startups.

By allowing the other paths to be constant, the standardised beta coefficient of 0.208 illustrates the partial impact of founders' dynamic capabilities on contributing to entrepreneurial orientation. The computed positive sign suggests that the effect is such

that entrepreneurial orientation would increase by 0.208 for every unit of standard deviation increase in dynamic capabilities, with significance at a 5% level.

SM.H11i: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards incubated startups.

The findings make it clear that networking capabilities have a significant impact on the entrepreneurial orientation of the businesses that have been incubated at or graduated from different business incubation centres (β -values 0.334, p <0.001**). The standardised beta coefficient of 0.334 illustrates the partial influence of networking capabilities on the entrepreneurial orientation of new companies while holding the other paths constant. The calculated positive sign denotes that such an effect is positive and that entrepreneurial orientation would increase by 0.334 for every unit of standard deviation increase in networking capabilities. This coefficient value is significant at the 1% level. As a result, networking capabilities have a positive effect on entrepreneurial inclination.

SM. HI2i: The higher the entrepreneurial orientation of founders, the higher the innovation of incubated startup companies.

Keeping the other paths constant, the standardised beta value of 0.101 shows the partial effect of founders' entrepreneurial orientation on generating innovation. The calculated positive sign reveals that such an effect is so positive that innovation would increase by 0.101 for every unit of standard deviation increase in entrepreneurial orientation, with significance at the 5% level. Therefore, it can be said that having an entrepreneurial mindset helps startup companies in incubators contribute to innovation.

SM.H13i: Entrepreneurial orientation positively contributes to the startup adaptiveness of incubated companies.

Based on the results, it is evident that incubated startups' entrepreneurial orientation and adaptability are not statistically significant since the p-value is higher than 0.05 (p-value: 0964). Therefore, it can be inferred that the entrepreneurial

orientation within incubation centers in the form of innovation, risk-taking, and proactiveness does not contribute to startup adaptability.

SM.H14i: Marketing orientation positively contributes to innovation in incubated startup companies.

It is clear from the results that market orientation favourably promotes innovation in the businesses that have been incubated at or graduated from different business incubation centres (β-values 0.456, p <0.001). The standardised beta coefficient of 0.456 illustrates the partial influence of market orientation on the innovation of startup companies while holding the other paths constant. The calculated positive sign denotes that such an effect is positive and that innovation would increase by 0.456 for every unit of standard deviation increase in market orientation. This coefficient value is significant at the 1% level. So, it is clear that market orientation favourably influences innovation.

SM.H15i: There is a positive relationship between market orientation and incubated startup adaptability.

Since the p-value is higher than 0.05 (p-value: 0934), it is evident from the results that the market orientation and adaptability of incubated startups are not statistically significant. Therefore, it may be inferred that the incubation centers' strong reliance on market orientation does not help startups become more adaptable.

SM.H16i: The higher the market information acquisition done by startup founders, the higher the innovation of incubated startup companies.

Since the p-value is higher than 0.05 (p = 0.334), no statistically significant difference in the relationship between market information acquisition and innovation among startup companies has been incubated. This indicates that there is no connection between gathering market information and the innovation of new businesses housed in various business incubator centres.

SM.H17i: The higher the market information acquisition, the higher the incubated startup's adaptability.

The findings make it clear that acquiring market information has a favourable impact on a startup's ability to adapt (β -values 0.320, p <0.001). Keeping the other paths constant, the standardised beta coefficient of 0.320 depicts the partial impact of market information acquisition on the adaptiveness of startup companies. The calculated positive sign denotes that such an effect is positive and that adaptiveness would increase by 0.320 for every unit of standard deviation increase in market information acquisition. This coefficient value is significant at the 1% level. Therefore, it can be seen that acquiring market information has a positive effect on startups' ability to adapt.

6.4. Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Various Dimensions of Startup Performance: Non-Incubated Startups

This section presents CB-SEM for firm resources, entrepreneurial capabilities, and marketing strategies on key startup performance aspects for non-incubated firms. The structural model of firm resources, entrepreneurial capabilities, and marketing tactics as they relate to financial performance, innovation, and startup adaptability of non-incubated companies is shown in Figure 6.2. below. In addition, table 6.4 shows the outcomes of the path estimations in the structural model of non-incubated startups.

Table 6.4

SEM hypotheses - non-incubated startups

Hypotheses No	Hypotheses
SM.H1n	There is a positive relationship between intellectual capital and the financial performance of non-incubated startup companies.
SM.H2n	Entrepreneurial bricolage has a positive influence on the financial performance of non-incubated startup companies.
SM.H3n	Knowledge management has a positive influence on the financial performance of non-incubated startup companies.

Hypotheses No	Hypotheses
SM.H4n	The higher the dynamic capabilities of startup founders, the higher the financial performance of non-incubated startup companies.
SM.H5n	There is a positive relationship between networking capabilities and the financial performance of non-incubated startup companies.
SM.H6n	There is a positive relationship between entrepreneurial orientation and the financial performance of non-incubated startup companies.
SM.H7n	Intellectual capital has a positive influence on the entrepreneurial orientation of non-incubated startups.
SM.H8n	Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of non-incubated startups.
SM.H9n	There is a positive relationship between knowledge management and the entrepreneurial orientation of non-incubated startups.
SM.H10n	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.
SM.H11n	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.
SM.H12n	The higher the entrepreneurial orientation of founders, the higher the innovation of non-incubated startup companies.
SM.H13n	Entrepreneurial orientation positively contributes to the startup adaptiveness of non-incubated companies.
SM.H14n	Marketing orientation positively contributes to innovation in non-incubated startup companies.
SM.H15n	There is a positive relationship between market orientation and non-incubated startup adaptability.
SM.H16n	The higher the market information acquisition done by startup founders, the higher the innovation of non-incubated startup companies.
SM.H17n	The higher the market information acquisition, the higher the non-incubated startup's adaptability.

SM.H1n to SM. H17n indicate Structural Model Hypotheses for non-incubated startups

Figure 6.2

Covariance-based structural equation model (CB-SEM) for firm resources, entrepreneurial capabilities, and marketing strategies on various dimensions of startup performance: non-incubated startups

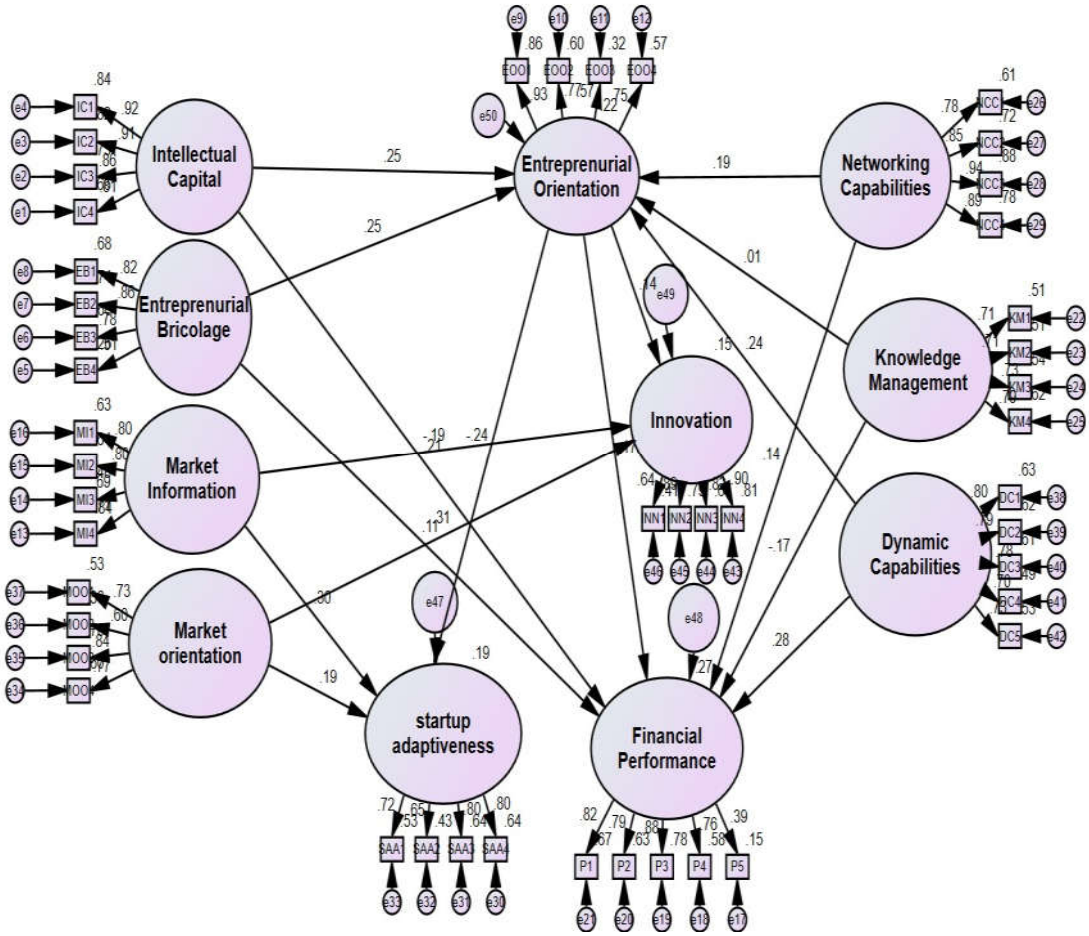


Table 6.4

Path analysis- non-incubated startups

Exogenous Variable		Endogenous variable	Estimate	SE	CR	p-value	Hypotheses status
Intellectual Capital	→	Financial Performance	.205	.061	2.020	.043*	Supported
Entrepreneurial Bricolage	→	Financial Performance	.107	.077	1.095	.273	Not supported

Exogenous Variable		Endogenous variable	Estimate	SE	CR	p-value	Hypotheses status
Knowledge Management	→	Financial Performance	-.172	.071	-1.723	.085	Not supported
Dynamic Capabilities	→	Financial Performance	.277	.082	2.456	.014*	Supported
Networking Capabilities	→	Financial Performance	.145	.055	1.536	.124	Not supported
Entrepreneurial Orientation	→	Financial Performance	.171	.075	1.575	.115	Not supported
Intellectual Capital	→	Entrepreneurial orientation	0.250	.077	2.796	.005**	Supported
Entrepreneurial Bricolage	→	Entrepreneurial orientation	.253	.114	2.542	.011*	Supported
Knowledge management	→	Entrepreneurial orientation	.011	.095	.121	.904	Not supported
Dynamic capabilities	→	Entrepreneurial orientation	.238	.098	2.576	.010*	Supported
Networking Capabilities	→	Entrepreneurial orientation	.186	.075	2.101	.036*	Supported
Entrepreneurial orientation	→	Innovation	.140	.156	1.517	.129	Not supported
Entrepreneurial orientation	→	Startup adaptiveness	-.243	.135	-2.517	.012*	Supported
Market orientation	→	Innovation	.307	.129	3.110	.002**	Supported
Market orientation	→	Startup adaptiveness	.193	107	1.934	.050*	Supported
Market information acquisition	→	Innovation	-.193	.152	-2.043	.041*	Supported
Market information acquisition	→	Startup adaptiveness	.302	0.133	3.025	0.002**	Supported

Source: Primary
*Denotes significance at 5% level
**Denotes significant at 1% level

6.4.1 Results of Path Analysis of Firm Resources, Capabilities, Marketing Strategies, and Various Dimensions of Startup Performance among Non-Incubated Startups

The following paragraph explains the result of each hypothesis based on the structural equation modeling (SEM) technique in the case of non-incubated startups.

SM.H1n: There is a positive relationship between intellectual capital and the financial performance of non-incubated startup companies.

The standardized beta coefficient of 0.205, which maintains the other paths constantly, illustrates the partial influence of intellectual capital on the financial performance of non-incubated firms in Kerala. According to the predicted positive sign, a rise in financial performance of 0.205 would occur for every unit increase in intellectual capital with significance at the 5% level. Therefore, intellectual capital has a favorable impact on financial performance. It implies that company founders who are not enrolled in incubator programs will benefit financially from their intellectual capital as well.

SM.H2n: Entrepreneurial bricolage has a positive influence on the financial performance of non-incubated startup companies.

The results demonstrate that there is no association between entrepreneurial bricolage and financial performance, as indicated by the standardised beta coefficient (0.107) and a p-value higher than 0.05 (0.273). Thus, it is proven that entrepreneurial bricolage does not affect financial performance.

SM.H3n: Knowledge management has a positive influence on the financial performance of non-incubated startup companies.

According to the results, since the p-value is higher than 0.05 (p-value: 0.085), it is obvious that knowledge management and financial performance of non-incubated startups are not statistically significant. Thus, it can be argued that the business founders' knowledge management techniques don't have an impact on financial performance.

SM.H4n: The higher the dynamic capabilities of startup founders, the higher their financial performance for non-incubated startup companies.

It is evident from the results that dynamic capabilities positively influence startup financial performance (β -values 0.277, p = 0.014) of the companies not being incubated or graduating from various business incubation centres. Keeping the other paths constant, the standardised beta coefficient of 0.277 depicts the partial impact of dynamic capabilities on the financial performance of startup companies. The calculated positive sign denotes that such an effect is positive and that startup performance would increase by 0.277 for every unit of standard deviation increase in dynamic capabilities. This coefficient value is significant at the 5% level. Therefore, it can be observed that dynamic capabilities have a favourable impact on financial performance.

SM.H5n: There is a positive relationship between networking capabilities and the financial performance of non-incubated startup companies.

The results clearly show that the networking capability and financial performance of non-incubated startups are not statistically significant since the p-value is higher than 0.05 (p-value: 0.124). Therefore, it can be inferred that the startup founders' networking skills do not affect their company's financial performance.

SM.H6n: There is a positive relationship between entrepreneurial orientation and the financial performance of non-incubated startup companies.

As per the findings, it is clear that the entrepreneurial orientation and financial performance of non-incubated startups are not statistically significant since the p-value is greater than 0.05 (p value: 0.115). Thus, it can be concluded that the entrepreneurial orientation of the startup founders doesn’t contribute to financial performance.

SM.H7n: Intellectual capital has a positive influence on the entrepreneurial orientation of non-incubated startups.

The findings show that intellectual capital affects entrepreneurial orientation favourably in businesses that are not incubated or have graduated from different

business incubation centres (β-values = 0.250, p =0.005). Keeping the other paths constant, the standardised beta coefficient of 0.250 depicts the partial impact of intellectual capital on the entrepreneurial orientation of startup companies. The calculated positive sign denotes that such an effect is positive and that entrepreneurial orientation would increase by 0.250 for every unit of standard deviation increase in intellectual capital. This coefficient value is significant at the 1% level. Consequently, it can be seen that intellectual capital has a positive effect on entrepreneurial orientation.

SM.H8n: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of non-incubated startups.

It is evident from the results that entrepreneurial bricolage positively influences the entrepreneurial orientation (β-values 0.253, p =0.011) of the companies not being incubated or graduating from various business incubation centers. Keeping the other paths constant, the standardised beta coefficient of 0.253 depicts the partial impact of entrepreneurial bricolage on the entrepreneurial orientation of startup companies. The calculated positive sign denotes that such an effect is positive and that entrepreneurial orientation would increase by 0.253 for every unit of standard deviation increase in entrepreneurial bricolage. This coefficient value is significant at the 5% level. Therefore, it can be observed that entrepreneurial bricolage has a favourable impact on entrepreneurial orientation.

SM.H9n: There is a positive relationship between knowledge management and the entrepreneurial orientation of non-incubated startups.

The results show that knowledge management and entrepreneurial orientation are not statistically significant for non-incubated businesses since the p-value is higher than 0.05 (p-value: 0.904). Thus, it may be argued that the founders' knowledge management does not support their entrepreneurial orientation.

SM.H10n: The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.

The standardised beta coefficient of 0.238, which holds the other paths constant, reflects the partial impact of dynamic capabilities on the entrepreneurial orientation

of non-incubated startups in Kerala. According to the predicted positive sign, a rise in entrepreneurial orientation of 0.238 would occur for every unit increase in dynamic capabilities, with significance at the 5% level. To sum it up, dynamic capabilities positively influence entrepreneurial orientation. It implies that the dynamic capabilities of startup founders who are not part of incubation will also aid them in developing entrepreneurial orientation.

SM.H11n: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.

It is evident from the results that networking capabilities positively influence the entrepreneurial orientation (β -value 0.186, p = 0.036) of the companies not being incubated or graduating from various business incubation centres. Keeping the other paths constant, the standardised beta coefficient of 0.186 depicts the partial impact of networking capabilities on the entrepreneurial orientation of startup companies. The calculated positive sign denotes that such an effect is positive and that entrepreneurial orientation would increase by 0.186 for every unit of standard deviation increase in networking capabilities. This coefficient value is significant at the 5% level. Therefore, it can be observed that networking capabilities have a favourable impact on financial performance.

SM.H12n: The higher the entrepreneurial orientation of founders, the higher the innovation of non-incubated startup companies.

The results show that the entrepreneurial orientation and innovation of non-incubated firms are not statistically significant since the p-value is higher than 0.05 (p-value: 0.128). Thus, it may be inferred that the founders' entrepreneurial orientation does not promote innovation.

SM.H13n: Entrepreneurial orientation positively contributes to the startup adaptiveness of non-incubated companies.

It is evident from the results that entrepreneurial orientation negatively influences the adaptiveness (β-values = 0.243, p = 0.012) of the companies not being incubated or graduating from various business incubation centres. Keeping the other paths constant, the standardised beta coefficient of -0.243 depicts the partial impact of

entrepreneurial orientation on the adaptiveness of startup companies. The calculated negative sign denotes that such an effect is negative and that adaptiveness would decrease by 0.243 for every unit of standard deviation increase in entrepreneurial orientation. This coefficient value is significant at the 5% level. Therefore, it can be observed that entrepreneurial orientation has an impact on startup adaptiveness.

SM.H14n: Marketing orientation positively contributes to innovation in non-incubated startup companies.

The standardised beta coefficient of 0.307, which holds the other paths constant, reflects the partial impact of market orientation on the innovation of non-incubated startups in Kerala. According to the predicted positive sign, a rise in innovation of 0.307 would occur for every unit increase in market orientation, with significance at the 1% level. In conclusion, market orientation positively influences innovation. It suggests that the market orientation of startup founders who are not part of incubation will also aid them in developing innovation in their respective ventures.

SM.H15n: There is a positive relationship between market orientation and non-incubated startup adaptability.

It is evident from the results that market orientation positively influences the startup adaptiveness (β -value 0.193, p =0.050) of the companies not being incubated or graduating from various business incubation centres. Keeping the other paths constant, the standardised beta coefficient of 0.193 depicts the partial impact of market orientation on the adaptiveness of startup companies. The calculated positive sign denotes that such an effect is positive, and adaptiveness would increase by 0.193 for every unit of standard deviation increase in market orientation. This coefficient value is significant at the 5% level. Therefore, it can be observed that market orientation has a favourable impact on startup adaptiveness.

SM.H16n: The higher the market information acquisition done by startup founders, the higher the innovation of non-incubated startup companies.

It is evident from the results that market information acquisition negatively influences innovation (β -values - 0.193 p = 0.041) of the companies not being incubated or graduated from various business incubation centres. Keeping the other paths constant,

the standardised beta coefficient of -0.1.93 depicts the partial impact of market information acquisition on the innovation of startup companies. The calculated negative sign denotes that such an effect is negative and that innovation would decrease by 0.193 for every unit of standard deviation increase in market information acquisition. This coefficient value is significant at the 5% level. Therefore, it can be observed that market information acquisition has an impact on innovation.

SM.H17n: The higher the market information acquisition, the higher the non-incubated startup's adaptability.

The standardised beta coefficient of 0.302, which holds the other paths constant, reflects the partial impact of market information acquisition on the adaptiveness of non-incubated startups in Kerala. According to the predicted positive sign, a rise in innovation of 0.302 would occur for every unit increase in market information acquisition activities, with significance at the 1% level. In conclusion, market information acquisition positively influences adaptiveness. It suggests that the market information acquisition of startup founders who are not part of incubation will also aid them in developing an adaptive culture in their respective ventures.

6.5. The Effect of Firm Resources, Capabilities, and Marketing Strategies on Various Dimensions of Startup Performance: A Comparison Between Incubated and Non-Incubated Startups Using Multigroup Analysis

A multi-group SEM analysis was conducted to look for any changes in the measurement parameters and structural relationships in the suggested model concerning the impact of business incubation. There are two ways to evaluate the effects of multigroup moderation. Specifically, the critical ratio for the difference method and the measurement invariance method.

6.5.1. Testing the Significance of Multigroup Moderation Analysis at the Model Level Using the Measurement Invariance Method

The chi-square difference test is a well-known, reliable technique for determining measurement invariance. The measurement models are invariant if the p-value for the chi-square test is greater than 0.05. The chi-square test was utilised in this study to analyse differences among groups, including those that have and have not received

business incubation. Using chi-square difference tests for several nested models, multigroup analysis was utilized to evaluate the measurement invariance between incubated and non-incubated companies. The equivalence between groups would be demonstrated by a non-significant chi-square difference. However, a substantial chi-square difference between these two models would show that there are group variations in the path coefficients.

The detailed results of the invariance model are presented in Table 6.4.

Table 6.6

Chi-square difference test for assessing the significance of multi-group moderation analysis in the model.

Model comparison	CMIN Difference	D.F difference	P-value	Variant?
Unconstrained vs. measurement weights	64.375	35	.000	Yes
Measurement vs. structural weight	31.829	17	.000	Yes
Structural weight vs. structural covariance	71.703	7	.000	Yes

Source: Primary

Byrne et al. (1989) recommended an invariance routine that would restrict the measurement model to factor loading, factor correlation, and structural parameters that would explain the hypothesised structural relationship. It was assumed that the factor loading for both groups was equal to analyse the invariance. The chi-square value difference test between unconstrained and measured weight was significant since the p-value was less than 0.05 (CMIN = 64.375, $p < 0.001$). This shows that the factor loading of the two groups was variant (incubated and non-incubated startups). Here, the p-value is below 0.05. The chi-square value in the structural parameter between the measurement weights and structural weights was also significant (CMIN = 31.829, $p < 0.001$). It indicates that the structural parameters between the two groups were variant (incubated and non-incubated startups). Finally, for factor correlation, the chi-square value difference test between the structural weights and structural

covariance was significant (CMIN = 71.703, p <0.001), showing that the factor correlation of the two groups (incubated and non-incubated) was variant.

Consequently, all three requirements for measurement invariance were satisfied in this instance. The difference between the two groups must then be verified using a structural invariance test based on the chi-square p-value. By comparing the estimations of the two groups, we must determine which group is contributing more if the relationships between the groups are considerably different.

Following the chi-square difference test, the procedures recommended by Lutfi (2020) and Lutfi et al. (2023) were also carried out. Here, two-layered models were created for each group in the structural invariance test. One model was built with constraints requiring that the regression weights be equal, whereas the second model was created with no constraints. Table 6.6 results demonstrate that the chi-square p-value for structural weights is significant since the p-value is less than 0.05. It shows that there is a group difference between businesses that are housed in incubators and those that are not (p <0.001). In Table 6.7, the precise outcomes of the structural invariance model are shown.

Table 6.7

Multi-group moderation analysis of the model using the structural invariance method

Model	CMIN	DF	P	Beta		Result
				incubated	Non-incubated	
Structural weight (Unconstraint)	96.203	52	.000	----	----	**Significant**
Constraint_1(IC→EO)	1.263	1	.261	0.173	0.250	Insignificant
Constraint_2(EB→EO)	4.158	1	.041	0.048	0.253	**Significant**
Constraint_3(KM_EO)	0.078	1	.780	-0.036	0.011	Insignificant
Constraint_4(NC_EO)	0.560	1	.454	0.334	0.186	Insignificant
Constraint_5(EB_FP)	1.565	1	.211	-0.057	0.107	Insignificant
Constraint_6(NC_FP)	1.278	1	.258	0.222	0.145	Insignificant
Constraint_7(KM_FP)	5.440	1	.020	0.106	-0.172	**Significant**

Model	CMIN	DF	P	Beta		Result
				incubated	Non-incubated	
Constraint_8(DC_FP)	1.766	1	.184	0.393	0.277	Insignificant
Constraint_9(MI_SA)	0.523	1	.469	0.320	0.302	Insignificant
Constraint_10(MO_SA)	2.140	1	.143	0.007	0.193	Insignificant
Constraint_11(MI_IN)	5.010	1	.025	0.073	-0.193	**Significant**
Constraint_12(MO_IN)	1.118	1	.290	0.456	0.307	Insignificant
Constraint_13(EO_FP)	0.626	1	.429	0.030	0.171	Insignificant
Constraint_14(EO_IN)	3.545	1	.060	0.101	0.140	Insignificant
Constraint_15(EO_SA)	2.804	1	.094	0.004	-0.243	Insignificant
Constraint_16(IC_FP)	2.418	1	.120	0.351	0.205	Insignificant
Constraint_17(DC_EO)	0.568	1	.451	0.208	0.238	Insignificant

Source: Primary
Constraints indicate the equality of regression coefficient(β_1=β_2)

6.5.1.1 Results of Path Analysis for Testing Moderating Effects on the Path Values in the Model Using the Structural Invariance Test

The results of path analysis for testing moderating effects on the path values in the model using structural invariance tests are explained in the paragraph that follows.

MG. HI: Business incubation has a significant impact on the relationship among firm resources, capabilities, marketing strategies, and various dimensions of startup performance.

The result of multigroup analysis using the structural invariance method in Table 6.7 shows that the whole model significantly differs among incubated and non-incubated startups as the chi-square p-value is less than 0.05 (CMIN = 96.203, DF = 52, P =<0.001). As a result, the MG.H1 hypothesis is accepted. Therefore, it suggests that the predictive model varies between company founders who are incubated and non-incubated at different business incubation centres. Thus, it can be said that business incubation significantly affects how firm resources, capabilities, marketing tactics, and different aspects of startup performance are related to one another.

MG.H1a: Business incubation moderates the relationship between intellectual capital and entrepreneurial orientation.

Since the chi-square p-value is greater than 0.05 (CMIN = 1.263, P = 0.261), the relationship between intellectual capital and entrepreneurial orientation is not significantly different among incubated and non-incubated. MG.H1a is therefore not supported. This indicates that there is no moderation effect between businesses in Kerala that have received incubator support and those that have not in terms of the impact of intellectual capital on entrepreneurial orientation.

MG.H1b: Business incubation moderates the relationship between entrepreneurial bricolage and entrepreneurial orientation.

The relationship between entrepreneurial bricolage and entrepreneurial orientation is significantly different between incubated and non-incubated, as the chi-square p-value is less than 0.05 (CMIN = 4.158, P = 0.041). Thus, MG.H1b is supported. It means that there is a moderation effect between incubated and non-incubated startups in Kerala regarding the effect of entrepreneurial bricolage on entrepreneurial orientation. The standardised beta-coefficient value denotes that non-incubated startups (β = 0.253) are higher than incubated startups (β = 0.048) regarding the effect of entrepreneurial bricolage on entrepreneurial orientation.

MG. H1c: Business incubation moderates the relationship between knowledge management and entrepreneurial orientation.

Since the chi-square p-value is greater than 0.05 (CMIN = 0.078, P = 0.780), there is no discernible difference between incubated and non-incubated firms in the relationship between knowledge management and entrepreneurial attitude. MG.H1c is therefore not supported. This indicates that there is no difference in the impact of knowledge management on entrepreneurial orientation between businesses incubated and those not incubated in Kerala.

MG.H1d: Business incubation moderates the relationship between networking capabilities and entrepreneurial orientation.

Since the chi-square p-value is greater than 0.05 (CMIN=0.560, P Value= 0.454), there is no discernible difference between incubated and non-incubated businesses in the

connection between networking capabilities and entrepreneurial orientation. Therefore, MG.H1d is not supported. This indicates that there is no difference in the impact of networking skills on entrepreneurial attitude between businesses in Kerala that have been incubated and those that have not.

MG.H1e: Business incubation moderates the relationship between entrepreneurial bricolage and financial performance.

Since the chi-square p-value is greater than 0.05 (CMIN = 1.565, P = 0.211), there is no discernible difference in the relationship between entrepreneurial bricolage and financial performance between incubated and non-incubated businesses. Therefore, MG.H1e is not supported. It indicates that there is no moderation effect between startups in Kerala that have received incubator support and those that have not in terms of the impact of entrepreneurial bricolage on financial performance.

MG.H1f: Business incubation moderates the relationship between networking capabilities and financial performance.

Since the chi-square p-value is greater than 0.05 (CMIN = 1.278, P = 0.258), the relationship between networking capabilities and financial performance is not substantially different between incubated and non-incubated companies. MG.H1f is therefore not supported. This indicates that there is no moderation effect between startups in Kerala that have received incubator support and those that have not in terms of how networking skills affect financial performance.

MG.H1g: Business incubation moderates the relationship between knowledge management and financial performance.

The relationship between knowledge management and financial performance is significantly different between incubated and non-incubated groups, as the chi-square p-value is less than 0.05 (CMIN = 5.440, P = 0.020). Thus, MG.H1g is supported. It means that there is a moderation effect between incubated and non-incubated startups in Kerala regarding the effect of knowledge management on financial performance. The standardised beta-coefficient value denotes that the knowledge management-financial performance relationship is stronger in the case of incubated startups (β = 0.106) as compared to non-incubated startups (β = -0.172).

MG.H1h: Business incubation moderates the relationship between dynamic capabilities and financial performance.

The relationship between dynamic capabilities and financial performance is not substantially different between incubated and non-incubated (CMIN = 1.766, P value = 0.184), since the chi-square p-value is greater than 0.05. Therefore, MG.H1h is not supported. So, there is no difference in the impact of dynamic capacities and financial performance between businesses that have been incubated and those that have not in Kerala.

MG.H1i: Business incubation moderates the relationship between market information acquisition and startup adaptiveness.

Since the chi-square p-value is greater than 0.05 (CMIN = 0.523, P = 0.469), the relationship between acquiring market information and startup adaptability is not substantially different between incubated and non-incubated startups. MG.H1i is therefore not supported. This indicates that there is no moderation effect between businesses incubated and non-incubated in Kerala concerning the impact of acquiring market information on startup adaptability.

MG.H1j: Business incubation moderates the relationship between market orientation and startup adaptiveness.

The association between market orientation and startup adaptability is not substantially different between incubated and non-incubated startups (CMIN = 2.140, P value = 0.143), since the chi-square p-value is bigger than 0.05. H1j is therefore not supported. This indicates that the influence of market orientation on startup adaptability in Kerala does not moderate between incubated and non-incubated firms.

MG.H1k: Business incubation moderates the relationship between market information acquisition and innovation.

The relationship between market information acquisition and innovation is significantly different between incubated and non-incubated groups, as the chi-square p-value is less than 0.05 (CMIN = 5.010, P = 0.025). Thus, MG.H1k is supported. It

means that there is a moderation effect between incubated and non-incubated startups in Kerala regarding the effect of market information acquisition on innovation. The standardised beta-coefficient value denotes that the market information acquisition-innovation relationship is stronger in the case of incubated startups (β = 0.334) as compared to non-incubated startups (β = 0.041).

MG.H1l: Business incubation moderates the relationship between market orientation and innovation

As the chi-square p-value is greater than 0.05 (CMIN = 1.18, P = 0.290), the link between market orientation and innovation is not substantially different between incubated and non-incubated companies. MG.H1l is consequently not supported. This indicates that no moderation impact between startups in Kerala that have received incubator support and those that have not in terms of how market orientation affects innovation.

MG.H1m: Business incubation moderates the relationship between entrepreneurial orientation and financial performance

The relationship between entrepreneurial orientation and financial performance is not substantially different between incubated and non-incubated businesses since the chi-square p-value is greater than 0.05 (CMIN = 0.626, P = 0.429). MG.H1m is therefore not supported. Consequentially, there is no difference in the impact of entrepreneurial orientation on financial performance between businesses that have been incubated and those that have not in Kerala.

MG.H1n: Business incubation moderates the relationship between entrepreneurial orientation and innovation

As the chi-square p-value is greater than 0.05 (CMIN = 3.545, P = 0.060), the link between entrepreneurial orientation and innovation is not substantially different between incubated and non-incubated companies. MG.H1n is therefore not supported. It indicates that there is no moderation effect between startups in Kerala that have received incubator support and those that have not in terms of the impact of entrepreneurial orientation on innovation.

MG.H1o: Business incubation moderates the relationship between entrepreneurial orientation and startup adaptiveness

The association between entrepreneurial orientation and startup adaptability is not substantially different between incubated and non-incubated (CMIN = 2.804, P value = 0.094) since the chi-square p-value is greater than 0.05. Therefore, MG.H1o is not supported. This indicates that the influence of entrepreneurial orientation on startup adaptability in Kerala does not moderate between incubated and non-incubated firms.

MG.H1p: Business incubation moderates the relationship between intellectual capital and financial performance

Since the chi-square p-value is greater than 0.05 (CMIN = 2.418, P = 0.120), the association between intellectual capital and financial performance is not substantially different between incubated and non-incubated companies. Accordingly, MG.H1p is not supported. This indicates that there is no moderation effect between businesses in Kerala that have received incubator support and those that have not in terms of the impact of intellectual capital on financial performance.

MG.H1q: Business incubation moderates the relationship between dynamic capabilities and entrepreneurial orientation.

The relationship between dynamic capabilities and entrepreneurial attitude between incubated and non-incubated businesses is not substantially different since the chi-square p-value is greater than 0.05 (CMIN = 0.568, P = 0.451). MG.H1q is therefore not supported. It means that in Kerala, there is no moderation effect regarding the impact of dynamic capacities on entrepreneurial attitudes between businesses that have been incubated and those that have not.

6.5.2. Multigroup Analysis Using the Critical Ratio for Differences Method

Since the chi-square test cannot present the whole results, the critical ratio (z-score) will be used to investigate differences between groups. The comparison of the two models was performed by testing the equivalence of two parameters at a time with critical ratios, as proposed by Costa et al. (2017). The current study also followed Bentler and Bonett ‘s (1980) suggestion of using the critical ratio, also known as Z, to

study the hypothetical path difference between groups. If the z values range beyond -1.96 and +1.96, the hypothesised path significantly differs between groups. The critical ratio for differences was performed using the Stats Tools Package. The detailed path difference of the hypothesised model is presented in Table 6.8. The following is the research hypothesis for investigating the moderation effects on the path values between incubated and non-incubated startups in Kerala.

MG. HI: Business incubation has a significant impact on the relationship among firm resources, capabilities, marketing strategies, and various dimensions of startup performance

Table 6.8

The result of the multigroup analysis using the critical ratio for the difference test

Path	Incubated		Non-incubated		Z	Result
	Estimate	P	Estimate	P		
IC→EO	0.103	.050*	0.216	.005*	1.202	Not significant
EB→EO	0.026	0.629	0.29	.011*	2.099**	Significant
KM→EO	-0.02	0.68	0.011	0.904	0.295	Not significant
NC→EO	0.245	.001**	0.158	.036*	-0.815	Not significant
EB→FP	-0.039	0.479	0.084	0.273	1.303	Not significant
NC→FP	0.208	.014*	0.084	0.124	-1.228	Not significant
KM→FP	0.075	0.141	-0.122	0.085	-2.258**	Significant
DC→FP	0.371	<0.001**	0.202	.014*	-1.43	Not significant
MI→SA	0.289	<0.001**	0.401	0.002*	0.724	Not significant
MO→SA	0.007	0.934	0.207	.050*	1.496	Not significant
MI→IN	0.091	0.334	-0.311	.041*	-2.246**	Significant
MO→IN	0.586	<0.001**	0.401	.002*	-1.067	Not significant
EO→FP	0.004	0.971	0.118	0.115	0.788	Not significant
EO→IN	0.101	.040*	0.237	0.129	1.848	Not significant
EO→SA	0.007	0.964	-0.339	.012*	-1.629	Not significant
IC→FP	0.268	<0.001**	0.122	.043*	-1.658	Not significant
DC→EO	0.153	.027*	0.252	.010*	0.823	Not significant

Primary
*Denotes significance at 5% level
**Denotes significant at 1% level

6.5.2.1 Results of Path Analysis for Testing Moderating Effects on the Path Values in the Model Using the Critical Ratio for Differences Method

The following paragraph explains the result of the path analysis for testing moderating effects on the path values in the model using the critical ratio for differences test.

1. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, Thus, the difference in the relationship between intellectual capital and entrepreneurial orientation is insignificant (Z score: 1.202).

2. Since the values of the critical ratio for differences among incubated and non-incubated startups do not lie between the Z values of -1.96 and +1.96, Hence, the difference in the relationship between entrepreneurial bricolage and entrepreneurial orientation is significant (Z score: 2.099).

3. Here, the values of the critical ratio for differences between incubated and non-incubated startups lie between the Z values of -1.96 and +1.96; the difference in the relationship between knowledge management and entrepreneurial orientation is insignificant (Z score: 0.295).

4. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, Thus, the difference in the relationship between networking capabilities and entrepreneurial orientation is insignificant (Z score: -0.815).

5. Here, the values of the critical ratio for differences between incubated and non-incubated startups lie between the Z values of -1.96 and +1.96; the difference in the relationship between entrepreneurial bricolage and financial performance is insignificant (Z score: 1.303).

6. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, the difference in the relationship between networking capabilities and financial performance is insignificant (Z score: -1.228).

7. Since the values of the critical ratio for differences among incubated and non-incubated startups do not lie between the Z values of -1.96 and +1.96, the difference in the relationship between knowledge management and financial performance is significant (Z score: -2.258).

8. Since the critical ratio values for differences between companies that are incubated and those that do not fall between the range of Z values of -1.96 and +1.96. As a result, there is no discernible difference in the connection between dynamic capabilities and financial performance (Z score: -1.43).

9. In this instance, the values of the critical ratio for differences between incubated and non-incubated startups fall within Z values of -1.96 to +1.96; the difference in the relationship between gathering market information and startup adaptability is insignificant (Z score: 0.724).

10. Here, the values of the critical ratio for differences between incubated and non-incubated startups lie between the Z values of -1.96 and +1.96; the difference in the relationship between market orientation and startup adaptiveness is insignificant (Z score: 1.496).

11. Since the values of the critical ratio for differences among incubated and non-incubated startups do not lie between the Z values of -1.96 and +1.96, the difference in the relationship between market information acquisition and innovation is significant (Z score: -2.246).

12. Here, the values of the critical ratio for differences between incubated and non-incubated startups lie between the Z values of -1.96 and +1.96; the difference in the relationship between market orientation and innovation is insignificant (Z score: -1.067).

13. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, the difference in the relationship between entrepreneurial orientation and financial performance is insignificant (Z score: 0.788).

14. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, Thus, the difference in the relationship between entrepreneurial orientation and innovation is insignificant (Z score: 1.848).

15. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, Thus, the difference in the relationship between entrepreneurial orientation and startup adaptiveness is insignificant (Z score: -1.629).

16. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, the difference in the relationship between intellectual capital and financial performance is insignificant (Z score: -1.658).

17. Since the values of the critical ratio for differences among incubated and non-incubated startups lie between the Z values of -1.96 and +1.96, the difference in the relationship between dynamic capabilities and entrepreneurial orientation is insignificant (Z score: 0.823).

6.6. Summary of Comparative Analysis of the Effects of Firm Resources, Capabilities, and Marketing Strategies on Various Dimensions of Startup Performance Between Incubated and Non-Incubated Startups in Kerala

Testing of the moderation analysis reveals that, among seventeen structural relationships analysed using the structural invariance test and critical ratio for differences methods, it was found that there are three paths where incubated and non-incubated startups differ significantly. Consequently, business incubation acts as the moderator in these paths.

- In terms of knowledge management contributing to financial performance, there are significant differences between the groups, and it is found that the knowledge management practices of non-incubated startups contribute more to financial performance than incubated startups.

- In terms of market information acquisition practices contributing to innovation in startup companies, there are significant differences that exist between the groups, and it is found that the market information practices of incubated startups contribute more to financial performance than non-incubated startups.
- In terms of entrepreneurial bricolage contributing to entrepreneurial orientation in startup companies, there are significant differences that exist between the groups, and it is found that the entrepreneurial bricolage of non-incubated startups contributes more to entrepreneurial orientation than incubated startups.

The summary of the results of the comparative analysis of the effects of firm resources, capabilities, and marketing strategies on various dimensions of startup performance between incubated and non-incubated startup companies using the structural invariance method and critical ratio for differences is presented in Table 6.9.

6.7 Hypotheses Summary

The summary of hypotheses in this chapter is presented in the following tables. The summary of the results of SEM hypotheses of incubated and non-incubated startups are explained in Tables 6.10 and 11 respectively. The summary of the result of the multigroup hypotheses is illustrated in Table 6.12.

Table 6.9

Summary of the result of structural invariance test and critical ratio of differences test.

Construct path index			Incubated vs. non-incubated startups			
			Z score	**Chi-square P value**	**Result**	**Remarks**
Intellectual capital	→	Entrepreneurial orientation	1.202	.261	No moderation effect	Incubated and non-incubated startups are equal
Entrepreneurial bricolage	→	Entrepreneurial orientation	2.099**	.041	Moderation effect	Non-incubated startups are higher than incubated startups
Knowledge management	→	Entrepreneurial orientation	0.295	.780	No moderation effect	Incubated and non-incubated startups are equal
Networking capabilities	→	Entrepreneurial orientation	-0.815	.454	No moderation effect	Incubated and non-incubated startups are equal
Entrepreneurial bricolage	→	Financial performance	1.303	.211	No moderation effect	Incubated and non-incubated startups are equal
Networking capabilities	→	Financial performance	-1.228	.258	No moderation effect	Incubated and non-incubated startups are equal
Knowledge management	→	Financial performance	-2.258**	.020	Moderation effect	Incubated startups are higher than non-incubated startups
Dynamic capabilities	→	Financial performance	-1.43	.184	No moderation effect	Incubated and non-incubated startups are equal
Market information acquisition	→	Startup adaptiveness	0.724	.469	No moderation effect	Incubated and non-incubated startups are equal

Construct path index			Incubated vs. non-incubated startups			
			Z score	**Chi-square P value**	**Result**	**Remarks**
Market orientation	→	Startup adaptiveness	1.496	.143	No moderation effect	Incubated and non-incubated startups are equal
Market information acquisition	→	Innovation	-2.246**	.025	Moderation effect	Incubated startups are higher than non-incubated startups
Market orientation	→	Innovation	-1.067	.290	No moderation effect	Incubated and non-incubated startups are equal
Entrepreneurial orientation	→	Financial performance	0.788	.429	No moderation effect	Incubated and non-incubated startups are equal
Entrepreneurial orientation	→	Innovation	1.848	.060	No moderation effect	Incubated and non-incubated startups are equal
Entrepreneurial orientation	→	Startup adaptiveness	-1.629	.094	No moderation effect	Incubated and non-incubated startups are equal
Intellectual capital	→	Financial performance	-1.658	.120	No moderation effect	Incubated and non-incubated startups are equal
Dynamic capabilities	→	Entrepreneurial orientation	0.823	.451	No moderation effect	Incubated and non-incubated startups are equal

Table 6.10

Summary of the result of SEM hypotheses-incubated startups

Hypotheses No	Hypotheses	Result
SM.H1i	There is a positive relationship between intellectual capital and the financial performance of incubated startup companies.	Supported
SM.H2i	Entrepreneurial bricolage has a positive influence on the financial performance of incubated startup companies.	Not supported
SM.H3i	Knowledge management has a positive influence on the financial performance of incubated startup companies.	Not supported
SM.H4i	The higher the dynamic capabilities of startup founders, the higher their financial performance of incubated startup companies.	Supported
SM.H5i	There is a positive relationship between networking capabilities and the financial performance of incubated startup companies.	Supported
SM.H6i	There is a positive relationship exist between entrepreneurial orientation and the financial performance of incubated startup companies.	Not supported
SM.H7i	Intellectual capital has a positive influence on the entrepreneurial orientation of incubated startups.	Supported
SM.H8i	Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of incubated startups.	Not supported
SM.H9i	There is a positive relationship between knowledge management and the entrepreneurial orientation of incubated startups.	Not supported
SM.H10i	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation of incubated startups.	Supported
SM.H11i	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation of incubated startups.	Supported
SM.H12i	The higher the entrepreneurial orientation of founders, the higher the innovation of incubated startup companies.	Supported
SM.H13i	Entrepreneurial orientation positively contributes to the startup adaptiveness of incubated companies.	Not Supported
SM.H14i	Marketing orientation positively contributes to innovation in incubated startup companies.	Supported

Hypotheses No	Hypotheses	Result
SM.H15i	There is a positive relationship between market orientation and incubated startup adaptability.	Not supported
SM.H16i	The higher the market information acquisition done by startup founders, the higher the innovation of incubated startup companies.	Not supported
SM.H17i	The higher the market information acquisition, the higher the incubated startup's adaptability.	Supported

Source: Primary
SM.H1i to SM. H17i indicate Structural Model Hypotheses for incubated startups.

Table 6.11

Summary of the result of SEM hypotheses-non-incubated startups

Hypotheses No	Hypotheses	Result
SM.H1n	There is a positive relationship between intellectual capital and the financial performance of non-incubated startup companies.	Supported
SM.H2n	Entrepreneurial bricolage has a positive influence on the financial performance of non-incubated startup companies.	Not supported
SM.H3n	Knowledge management has a positive influence on the financial performance of non-incubated startup companies.	Not supported
SM.H4n	The higher the dynamic capabilities of startup founders, the higher the financial performance of non-incubated startup companies.	Supported
SM.H5n	There is a positive relationship between networking capabilities and the financial performance of non-incubated startup companies.	Not supported
SM.H6n	There is a positive relationship between entrepreneurial orientation and the financial performance of non-incubated startup companies.	Not supported
SM.H7n	Intellectual capital has a positive influence on the entrepreneurial orientation of non-incubated startups.	Supported
SM.H8n	Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of non-incubated startups.	Supported
SM.H9n	There is a positive relationship between knowledge management and the entrepreneurial orientation of non-incubated startups.	Not supported

Hypotheses No	Hypotheses	Result
SM.H10n	The higher the dynamic capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.	Supported
SM.H11n	The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards non-incubated startups.	Supported
SM.H12n	The higher the entrepreneurial orientation of founders, the higher the innovation of non-incubated startup companies.	Not supported
SM.H13n	Entrepreneurial orientation positively contributes to the startup adaptiveness of non-incubated companies.	Supported
SM.H14n	Marketing orientation positively contributes to innovation in non-incubated startup companies.	Supported
SM.H15n	There is a positive relationship between market orientation and non-incubated startup adaptability.	Supported
SM.H16n	The higher the market information acquisition done by startup founders, the higher the innovation of non-incubated startup companies.	Supported
SM.H17n	The higher the market information acquisition, the higher the non-incubated startup's adaptability.	Supported

Table 6.12

Summary of result of multigroup hypotheses

Hypotheses No	Hypotheses	Result
MG.H1	**Business incubation has a significant impact on the relationship among firm resources, capabilities, marketing strategies, and various dimensions of startup performance.**	**Supported**
MG.H1a	Business incubation moderates the relationship between intellectual capital and entrepreneurial orientation.	Not supported
MG.H1b	Business incubation moderates the relationship between entrepreneurial bricolage and entrepreneurial orientation.	Supported
MG.H1c	Business incubation moderates the relationship between knowledge management and entrepreneurial orientation.	Not supported
MG.H1d	Business incubation moderates the relationship between networking capabilities and entrepreneurial orientation.	Not supported
MG.H1e	Business incubation moderates the relationship between entrepreneurial bricolage and financial performance.	Not supported

Hypotheses No	Hypotheses	Result
MG.H1f	Business incubation moderates the relationship between networking capabilities and financial performance.	Not supported
MG.H1g	Business incubation moderates the relationship between knowledge management and financial performance.	Supported
MG.H1h	Business incubation moderates the relationship between dynamic capabilities and financial performance.	Not supported
MG.H1i	Business incubation moderates the relationship between market information acquisition and startup adaptiveness.	Not supported
MG.H1j	Business incubation moderates the relationship between market orientation and startup adaptiveness.	Not supported
MG.H1k	Business incubation moderates the relationship between market information acquisition and innovation.	Supported
MG.H1l	Business incubation moderates the relationship between market orientation and innovation.	Not supported
MG.H1m	Business incubation moderates the relationship between entrepreneurial orientation and financial performance.	Not supported
MG.H1n	Business incubation moderates the relationship between entrepreneurial orientation and innovation.	Not supported
MG.H1o	Business incubation moderates the relationship between entrepreneurial orientation and startup adaptiveness.	Not supported
MG.H1p	Business incubation moderates the relationship between intellectual capital and financial performance.	Not supported
MG.H1q	Business incubation moderates the relationship between dynamic capabilities and entrepreneurial orientation.	Not supported

Source: Primary
MG.H1, MG.H1a-MG.H1. q indicate multigroup moderation hypotheses

6.7 Conclusion

This chapter examined and analysed the findings of SEM hypotheses for startups that were both incubated and those that were not. The next step was to do a multigroup moderation analysis to see if there were any differences between startups that had been incubated and those that had not in terms of the model of firm resources, entrepreneurial capabilities, and marketing strategies on various startup company dimensions. The multigroup hypotheses were tested using the measurement invariance approach and the critical ratio for differences method. To assess the primary hypothesis, the structural invariance test is employed.

The results suggest that incubated and non-incubated companies significantly differ. Additionally, the structural invariance test and the critical ratio for differences method were used to assess 17 hypotheses. The results were the same for both approaches. The researcher concluded that the incubated and non-incubated businesses varied significantly in three structural linkages based on the findings. So, it can be concluded that business incubation has an important role in the growth of nurturing and aspiring entrepreneurs in the context of startups registered in Kerala.

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Chapter 7

SUMMARY, FINDINGS AND CONCLUSION

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7.1 Introduction

The entrepreneurial ecosystem of startups has emerged globally, with each being unique due to factors like cultural imbalances, governmental regulations, and infrastructure. Silicon Valley and Brazil are notable for their success in entrepreneurship development. India is one of the fastest-growing startup ecosystems, with the government's "Startup India Programme" launched in 2016 to foster innovation and startups. The programme offers benefits such as single-point contact, reduced regulatory burden, relaxed public procurement norms, and easy exit for startups. Institutional support, fund-of-fund programmes, and incubation centres also contribute to the growth of startups. The Department for Promotion of Industries and Internal Trade (DPIIT) offers unique identification systems, tax incentives, and accelerated processing of intellectual property rights. The "Digital India" and "Standup India" programs are also designed to cut down on bureaucratic delays and provide conveniently available services promptly. Thus, it seeks to guarantee that all citizens have greater access to government services via an online platform that connects rural areas by building their digital infrastructure, providing these companies with enormous commercial opportunities.

The Indian startup ecosystem, ranked as the third-largest in the world, has experienced consistent growth due to substantial investments. In 2022, Indian startups raised $38.3 billion in funding, a 50% increase from the previous year. This funding creates employment opportunities, encourages sustainability, and helps businesses start in rural, Tier I, and Tier II regions. India's education system and workforce's capacity to create software and IT solutions contribute to the growth of startups. The country has a thriving, inclusive startup culture, with major cities like Bengaluru, Mumbai, and Delhi-NCR becoming vibrant startup hubs. The successful start-ups were

supplemented by the numerous policies and efforts of the state and federal governments. In developing nations like India, startups offering cutting-edge technical solutions are tackling critical problems like healthcare, education, and jobs, simplifying and improving the lives of those affected.

Kerala Startup Mission (KSUM) is one of the pioneer institutions for encouraging entrepreneurship through various activities, including Investors Connect, seed funding, and pitching events. Recently, several companies have received funding from angels and venture capitalists based on their uniqueness, and one startup named 'Open Financial Technologies' entered the unicorn list with a valuation above one billion USD. Therefore, the growth of startups is due to various factors, and it is essential to investigate the success factors and challenges for newly established ventures in Kerala.

7.2 Research Problem in Brief

Startup companies are crucial for economic development, employment generation, and innovation. They are young, high-tech businesses that focus on a new venture idea until the product enters the market, typically lasting one to five years. Kerala's startup ecosystem is characterised by the involvement of various actors, including the government, accelerators, venture capitalists, and others, all of whom effectively contribute to the growth of companies and their ecosystems. Among these, academia is also uniquely contributing to the growth of startup enterprises by giving students the opportunity and resources to turn their ideas into reality. Consequently, there is a notable surge in the policies, efforts, and support provided to ensure the success of the enterprises. The Resource-Based View Theory (RBVT), Social Networking Theory (SN), Real Options Theory, Theory of Liability of Newness, and Resource Orchestration Theory (ROT) are theories used to explain startup companies. Successful entrepreneurial ventures require both internal and external factors, including the founder's capabilities and business management strategies, as well as the entrepreneurial ecosystem. Startup incubators have been found to have higher success rates due to networking with stakeholders and fostering innovation. The

liability of newness is a significant challenge for newly established enterprises, and overcoming these liabilities is essential for project development.

Thus, the current study aims to explore how startup businesses can harness resources, capabilities, and strategies, develop risk management strategies, and examine the impact of institutional involvement on the development of founders' capabilities and strategies.

As a result, the following research questions can be derived:

- How do the demographic profile of founders and the characteristics of their startups impact firm resources, entrepreneurial capabilities, and marketing strategies, and how do these factors collectively influence the entrepreneurial orientation and overall performance of startup companies in Kerala?
- How do the characteristics of founders and startups, entrepreneurial capabilities, firm resources, and marketing techniques affect startup companies' ability to mitigate the risk of being new?
- To what extent do firm resources and entrepreneurial capabilities contribute to the entrepreneurial orientation and financial performance of startup companies in Kerala?
- How is the inter-relationship of entrepreneurial orientation, firm resources, entrepreneurial capabilities, and financial performance, and whether there are any mediating effects?
- To what extent do the entrepreneurial orientation and marketing strategies of startup founders contribute to innovation and startup adaptiveness?
- Is there any group difference among firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performance among incubated and non-incubated startups in Kerala?

7.3 Objectives

To achieve the main objective of investigating the growth of startup companies in Kerala, the following specific objectives were framed:

1. To examine the connection between **founder profile and startup characteristics** on firm resources, entrepreneurial capabilities, marketing strategies, and various aspects of startup performance.
2. To assess the collective influence of founder and startup characteristics, firm resources, entrepreneurial capabilities, and marketing strategies on **handling the liability of newness** among startup companies.
3. Investigate the extent to which **firm resources and entrepreneurial capabilities** influence the entrepreneurial orientation and financial performance of startup companies.
4. Examine the mediating role of **entrepreneurial orientation** in the relationship between firm resources, capabilities, and financial performance among startups.
5. Identify the role of **founders' entrepreneurial orientation and marketing strategies** and their contributions to fostering innovation and enhancing the adaptability of startup companies.
6. To predict the difference in a model on the effect of firm resources, capabilities, and marketing strategies on various aspects of startup performance among **incubated and non-incubated** startups in Kerala.

7.4 Hypotheses

Hypotheses for Examining the Impact of Firm and Founder Characteristics on Firm Resources, Capabilities, Strategies, and Various Aspects of Startup Performance

H1: There is a significant difference between male and female firm resources, entrepreneurial capabilities, and marketing strategies.

H2: There is a significant difference among age groups and firm resources, entrepreneurial capabilities, and marketing strategies.

H3: There is a significant difference between educational qualifications, firm resources, entrepreneurial capabilities, and marketing strategies.

H4: There is a significant difference between prior experience and firm resources, entrepreneurial capabilities, and marketing strategies.

H5: There is a significant difference between incubation based on firm resources, entrepreneurial capabilities, and marketing strategies.

H6: There is a significant difference between legal forms of business in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H7: There is a significant difference among the number of employees in terms of firm resources, entrepreneurial capabilities, and marketing strategies.

H8: There is a significant difference among sectors in firm resources, entrepreneurial capabilities, and marketing strategies.

H9: There is a significant difference among funding sources in firm resources, entrepreneurial capabilities, and marketing strategies.

H10: There is a significant difference between motivation and firm resources,

H11: There is a significant difference between males and females in innovation, financial performance, and adaptiveness.

H12: There is a significant difference among educational qualifications in innovation, startup adaptiveness, and financial performance.

H13: There is a significant difference among prior experience on innovation, startup adaptiveness, and financial performance.

H14: There is a significant difference between incubation and innovation, startup adaptiveness, and financial performance.

H15: There is a significant difference among the number of employees in terms of innovation, startup adaptiveness, and financial performance.

H16: There is a significant difference among sectors in innovation, startup adaptiveness, and financial performance.

H17: There is a significant difference among funding sources on innovation, startup adaptiveness, and financial performance.

H18: There is a significant difference between motivation for innovation, startup adaptiveness, and financial performance.

Hypotheses for Assessing the Collective Influence of Founder and Startup Characteristics, Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Handling the Liability of Newness Among Startup Companies.

H19: There is a significant difference between educational qualifications and internal and external liability for newness.

H20: There is a significant difference between prior experience and the internal and external liabilities of newness.

H21: There is a significant difference between business incubation and internal and external liability for newness.

H22: There is a significant difference between the year of establishment and the internal and external liabilities of newness.

H23: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the internal liability of newness.

H24: There is an inverse correlation between firm resources, entrepreneurial capabilities, and marketing strategies and the external liability of newness.

Hypotheses for Investigating the Extent to Which Firm Resources and Entrepreneurial Capabilities Influence the Entrepreneurial Orientation and Financial Performance of Startup Companies.

SM.H1: There is a positive relationship between intellectual capital and the financial performance of startup companies.

SM.H2: Entrepreneurial bricolage has a positive influence on the financial performance of startup companies.

SM.H3: Knowledge management has a positive influence on the financial performance of startup companies.

SM.H4: The higher the dynamic capabilities of startup founders, the higher their financial performance.

SM.H5: There is a positive relationship between networking capabilities and the financial performance of startup companies.

SM.H6: There is a positive relationship between entrepreneurial orientation and the financial performance of startup companies.

SM .H7: Intellectual capital has a positive influence on the entrepreneurial orientation of startups.

SM.H8: Entrepreneurial bricolage has a positive influence on the entrepreneurial orientation of startups.

SM.H9: There is a positive relationship between knowledge management and the entrepreneurial orientation of startups.

SM.H10: The higher the dynamic capabilities of startup founders, the higher the entrepreneurial orientation towards startups.

SM.H11: The higher the networking capabilities of startup founders, the higher their entrepreneurial orientation towards startups.

Hypotheses for Identifying the Role of Entrepreneurial Orientation and Marketing Strategies and Their Contributions to Fostering Innovation and Enhancing the Adaptability of Startup Companies.

SM.H12: The higher the entrepreneurial orientation of founders, the higher the innovation of startup companies.

SM.H13: Entrepreneurial orientation positively contributes to startup adaptiveness.

SM.14: Marketing orientation positively contributes to innovation in startup companies.

SM.H15: There is a positive relationship between market orientation and startup adaptability.

SM.H16: The higher the market information acquisition done by startup founders, the higher the innovation of startup companies.

SM.H17: The higher the market information acquisition, the higher the startup adaptability.

Hypotheses for Examining the Mediating Role of Entrepreneurial Orientation in the Relationship Between Firm Resources, Capabilities, and Financial Performance Among Startups.

MED.H1: Entrepreneurial orientation mediates the relationship between intellectual capital and the financial performance of startup companies.

MED.H2: Entrepreneurial orientation mediates the relationship between entrepreneurial bricolage and the financial performance of startup companies.

MED.H3: Entrepreneurial orientation mediates the relationship between knowledge management capabilities and the financial performance of startup companies.

MED.H4: Entrepreneurial orientation mediates the relationship between the dynamic capabilities and financial performance of startup companies.

MED.H5: Entrepreneurial orientation mediates the relationship between networking capabilities and the financial performance of startup companies.

Hypotheses for Predicting the Difference in a Model on the Effect of Firm Resources, Capabilities, and Marketing Strategies on Various Aspects of Startup Performance Among Incubated and Non-Incubated Startups in Kerala.

MG.H1: Business Incubation Has a Significant Impact on The Relationship among Firm Resources, Capabilities, Marketing Strategies, and Various Dimensions of Startup Performance

MG.H1a: Business incubation moderates the relationship between intellectual capital and entrepreneurial orientation.

MG.H1b: Business incubation moderates the relationship between entrepreneurial bricolage and entrepreneurial orientation.

MG.H1c: Business incubation moderates the relationship between knowledge management and entrepreneurial orientation.

MG.H1d: Business incubation moderates the relationship between networking capabilities and entrepreneurial orientation.

MG.H1e: Business incubation moderates the relationship between entrepreneurial bricolage and financial performance.

MG.H1f: Business incubation moderates the relationship between networking capabilities and financial performance.

MG.H1g: Business incubation moderates the relationship between knowledge management and financial performance.

MG.H1h: Business incubation moderates the relationship between dynamic capabilities and financial performance.

MG.H1i: Business incubation moderates the relationship between market information acquisition and startup adaptiveness.

MG.H1j: Business incubation moderates the relationship between market orientation and startup adaptiveness.

MG.H1k: Business incubation moderates the relationship between market information acquisition and innovation.

MG.H1l: Business incubation moderates the relationship between market orientation and innovation.

MG.H1m: Business incubation moderates the relationship between entrepreneurial orientation and financial performance.

MG.H1n: Business incubation moderates the relationship between entrepreneurial orientation and innovation.

MG.H1o: Business incubation moderates the relationship between entrepreneurial orientation and startup adaptiveness.

MG.H1p: Business incubation moderates the relationship between intellectual capital and financial performance.

MG.H1q: Business incubation moderates the relationship between dynamic capabilities and entrepreneurial orientation.

7.5 Methodological Design

The research being conducted is both descriptive and analytical. Data from both secondary and primary sources was gathered and utilised in the study. The secondary data were gathered from both published and unpublished sources, including the Kerala Startup Mission (KSUM) website, Startup India's website, LinkedIn, journals, periodicals, research dissertations, books, and conference proceedings. Secondary data is primarily used for writing the theoretical framework, a literature review of the constructs, model development, and identifying the variables for the study. The sampling design for the study is a simple random sampling method, and the primary

data was obtained from the business founders registered with the Kerala Startup Mission. In the first phase, the state of Kerala was split into the South, Central, and North zones, with one district being chosen from each zone based on the predominance of startups registered in each district. So, Thiruvananthapuram from the south, Ernakulum from the central, and Kozhikode from the north zone were chosen (Kerala Startup Mission Report, 2019). The sample size is 310, proportional to the fact that 59 firms from the Kozhikode district, 101 startups from Ernakulam, and 150 startups from Trivandrum were chosen. Finally, computer-generated random numbers are used to select each respondent using simple random sampling based on the unique list of startups in Kerala created by the researcher. The final questionnaire included a demographic profile, startup characteristics, and different scaled items. Both the pilot study and pre-testing were conducted before the final data collection. The questionnaire has been developed in eight parts: Part I: Demographic Profile of Startup Founders, Part II: Startup Characteristics, Part III: Firm Resources, Part IV: Entrepreneurial Capabilities, Part V: Marketing Strategies, Part VI: Entrepreneurial Orientation, Part VII: Liability of Newness, and Part VIII: Different Kinds of Startup Performance Dimensions. The collected data has been analysed with the help of the SPSS 21.0 version. The various tools like percentages, mean, standard deviation, t-test, ANOVA, Scheffe test, and Games-Howel test for multiple comparisons, CB-CFA and CB-Structural Equation Model, mediation (bootstrapping method) analysis, and multigroup moderation analysis were employed using AMOS 21.0 version.

7.6 Summary of Chapters

The research report consists of eight chapters. The first chapter deals with the introduction and contains information about the research topic, significance and scope of the investigation, objectives of the study, hypotheses, research methodology, sources of data, limitations of the study, and the overall layout of the report. In the second chapter, a review of the literature about the current study and the research gap is offered. A summary of the theoretical foundations of startups is provided in the third chapter, with the use of secondary data. The fourth chapter explains the findings from the analysis of firm and founder characteristics on firm resources, capabilities,

marketing strategies, and various aspects of startup performance. It also discusses methods for managing the risk associated with newness. The fifth chapter is devoted to identifying the connection between firm resources, capabilities, and marketing strategies in contributing to financial performance, innovation, and startup adaptiveness. In addition to that, the fifth chapter also evaluates the mediating role of entrepreneurial orientation in the connection between firm resources, entrepreneurial capabilities, and financial performance relationships. The sixth chapter pertains to a multigroup moderation analysis of the expected model with the incubated and non-incubated startups in Kerala. The seventh chapter covers the major findings and conclusions. The recommendations, implications, and scope for further research are given in the last and eighth chapters.

7.7 Findings of the Study

Findings from this study are divided into seven categories: (1) frequency distribution of founder and startup characteristics; (2) descriptive statistics of respondents; (3) firm and founder characteristics on firm resources, entrepreneurial capabilities, marketing strategies, and various dimensions of startup performance (4) firm and founder characteristics, firm resources, entrepreneurial capabilities, and marketing strategies on handling liability of newness; (5) impact of firm resources, entrepreneurial capabilities, and marketing strategies on financial performance, innovation, and startup adaptiveness (6) Mediating role of entrepreneurial orientation on firm resources, entrepreneurial capabilities, and financial performance relationships (7) Group differences between these models among incubated and non-incubated startups in Kerala.

7.7.1. Frequency Distribution

This section consists of the frequency distribution of the categorical variables (founder and startup characteristics) used in the study. The detailed explanation of each variable is explained below based on the percentage analysis. This section has been divided into two categories: the frequency distribution of founder characteristics and the frequency distribution of startup characteristics.

7.7.1.1. Frequency Distribution of Founder Characteristics

1. The population of Kerala is composed of a majority of men compared with women; insisting on this, the present study found that 87.7% (272) of the respondents are male and 12.3% (38) are female.

2. About the age group of startup founders, the majority of founders fall into the 25–30 age group (24.50%), and only a small percentage of responses are above 35 (19%). Thus, it is found that young people are more reflected in Kerala startup communities.

3. Among the 310 startup founders, 19.7% have graduated from arts and science colleges, 35.5% are IITs or NITs graduates, 38.1% are IIM graduates, and 6.8% have graduated from other institutes. As a result, and in line with earlier research, qualified professionals devote more time and effort to establishing new ventures.

4. In support of the previous studies, the current study also supports the fact that startup founders possess prior experience in entrepreneurship. As per the findings, the majority of founders have more than 5 years of experience (45.8%), and only a limited number of founders are nascent entrepreneurs (10.3%).

7.7.1.2. Frequency Distribution of Startup Characteristics

1. The study found that, of the 310 newly established businesses examined, 38.1 percent were founded between 2015 and 16, 32.3 percent in 2017–18, 21.9 percent in 2016–17, and 3.9 percent before 2015 and after 2018. The majority (38.1%) of startup communities were founded between 2015 and 2016.

2. Regarding incubation, 59 percent of founders are incubated or have graduated from various business incubation centres, whereas 41 percent are not incubated.

3. Based on the legal form of business, startup companies have been grouped into three categories, viz., private limited companies, partnership firms, and limited liability partners. The majority of the respondents (51.3 percent) are incorporated as private limited companies, while 19.7 percent are partnerships.

4. The number of employees working in a new venture is an important factor contributing to startup performance. Thus, it can be shown that the majority (28.7%) of the sample companies have a staff size of 20–30, 27.1 percent have a staff size of 30–40, and just 5.2 percent have a staff size of more than 50.

5. Startup companies have been divided into five groups based on the industry in which they operate, including software, hardware, health technology, ed-tech, and others. A majority of respondents (44.2%) fall under the software industry, followed by hardware (21.9%), education (15.8%), health (11.6%), and other (6.5%) sectors.

6. Based on the geographic distribution of startups in Kerala, Ernakulam district (48.4%) has the highest percentage of respondents, while Kozhikode district has the lowest percentage (19%).

7. Every founder is particularly concerned about finding funds from numerous sources. The current study grouped all available funding options into four groups: own funding, seed money, support from friends and family, and angel or venture capital investments. The study finds that many early-stage companies in Kerala still rely on their funding during the early phases (37.7%), and only a small percentage of respondents chose angel investment or venture capital (12.3%).

There are a variety of reasons, or drives, that motivate entrepreneurs to start their businesses. As can be observed, every firm is founded primarily to maximize revenue (30.3 percent), followed by benefiting society (26.80 percent). Among these, job security received the least amount of preference (20.30 percent).

7.7.2. Descriptive Statistics of Firm Resources, Entrepreneurial Capabilities, Marketing Strategies, and Various Performance Dimensions.

This section consists of descriptive statistics on the various constructs used in the study. A detailed explanation of the ranking for each item is presented based on the mean score and standard deviation. The scaled items used in the current study consist of intellectual capital, entrepreneurial bricolage, entrepreneurial orientation, dynamic

capabilities, networking capabilities, knowledge management capabilities, financial performance, innovation, and startup adaptiveness.

7.7.2.1. Firm Resources

- Four items were used for measuring intellectual capital. Among these, collaboration with external parties in the findings solution rated a maximum score (mean: 3.99 and SD: 0.979), followed by the skills of employees or team members (mean: 3.98 and SD: 1.005), the expertise of the employees (mean: 3.97 and SD: 0.985), and the use of intellectual property rights (mean: 3.92 and SD: 1.027).
- In terms of bricolage measurements, respondents gave the application of resources already at hand for addressing problems the highest preference (mean: 3.61 and SD: 1.34) and the application of a combination of resources already at hand for new operations the lowest preference (mean: 3.40 and SD: 1.325).

7.7.2.2. Entrepreneurial Capabilities

- Respondents rated knowledge management capabilities in the following order: representation of knowledge in databases, documents, or software (mean: 4.029 and SD: 1.071), use of knowledge in decision-making (mean: 3.932 and SD: 1.137), generating new knowledge (mean: 3.832 and SD: 1.22), and access to valuable knowledge from external sources (mean: 3.807 and SD: 1.080).
- In terms of dynamic capabilities, founders' or teams' ability to integrate resources comes in first (mean: 4.126 and SD: 0.907), followed by learning abilities (mean: 4.029 and SD: 0.901), adapting to environmental changes (Mean: 3.961 and SD: 0.909), identifying different customer groups (mean: 3.929 and SD: 0.942), and resource reconfiguration abilities (mean: 3.916 and SD: 0.093).
- Startup founders highly agreed that they are spending much effort cultivating connections with competitors (mean: 4.187 and SD: 0.944), funding agencies (mean: 4.158 and SD: 0.997), officials of government agencies (mean: 4.119 and SD: 0.986), and collecting information from their networks (mean: 3.948 and SD: 1.119).

7.7.2.3. Marketing Strategies

- Respondents strongly concurred that startup businesses re-examined data from prior studies (mean: 4.161 and SD: 0.903), formally collected market information from customers (mean: 4.136 and SD: 0.907), collected data from the general public (mean: 3.445 and SD: 0.996), and collected data from an external expert such as a consultant (mean: 3.436 and SD: 1.043).

- In terms of market orientation strategies, founders agreed that the goods or services provided by their company are a direct outcome of ongoing market or customer information (mean: 3.026 and SD: 1.496).

7.7.2.4. Liability of Newness (LON)

- Internal liabilities for newly found businesses include difficulties in hiring staff (mean: 3.084 and SD: 1.468), lack of informal structure (mean: 2.926 and SD: 1.42), ambiguity regarding positions (mean: 2.597 and SD: 1.378), and the development of administrative routine (mean: 2.519 and SD: 1.348).

- External liability of newness includes; business organisations finding it difficult at their initial stages to handle laws and regulations (mean: 4.023 and SD: 1.078), arrange long-term finance for their business (mean: 3.929 and SD: 1.138), handle marketing for their business (mean: 3.826 and SD: 1.226), and deal with uncertainty about market potential (mean: 3.800 and SD: 1.079).

7.7.2.5. Financial Performance, Innovation, and Startup Adaptiveness

- Startup founders strongly concurred that they are introducing new items or making changes to existing products (mean: 3.80 and SD: 1.23).

- Regarding startup adaptability, founders concurred that it depends on adapting to the resources they already have (mean: 3.029 and SD: 1.497); avoiding any course of action that restricts their flexibility (mean: 2.826 and SD: 1.433); being flexible to take advantage of opportunities (mean: 2.513 and SD: 1.374); and allowing the business to evolve as opportunities (mean: 2.448 and SD: 1.308).

- The financial performance of startup companies is highly influenced by their return on investment (mean: 3.677 and SD: 1.177), followed by market share (mean: 3.348 and SD: 1.378), business growth (mean: 3.271 and SD: 1.355), and sales growth (mean: 3.177 and SD: 1.441).

7.7.3. Firm and Founder Characteristics on Firm Resources, Entrepreneurial Capabilities, Marketing Strategies, and Various Dimensions of Startup Performance

This section has been divided into two categories: (1) firm and founder characteristics on resources, capabilities, and marketing strategies; and (2) firm and founder characteristics on various dimensions of startup performance.

7.7.3.1. Firm and Founder Characteristics on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

This section investigates the influence of both business characteristics and the characteristics of the founders on firm resources (specifically intellectual capital and entrepreneurial bricolage), entrepreneurial capabilities (including knowledge management capabilities, networking capabilities, and dynamic capabilities), as well as marketing strategies (such as market information acquisition strategies and market orientation strategies). ANOVA and independent sample t-tests were utilised to evaluate these relationships. The subsequent findings present outcomes concerning firm resources, entrepreneurial capabilities, and marketing strategies concerning both firm and founder characteristics.

7.7.3.1.1. Gender on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- Gender has no significant effect on either intellectual capital or entrepreneurial orientation since its p-value is more than 0.05 for both cases (the p-value for intellectual capital is 0.680 and entrepreneurial bricolage is 0.273).

- It can be concluded that there is a significant relationship between the gender of the respondent and entrepreneurial orientation since its p-value is less than 0.05

(.005). It can be observed that female founders have the highest mean score of 17.05 (2.10). Male founders have the lowest mean score of 15.71 (2.80). Thus, male founders have a lower level of entrepreneurial orientation.

- The gender of the respondents does not affect the knowledge management (p-value: 0.183) and dynamic capabilities (p-value: 0.437) of the founders. The result also indicates that there is a significant difference between gender and networking capabilities; its p-value is less than 0.05 (.014), and it can be said that there is a significant relationship between respondents' networking skills and gender. It can be shown that female founders had the highest mean score at 17.37 (2.31), and male founders were the lowest at 16.28 (3.52). As a result, male entrepreneurs are less skilled at networking.

- The gender of respondents does not significantly affect variables like the way they gather market information or their marketing orientation since the p values for both cases are more than 0.05, and the researcher confirmed that there is no significant difference between the gender of respondents with market information acquisition practices and market orientation.

7.7.3.1.2. Age of Respondents on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- There are significant differences in firm resources (intellectual capital and entrepreneurial bricolage) depending on the age of the founders. Different age groups possess different resources available to them. Age groups above 35 had higher levels of entrepreneurial bricolage (15.10) and intellectual capital (16.40) than other age groups. The p-values in both situations are less than 0.05, and it can be inferred that there is a substantial difference between age and the various firm resources used (p-values of 0.011 and 0.10, respectively).

- There is an age difference in entrepreneurial orientation (p-value is 0.018). The results indicate that founders' entrepreneurial orientation also increases with respondents' age. The above-35 age group, in particular, shows a higher

entrepreneurial orientation (mean score of 1.89), and both are moving in the same direction.

- Among founders in various age groups, there is a significant difference in their dynamic capabilities ($p<0.001$) but not in their knowledge management (0.779) or networking capabilities (0.099). It has been discovered that founders above the age of 35 have greater dynamic capabilities than those under the age of 20.

- It can be shown that there is a strong relationship between respondents' ages and market orientation (p-value <0.001). Age below 20 has a greater impact on market orientation than age above 35. With the age groups of startup founders at a 5% level of significance, it also clearly shows that there is no difference in market information acquisition (p-value is 0.970).

7.7.3.1.3. Founders Qualified from Different Educational Institutes on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- There is a significant difference between founders with different types of educational backgrounds in terms of intellectual capital ($p<0.001$) and entrepreneurial bricolage ($p<0.001$). Similar to this, founders qualified from IITs or NITs (mean: 3.161) generate more bricolage than those qualified from IIMs in the context of entrepreneurship.

- There is a significant difference in entrepreneurial orientation among startup founders with various educational backgrounds (p-value< 0.001). It is also observed that different types of educational backgrounds differ significantly in terms of knowledge management (p-value =0.033), dynamic (p-value <0.001), and networking (p-value <0.001) capabilities. However, a person with more education tends to have more highly developed knowledge management and dynamic capacities, whereas a person with lower education tends to have more highly developed networking capabilities. The same seems to be the case because company founders build their various skills on the knowledge they gain from their education.

- There are differences in marketing strategies (market orientation and market information acquisition) depending on the educational qualifications of the founders. Different levels of education are adapting different marketing strategies. Concerning market information acquisition strategies, it was discovered that the "IITs/NITs-IIMs" group had a significant impact, with a mean score of 1.616.

7.7.3.1.4. Prior Experience of Respondents on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- There is no significant difference between startup founders' prior experiences and their intellectual capital (p-value of 0.782), entrepreneurial bricolage (p-value of 0.758), entrepreneurial orientation (p-value of 0.539), dynamic capabilities (p-value of 0.641), networking capabilities (p-value of 0.800), market orientation (p-value of 0.147), and market information acquisition (p-value of 0.272).

- It has been determined that there is a substantial difference between experience in the startup ecosystem and the growth of knowledge management capabilities ($p = 0.006$). The ability of the founders to manage knowledge grows along with their experience.

7.7.3.1.5. Effect of Business Incubation on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- Depending on the proportion of startups falling into the incubated or non-incubated categories, there are differences in firm resources (intellectual capital and entrepreneurial bricolage). Newly found businesses have access to varying resources depending on how they are accepted into incubators. Compared to non-incubated firms, incubator-supported startups showed greater levels of entrepreneurial bricolage (15.40) and intellectual capital (16.86). The p-values in both cases are less than 0.05, and it can be deduced that there is a significant difference between incubation and the various firm resources utilized (p-values <0.001 in both cases).

- Among incubation characteristics, there is a significant difference between business incubation and entrepreneurial orientation (p-value <0.001). Further, it

can be revealed that incubated startups (mean: 16.84) are more oriented towards innovativeness, risk-taking, and pro-activeness than non-incubated startups (mean: 14.48).

- According to the investigation, it was discovered that business incubation centres function as a collection of resources and devise various methods to compete with their rivals. Therefore, it is evident that businesses located in incubators produce greater networking capabilities (mean: 16.956) and dynamic capabilities (mean: 21.08) than startups not based in incubators. These are the results of the help and encouragement given by the various business incubators.

- Business incubators assist companies in developing their marketing strategy, and research shows that founders of non-incubated startups spend more on market information acquisition than founders of incubated startups.

7.7.3.1.6. Effect of Legal Form of Business on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- All of the firm resource dimensions, intellectual capital (p-value 0.001) and entrepreneurial bricolage (p-value 0.050), significantly differ between business types. This view is supported by the fact that private limited companies are generally larger and support founders' intellectual capital and bricolage, allowing the founders to attend social events and to have employee cooperation, employee and supervisor coordination at work, etc., whereas the same thing is inferior in limited liability firms and partnership firms.

- Private limited companies are presumably more entrepreneurially oriented than partnership firms ($p = 0.036$).

- Similarly, there is a significant difference in dynamic capabilities among the founders of different forms of business (p-value <0.001). It is also evident that private limited corporations possess a higher mean score (mean: 1.836 and 1.769) than partnership firms and limited liability partners. Similarly, the networking capabilities of a different form of business organisation are also statistically significant (p-value of 0.012). It is also evident that founders of private limited

companies have greater mean networking capabilities on average than founders of partnership firms, with a mean score of 1.64. However, knowledge management capabilities and the form of business are not statistically significant (p values: 0.0643).

- The results of this study indicate that there are statistically significant differences between the market orientation of various types of business organizations (p-value <0.001), and it can also be deduced that firms located in partnership firms are more market-oriented than other types of business organizations. Similar to this, the tactics used by various types of business organizations to get market information are the same (p-value: 0.165).

7.7.3.1.7. Effect of the Number of Employees on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- It has been discovered that there is no significant difference between the number of employees working in startup companies and intellectual capital (p-value 0.952), entrepreneurial bricolage (p-value 0.079), entrepreneurial orientation (p-value 0.121), knowledge management capabilities (p-value 0.431), dynamic capabilities (p-value 0.061), networking capabilities (p-value 0.354), as well as all of the acquisition of market information (p-value 0.890).

- However, there is a significant difference in market orientation among the number of employees employed (p-value 0.016).

7.7.3.1.8. Sector on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- The startup founders operating in various sectors exhibit significantly varied levels of intellectual capital (p-value 0.012) and entrepreneurial bricolage (p-value <0.001). So, it can be indicated that entrepreneurial bricolage is highly concentrated in the health tech sector.

- Among different startups, the sector and entrepreneurial orientation differ significantly (p-value <0.001) from one another. Additionally, Ed-tech startups have a higher mean score than Health Tech (2.46).

- Additionally, there are notable differences among startup founders from various industries and capabilities. Specifically, knowledge management (p = 0.014), dynamic (p = 0.010), and networking (p = 0.021) capabilities, since its p-value is less than 0.05 for all the cases.

- The findings of the study show that there are statistically significant variations in the market orientation of different sectors (p-value <0.001), and it can be inferred that startups in the health tech industry are more market-oriented than startups in other industries (mean: 15.11). Similarly, different sectors employ the same approaches to gather market information (p-value: 0.14).

7.7.3.1.9. Funding Sources on Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

- The results show that there is no statistically significant difference in the funding sources for intellectual capital (p-value 0.063), entrepreneurial orientation (p-value 0.2229), knowledge management capabilities (p-value 0.389), dynamic capabilities (p-value 0.0681), networking capabilities (p-value 0.0908), market orientation (p-value 0.754), and market information acquisition (p-value 0.773).

- On the contrary, there is a notable variation in entrepreneurial bricolage across the founders who accessed different funding sources (p-value 0.014). Furthermore, it can be demonstrated that startup companies obtaining more angel or VC money than friends and family funding influence bricolage behaviour (mean: 2.56).

7.7.3.1.10. Motivation for Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies

The variables such as intellectual capital (p-value 0.364), entrepreneurial bricolage (p-value 0.690), knowledge management capabilities (p-value 0.948), dynamic capabilities (p-value 0.127), networking capabilities (p-value 0.838), and market

information acquisition (p-value 0.296) have no significant relationship with their motivation level.

On the other hand, entrepreneurs with various levels of motivation exhibit a noticeable difference in entrepreneurial orientation (p-value 0.017). Additionally, it can show that business owners motivated to serve society have a stronger entrepreneurial orientation than income maximisation (mean: 1.32). In a similar vein, market orientation and various types of motivation are statistically significant at the 1% level. Thus, the motivation of founders is influenced by both market orientation and entrepreneurial orientation.

7.7.3.2. Firm and Founder Characteristics on Financial Performance, Innovation, and Startup Adaptiveness.

This section covers the role of firm and founder characteristics in contributing to innovation, financial performance, and startup adaptiveness. The analysis was performed using ANOVA and independent sample t-tests.

- The study's findings showed that there is a significant difference between male and female founders in terms of startup adaptability (p-value 0.04). Male founders are assumed to have better adaptiveness (mean score: 11.06), and female founders are assumed to have lower adaptiveness (mean score: 9.05). Additionally, it is inferred that there are no gender differences in the respondents' innovation (p-value 0.348) and financial performance (p-value 0.169) effects.

- An analysis of startup founders' educational backgrounds showed that there were substantial differences in their adaptability and financial performance (p-values <0.001) where they possessed different educational backgrounds. When compared to IITs/NITs-qualified founders, founders qualified from IIMs had the highest mean (5.790). In contrast, the study's results show that there is no relationship between educational background and innovation in startup companies (p-value: 0.993).

- Results show that there are no statistically significant differences between startup founders based on their prior experience and innovation (p-value 0.282), startup adaptability (0.575), and financial performance (p-value 0.493).

- An analysis of startups by incubator showed a substantial difference between incubated and non-incubated founders in terms of their contribution to startup adaptability (p-value <0.001) and financial performance (p-value <0.001). It is seen that non-incubated startups (mean 14.228) have a moderate level of startup adaptability, while those that are incubated (mean 8.488) have a low level of adaptability. In the case of financial performance, incubated startups outperform (mean: 15.21) non-incubated startups (mean: 9.61). Contrary to that, the analysis found that there is no significant difference between the entry of incubators and their contribution to innovation (p-value 0.751).

- An analysis of startups according to their number of employees revealed a significant difference in their contribution to startup adaptability (p-value 0.001) and financial performance (p-value <0.001). More than 50 employees in startup companies (mean 12.25) are seen to have a moderate level of startup adaptability. Similar to this, financial performance is better for startups with less than 10 employees (mean: 15.50). On the other hand, the analysis discovered that no difference can be considered statistically significant between the number of employees and their contribution to innovation (p-value 0.759).

- There is a significant difference in startup adaptability (p-value <0.001) and financial performance (p-value <0.001) among the startup founders operating in different sectors. Startups coming from the health-tech sector have moderate adaptability (mean score of 15.08), while those from software (mean score of 10.64), hardware (mean score of 10.14), ed-tech (mean score of 10.04), and others (mean score of 8.45) have low adaptability. Similarly, the analysis found that financial performance is higher among education technology startups (mean: 14.16) and lower among health tech startups (mean: 8.38). In addition to that, the study found that there is no significant difference among the various sectors in their contribution to innovation (p-value = 0.126).

- According to the findings, there are no statistically significant differences among startup founders in terms of their funding sources, startup adaptability (p-value 0.081), or financial performance (p-value 0.113). It is also obvious that companies that obtain funding from various sources make significant contributions to their innovation (p-value: 0.016). Furthermore, it reveals that startups that raise their funding (mean: 15.248) at the beginning of their development are more likely to contribute to innovation.

- The results of the study demonstrated a significant difference in founders' levels of motivation in terms of financial performance (p-value 0.005). Startups with a strong sense of social responsibility contribute more to their financial performance (mean: 14.34). Furthermore, it is implied that there are no variations in the respondents' innovation (p-value 0.689) and startup adaptability (p-value 0.230).

7.7.4. Firm and Founder Characteristics, Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies for the Handling Liability of Newness

- The study's results demonstrated a substantial difference between educational backgrounds and individuals' capacities to manage the internal (p-value 0.001) and external (p-value 0.030) liabilities of newness. Further, researchers can conclude that IITs or NITs qualified founders can manage more external liabilities than IIMs (mean: 1.52).

- Academic research suggests that the previous experience of the founder is one of the major factors inducing the liability of newness among startup companies. It has been noticed that there is a significant difference in how they deal with the external liability of newness based on their prior experiences (p-value 0.004). Similarly, there is no connection between the internal liability of newness and the prior experience of founders (p-value 0.871). Hence, external liabilities decrease when the prior experience of founders increases.

- A study of startups by incubator revealed a significant difference between founders who were incubated and those who weren't in terms of their internal (p-

value <0.001) and external (p-value 0.030) liabilities of newness. Non-incubated startups have more internal (mean: 14.22) and external (mean: 16.11) liabilities of newness in both of these situations.

- The results show that startup founders differ statistically significantly in terms of the year of establishment and internal liability of newness (p-value 0.048), but not in terms of external liability of newness (p-value 0.062). It is also evident that freshly found businesses have a higher concentration of internal liabilities, which steadily diminish as these businesses expand (mean: 11.33).

- The study examines the relationship between various resources, entrepreneurial capabilities, marketing strategies, and the internal and external liabilities of newness. It is evident from the analysis that there is a negative relationship between internal liabilities of newness and various firm resources (intellectual capital and entrepreneurial bricolage). The internal liability of newness decreases when intellectual capital (r = -0.291) and entrepreneurial bricolage (r = -0.270) rise. A similar relationship exists between various capabilities and internal liabilities. The internal liability of newness can be decreased by improving dynamic capabilities (r = -0.394**) and networking capabilities (r = -0.218**). Therefore, it may be inferred that the development of enough business resources and capabilities can reduce the internal liability of newness.

- When examining the relationship between entrepreneurial orientation and liabilities, it has been found that the internal (r = -0.377) and external (r = -0.37) liabilities of newness are significantly inversely correlated. The risk of newness can be reduced for newly founded businesses both internally and externally as entrepreneurial orientation rises.

7.7.5. Impact of Firm Resources, Entrepreneurial Capabilities, and Marketing Strategies on Financial Performance, Innovation, and Startup Adaptiveness

Based on previous empirical studies, 17 research hypotheses were developed for testing the effects of firm resources, entrepreneurial capabilities, and marketing

strategies on contributing to financial performance, innovation, and startup adaptiveness. All the constructs were examined by developing CFA models. The value of the model fit indices was within the limits, and the models were found to be a good fit. For testing 17 hypotheses, a research model was developed for the relationship and effect among firm resources, entrepreneurial capabilities, and marketing strategies on contributing financial performance, innovation, and startup adaptiveness. Among these, 14 proposed hypotheses were supported in this study, and the AMOS Structural Equation Model (SEM) was performed to understand the effects, the results of which are as follows:

7.7.5.1. Impact of Firm Resources and Entrepreneurial Capabilities on Financial Performance and Entrepreneurial Orientation

- The hypothesis test indicates that there is a relationship between intellectual capital and financial performance. Given that the beta value is 0.288 and that financial performance would rise by 0.288 for each standard deviation increase in intellectual capital, the effect is positive. Consequently, intellectual capital influences financial performance.

- The hypothesis is validated, and it is discovered that entrepreneurial bricolage positively impacts the financial performance of startup enterprises (beta value is 0.144).

- The study indicated that the effect of knowledge management on financial performance is insignificant since its p-value is more than 0.05 (p values 0.386).

- A partial impact of dynamic capabilities on financial performance is indicated by the standardized beta coefficient of 0.366, which is significant and would rise by 0.366 for each unit of standard deviation increase in dynamic capabilities. Thus, the financial performance of newly established businesses in Kerala is positively impacted by dynamic capabilities.

- The study found that networking capabilities have a favourable impact on financial performance, as evidenced by a beta value of 0.138. Consequently, networking capabilities improve financial performance.

- The financial performance of new enterprises is positively impacted by entrepreneurial orientation, as indicated by the standardised beta coefficient of 0.192. Therefore, for every unit of standard deviation increase in entrepreneurial orientation, financial performance would increase by 0.192, and this is statistically significant at the 1% level. Financial performance is therefore positively impacted by an entrepreneurial orientation.

- A partial positive influence of intellectual capital on entrepreneurial orientation is indicated by the coefficient of 0.250. Hence, intellectual capital has a favourable impact on entrepreneurial orientation, suggesting that Kerala startup founders will benefit from their intellectual capital in developing an entrepreneurial orientation.

- A partial positive effect of entrepreneurial bricolage on entrepreneurial orientation is indicated by a coefficient of 0.295. For every unit of standard deviation increase in entrepreneurial bricolage, there would be a 0.295 increase in entrepreneurial orientation; this relationship is significant. Consequently, there is a positive correlation between entrepreneurial bricolage and entrepreneurial orientation. This suggests that startup founders who engage in entrepreneurial bricolage are more likely to be innovative, take risks, and be aggressive.

- It is found that knowledge management in startup companies has no effect on contributing to entrepreneurial orientation, and the hypothesis is not supported (p-value is 0.590).

- There is a significant partial relationship between dynamic capabilities and entrepreneurial orientation, as indicated by the standardised beta coefficient of 0.296, which increases by 0.296 for each unit of standard deviation increase in dynamic capabilities. Thus, the entrepreneurial inclination of newly established businesses in Kerala is positively impacted by dynamic capabilities.

- The favourable impact of networking skills on the entrepreneurial orientation of startup enterprises is indicated by the standardised beta coefficient of 0.202. Because of this, the entrepreneurial orientation would rise by 0.202 for each unit of standard deviation that networking capabilities increased, and this is

statistically significant at the 1 percent level. As a result, networking skills have a positive relationship with entrepreneurial attitudes.

Based on the results mentioned above, it can be concluded that dynamic capabilities (β = 0.366) are the most important factor influencing financial performance, followed by intellectual capital (β = 0.288), entrepreneurial bricolage (β = 0.144), and networking capabilities (β = 0.138). While knowledge management capabilities do not affect financial performance (p =0.386).

The impact of the resources and capabilities mentioned above on fostering an entrepreneurial orientation is explained in the second section. Dynamic capabilities are primarily associated with an entrepreneurial orientation (β = 0.296), followed by entrepreneurial bricolage (β = 0.295), intellectual capital (β = 0.250), and networking capabilities (β = 0.202). The contribution of knowledge management capabilities to entrepreneurial orientation is not statistically significant (p = 0.590).

7.7.5.2. Relationship of Entrepreneurial Orientation and Marketing Strategies to Contributing Innovation and Startup Adaptiveness

- The positive relationship between entrepreneurial orientation and innovation is demonstrated by the standardised beta coefficient of 0.110. It is noteworthy that innovation would rise by 0.11 for each unit of standard deviation that the entrepreneurial orientation increased. Therefore, an entrepreneurial mindset fosters innovativeness in ventures. Consequently, the accumulation of an entrepreneurial orientation in recently founded businesses has the potential to introduce innovation.

- It has been discovered that startup adaptability is impacted by entrepreneurial orientation. With a beta value of -0.283 and startup adaptiveness decreasing by 0.283 for each unit of standard deviation increase in entrepreneurial orientation, the effect is negative. Thus, it may be concluded that startup adaptability is negatively impacted by an entrepreneurial attitude.

- The innovation of startup companies would increase by 0.355 for every unit of standard deviation increase in market orientation, as indicated by the standardised

beta coefficient of 0.355, which is statistically significant at the 1 percent level. As a result, market orientation encourages innovation.

- The significant standardised beta coefficient of 0.337 suggests a partial relationship between market orientation and startup adaptability, with an increase of 0.337 for each unit of standard deviation in market orientation. Therefore, market orientation enhances a startup's ability to adapt.

- It is clear that market information acquisition does not affect innovation (p-value is 0.288). Further, it can be identified that firms collect market information irrespective of their contribution to innovation.

- Research indicates that market information acquisition influences the adaptability of startups. This has a favourable effect because the beta value is 0.327, and for every unit of standard deviation increase in market information gathering, startup adaptiveness would grow by 0.327. The acquisition of market information is therefore found to impact startup adaptability positively.

The aforementioned results indicate that out of the three indicators used to measure innovation, market orientation (β = 0.355) is the primary component that contributes to innovation, followed by entrepreneurial orientation (β = 0.110). Conversely, methods for acquiring market information do not support innovation in early-stage businesses (p-0.288). Comparably, when it comes to the adaptiveness measurement, market orientation (β = 0.337) and market information (β = 0.327) both have a major impact on adaptiveness. On the other hand, entrepreneurial orientation significantly reduces the effect (β = -0.283).

7.7.5. Mediating Role of Entrepreneurial Orientation on Firm Resources, Entrepreneurial Capabilities, and Financial Performance Relationships.

To investigate the mediating effect of entrepreneurial orientation on resources and capabilities for financial success, five mediation analyses were carried out. In this investigation, the bootstrapping approach with 5,000 samples was employed. In this study, financial performance is the dependent variable, entrepreneurial orientation is

the mediating variable, and resources and capabilities are the independent variables. The results of the mediation analysis are shown in the section that follows.

1. Entrepreneurial orientation partially mediated the relationship between intellectual capital and financial performance. This suggests that intellectual capital and entrepreneurial orientation are unique intangible assets that companies regularly incorporate to attain sustainable performance. Kerala's startup ecosystem operates in a highly interactive environment, which empowers founders to foster an innovative atmosphere by embracing the founders' mindset and efficiently utilising the intangible resources within the organisation.

2. Entrepreneurial orientation partially mediated the connection between entrepreneurial bricolage and financial performance. Startup companies in Kerala can enhance the performance of their ventures through the effective utilisation of available resources and a team with diverse innovativeness, risk-taking skills, and a proactive mindset.

3. Entrepreneurial orientation does not mediate the relationship between knowledge management capabilities and financial performance.

4. Entrepreneurial orientation partially mediated the relationship between dynamic capabilities and financial performance. Entrepreneurial orientation is the main factor that influences a firm's ability to develop dynamic capabilities, which, in turn, have a direct effect on financial performance by enabling the firm to stay agile, innovative, and competitive in a changing business environment.

5. The association between networking capabilities and financial performance was partially mediated by entrepreneurial orientation. The Kerala Startup Mission is distinguished by its promotion of startups through the planning of numerous networking events that benefit all companies, whether or not they are incubated. With the help of this platform, fledgling businesses can enhance their networking capabilities and cultivate an entrepreneurial mindset that will boost their financial performance.

Based on the above results, it was evident that the mediating role of entrepreneurial orientation is most pronounced in the connection between dynamic capabilities and financial performance (β = 0.057). Following closely, we observed a mediating role in the relationship between entrepreneurial bricolage and financial performance (β = 0.056), intellectual capital and financial performance (β = 0.048), and networking capabilities and financial performance (β = 0.039). Similarly, the connection between knowledge management and financial performance did not show any mediating effects, as its p-value of indirect effect exceeded 0.05 (0.545). Thus, there is no mediation between entrepreneurial orientation and the connection between knowledge management and financial performance.

7.7.6. Group Difference of These Models Among Incubated and Non-Incubated Startups in Kerala

The results of the multi-group moderation analysis of firm resources, capabilities, and strategies on several aspects of startup performance among Kerala startups that were incubated and those that were not are explained in this section. A distinct model for both incubated and non-incubated startups was constructed for this study, and the structural invariance method was used to further compare the two. This section is divided into three sections: CB SEM findings for incubated startups; CB SEM findings for non-incubated startups; and a comparison of firm resources, capabilities, and strategies on innovation, financial performance, and adaptability between non-incubated and incubated companies.

7.7.6.1. SEM findings-Incubated Startups

1. The results indicate that the financial performance of enterprises that have been incubated at or graduated from different business incubation centres is significantly influenced by intellectual capital (β -values 0.351, p <0.001). This is because business incubation centres promote the use of infrastructure, technology, and teamwork among the stakeholders in a way that enhances financial performance.

2. The p-value is higher than 0.05 (p=0.479), suggesting that the relationship between financial performance and entrepreneurial bricolage is not significantly different across incubated startup companies.

3. The p-value is higher than 0.05 (p=0.0141), suggesting that the relationship between financial performance and knowledge management is not significantly different across incubated startup companies.

4. The results demonstrate that dynamic capabilities (β -values 0.393, p <0.001) affect the financial performance of the companies that have been incubated at or graduated from various business incubation centres. This phenomenon might be attributed to the greater adaptability and corresponding actions of Kerala-based entrepreneurs that have undergone incubation. They can adjust their offering based on the increased availability of professional guidance.

5. It indicates that the networking capabilities of startups in business incubation centres can contribute to financial performance since the standardised beta coefficient is 0.222. Thus, the networking capabilities of startup founders in Kerala can enable them to utilise business opportunities by constantly connecting with different parties in the startup ecosystem.

6. It is clear from the analysis that the financial performance and entrepreneurial orientation of incubated enterprises are not statistically significant, given that the p-value is higher than 0.05 (p-value: 0.971).

7. The standardised beta coefficient of 0.173, which maintains the other paths constantly, shows the partial impact of intellectual capital on entrepreneurial orientation in incubated startups in Kerala. Thus, a sufficient number of intangible resources is also required to encourage innovation and risk-taking ability in their ventures.

8. The association between entrepreneurial bricolage and entrepreneurial orientation is not significant since the p-value is higher than 0.05 (p = 0.629). The entrepreneurial mindset of incubated startups in Kerala is not based on their capacity to effectively utilise available resources.

9. The association between knowledge management and entrepreneurial orientation is not significant since the p-value is higher than 0.05 (p = 0.680). The entrepreneurial mindset of incubated startups in Kerala is not based on the knowledge management capabilities of founders.

10. The standardised beta coefficient of 0.208 shows the partial influence of founders' dynamic capabilities on contributing to entrepreneurial orientation in fostered startup enterprises by allowing the other paths to remain constant. As a result, businesses that undergo incubation at incubation centres can respond to the dynamic business environment and take proactive actions.

11. The standardised beta coefficient of 0.334, when keeping all other factors constant, indicates that the networking capabilities of founders play an important role in influencing the entrepreneurial mindset of newly established businesses within incubators. Consequently, such incubated companies can adapt to the ever-changing business landscape and implement proactive strategies in reaction to it.

12. Based on the findings, it can be deduced that there is a positive connection between the entrepreneurial mindset of founders and their role in fostering innovation, given the standardised beta value of 0.101. As a result, it can be observed that incubation managers provide their tenants with opportunities to contribute to innovation by sharing experiences and ideas derived from successful stories within the incubator.

13. The association between entrepreneurial orientation and startup adaptiveness is not significant since the p-value is higher than 0.05 (p = 0.964). The startup adaptiveness of incubated startups in Kerala is not based on their entrepreneurial mindset.

14. The fact that the standardised beta coefficient is 0.456 suggests that the market orientation of companies at business incubation centres can support innovation. Due to their market orientation, startup founders in Kerala are therefore able to create unique products by continuously assessing client needs and competitive activity.

15. The association between market orientation and startup adaptiveness is not significant since the p-value is higher than 0.05 (p = 0.934). The startup adaptiveness of incubated startups in Kerala is not based on the market orientation of startup founders.

16. The connection between market information acquisition and innovation is not significant since the p-value is higher than 0.05 (p = 0.334). The innovation of incubated startups in Kerala is not based on the market incubation acquisition practices done by the incubated startup founders.

17. The findings make it clear that acquiring market information has a favourable impact on a startup's ability to adapt (β -values 0.320, p <0.001). Thus, to survive in the market for a long period, startup companies in incubation centres devote more time to acquiring market information.

7.7.6.2. SEM findings-Non-Incubated Startups

1. The study indicated that the standardised beta coefficient of 0.205, while keeping other factors constant, identifies the partial impact of intellectual capital on the financial performance of non-incubated startups in Kerala. This found that startups in Kerala are established by diverse teams that efficiently combine various resources, including human capital, relational capital, and structural capital, to enhance their overall performance.

2. The association between entrepreneurial bricolage and financial performance is not significant since the p-value is higher than 0.05 (p = 0.273). The startup performance of non-incubated startups in Kerala is not based on their entrepreneurial bricolage.

3. The association between knowledge management and financial performance is not significant since the p-value is higher than 0.05 (p = 0.085). The startup performance of non-incubated startups in Kerala is not based on their knowledge management capabilities.

4. Given the standardised beta value of 0.277, it can be concluded from the results that there is a positive relationship between the founders' dynamic capabilities and their contribution to financial performance. Consequently, entrepreneurs of start-ups without access to incubation facilities should continuously seek out ways to enhance their competitive edge by observing changes in their surrounding environment.

5. The association between networking capabilities and financial performance is not significant since the p-value is higher than 0.05 ($p = 0.124$). The startup performance of non-incubated startups in Kerala is not based on their networking capabilities.

6. The association between entrepreneurial orientation and financial performance is not significant since the p-value is higher than 0.05 ($p = 0.115$). The startup performance of non-incubated startups in Kerala is not based on their entrepreneurial orientation.

7. The findings make it clear that intellectual capital has a favourable impact on entrepreneurial orientation (β -values 0.250, p -0.005). Thus, to survive in the market for a long period, startup companies in non-incubation centres devote more time to developing an entrepreneurial mindset and intellectual capital.

8. The standardised beta coefficient of 0.253 indicates that entrepreneurial orientation may be supported by the entrepreneurial bricolage of non-incubated startup enterprises. In the resource-constrained context in which they operate, entrepreneurs' ability to make use of existing resources contributes to the development of the entrepreneurial orientation of Kerala startup founders.

9. Since the p-value ($p = 0.904$) is greater than 0.05, the relationship between knowledge management and entrepreneurial orientation is not significant. It is not dependent on their knowledge management capabilities how well company founders can foster an entrepreneurial mindset.

10. The study indicated that the standardised beta coefficient of 0.238 while keeping other factors constant, identifies the partial impact of dynamic capabilities on the entrepreneurial orientation of non-incubated startups in Kerala.

11. The study indicated that the standardised beta coefficient of 0.186 while keeping other factors constant, identifies the partial impact of networking capabilities on the entrepreneurial orientation of non-incubated startups in Kerala.

12. The association between entrepreneurial orientation and innovativeness is not significant since the p-value is higher than 0.05 ($p = 0.129$). The innovation of non-incubated startups in Kerala is not based on the entrepreneurial orientation of startup founders.

13. The findings clearly show that an entrepreneurial mindset has a beneficial impact on the adaptability (β-values = 0.243, $p = 0.012$*) of the businesses that do not receive incubation or that graduate from different business incubation centres. So, to stay in the business for a long time, startup founders who are not members of any incubation centres focus a lot on taking risks and being proactive.

14. The findings clearly show that market orientation has a beneficial impact on the innovation (β-values = 0.307) of the businesses that do not receive incubation or that graduate from different business incubation centres. So, to contribute innovation in their ventures, startup founders who are not members of any incubation centres invest a lot in market orientation.

15. The study indicated that the standardised beta coefficient of 0.193 while keeping other factors constant, identifies the partial impact of market orientation on the startup adaptiveness of non-incubated startups in Kerala.

16. The study indicated that the standardised beta coefficient of -0.193 while keeping other factors constant, identifies the partial impact of market information acquisition on the innovation of non-incubated startups in Kerala.

17. The study indicated that the standardised beta coefficient of 0.302 while keeping other factors constant, identifies the partial impact of market information on the startup adaptiveness of non-incubated startups in Kerala.

7.7.6.3. Comparison Between Firm Resources, Capabilities, and Strategies on Innovation, Financial Performance, and Adaptiveness among Incubated and Non-Incubated Startups

1. The whole model shows significant differences between startup companies that are incubated and those that are not (CMIN = 96.203, DF = 52, P = <0.001). As a result, it demonstrates how the predictive model varies between startup businesses that are incubated and those that are not. Consequently, whether a business is incubated or not has a substantial impact on the interaction between firm resources, capabilities, and strategy on many startup performance parameters.

2. There is no statistically significant difference in the connection between intellectual capital and entrepreneurial orientation between businesses that are incubated and those that are not (CMIN=1.263, P Value= 0.261). Thus, in terms of how intellectual capital affects entrepreneurial orientation, there are no significant distinctions between businesses that are incubated and those that are not.

3. The association between entrepreneurial bricolage and entrepreneurial orientation differs significantly between businesses that have received incubator support and those that have not (CMIN = 4.158, P = 0.041). Thus, there is a moderating effect between businesses that are incubated and those that are not when it comes to the influence of entrepreneurial bricolage on entrepreneurial orientation.

4. Neither incubated nor non-incubated startups significantly differ in the association between knowledge management and entrepreneurial orientation (CMIN = 0.078, P value = 0.780). Hence, there is no difference between incubated and non-

incubated startups in terms of the influence of knowledge management capabilities on entrepreneurial orientation.

5. The association between networking capabilities and entrepreneurial orientation does not significantly differ between businesses that have received incubator support and those that have not (CMIN=0.560, P Value= 0.454). Therefore, there is no difference between firms that are incubated and those that are not in terms of how networking capabilities affect entrepreneurial orientation.

6. There is no statistically significant difference in the connection between entrepreneurial bricolage and financial performance between businesses that are incubated and those that are not (CMIN=1.565, P Value=0.211). Thus, in terms of how entrepreneurial bricolage affects financial performance, there are no significant distinctions between businesses that are incubated and those that are not.

7. There is no discernible difference between companies that receive incubation and those that do not in terms of the relationship between networking capabilities and financial performance (CMIN=1.278, P Value= 0.258). Thus, there are no significant differences between incubated and non-incubated organizations in terms of how networking capabilities impact financial performance.

8. The association between knowledge management and financial performance differs significantly between businesses that have received incubator support and those that have not (CMIN = 5.440, P = 0.020). Thus, there is a moderating effect between businesses that are incubated and those that are not when it comes to the influence of knowledge management capabilities on financial performance.

9. Neither incubated nor non-incubated startups significantly differ in the association between dynamic capabilities and financial performance (CMIN=1.766, P Value= 0.184). Hence, there is no difference between incubated and non-incubated

startups in terms of the influence of dynamic capabilities on financial performance.

10. There is no discernible difference between companies that receive incubation and those that do not in terms of the relationship between market information acquisition and startup adaptiveness (CMIN=0.523, P Value= 0.469). Thus, there are no significant differences between incubated and non-incubated organizations in terms of market information acquisition and startup adaptiveness.

11. Neither incubated nor non-incubated startups significantly differ in the association between market orientation and startup adaptability CMIN=2.140, P Value= 0.143). Hence, there is no difference between incubated and non-incubated startups in terms of the influence of market orientation on startup adaptiveness.

12. The association between market information acquisition and innovation differs significantly between businesses that have received incubator support and those that have not (CMIN = 5.010, P = 0.025). Thus, there is a moderating effect between businesses that are incubated and those that are not when it comes to the influence of market information acquisition on innovation.

13. There is no discernible difference between companies that receive incubation and those that do not in terms of the relationship between market orientation and innovation (CMIN=1.118, P Value= 0.290). Thus, there are no significant differences between incubated and non-incubated organizations in terms of how market orientation impacts innovation.

14. There is no discernible difference between companies that receive incubation and those that do not in terms of the relationship between entrepreneurial orientation and financial performance (CMIN=0.626, P Value= 0.429). Thus, there are no significant differences between incubated and non-incubated organizations in terms of how entrepreneurial orientation impacts financial performance.

15. Regarding the association between entrepreneurial orientation and innovation, there is no significant difference between businesses that receive incubation and those that do not (CMIN=3.545, P Value=0.060). Therefore, regarding how entrepreneurial orientation affects innovation, there are no significant distinctions between incubated organizations and those not.

16. There is no significant difference between companies that receive incubation and those that do not in terms of the relationship between entrepreneurial orientation and startup adaptiveness (CMIN=2.804, P Value= 0.094). Thus, there are no significant differences between incubated and non-incubated organizations in terms of how entrepreneurial orientation impacts financial performance.

17. Neither incubated nor non-incubated startups significantly differ in the association between intellectual capital and financial performance (CMIN=2.418, P Value= 0.120). Hence, there is no difference between incubated and non-incubated startups in terms of the influence of intellectual capital on financial performance.

18. There is no significant difference between companies that receive incubation and those that do not in terms of the relationship between dynamic capabilities and entrepreneurial orientation (CMIN=0.568, P Value= 0.451). Thus, there are no significant differences between incubated and non-incubated organizations in terms of how dynamic capabilities impact entrepreneurial orientation.

It was discovered that there are three paths where significant differences exist between startups that have undergone incubator support and those that have not. As such, in these three pathways, business incubation serves as the moderating factor. The association between knowledge management-financial performance relationships and entrepreneurial bricolage-entrepreneurial orientation relationships is stronger among non-incubated startups. The rationale behind this is that firms that are not incubated are not receiving adequate resources and infrastructure from incubation centres, which leads to the development of specific capabilities such as bricolage, which allows them to utilise available resources to cultivate an entrepreneurial attitude.

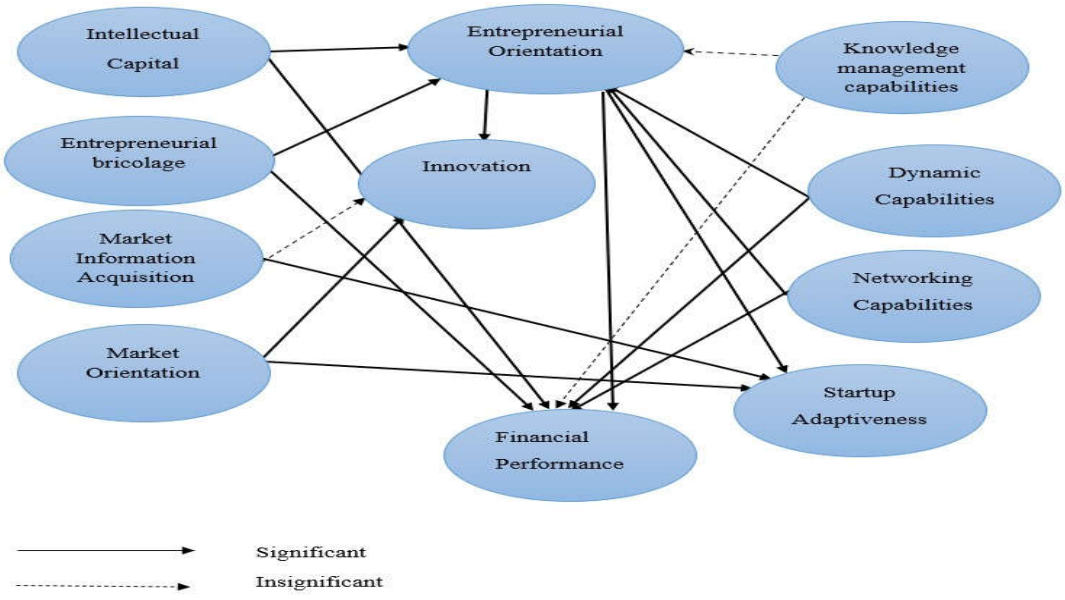
On the other hand, firms that receive incubator support make a greater contribution to market information acquisition and their contribution to innovation. This is supported by the fact that business incubators support their tenants' efforts to contribute to innovation by supporting them with market research. As a result, market information acquisition based on contribution to innovation is higher among incubated startup companies.

7.8. Research model developed from the study

The research model constructed for the study is shown in Figure 7.1.

Figure 7.1

Research Model



Source: Researcher

The study evaluated the conceptual model for identifying firm resources, capabilities, and strategies for various dimensions of startup performance. The researcher has refined and finalised the model in light of the analysis, which will aid scholars in their investigation into the impact of startup enterprises' success in Kerala.

7.9. Conclusion

Due to unique ways of operation and the availability of talent within the team, Kerala's startup ecosystem has garnered significant interest from international corporations and investors. Venture capitalists and angel investors are also making investment decisions based on the startup's scalability and its sustainable operations. Therefore, it is essential to evaluate the performance of newly established enterprises in Kerala. Consequently, the purpose of the current study was to determine how business resources, capabilities, and marketing strategies relate to the various elements of startup performance.

The study begins by evaluating how the characteristics of both the firm and its founder affect the firm's resources, capabilities, marketing strategies, and overall startup performance. The research summarised that the characteristics of the founder and the firm significantly influence the development of resources, capabilities, and strategies. All the founder's characteristics, such as the founder's gender, education, age, and previous experiences, influence the firm's entrepreneurial orientation. Similarly, attributes like intellectual capital, entrepreneurial bricolage, dynamic capabilities, and marketing orientation are also affected by founder characteristics, except for gender. Moreover, the networking capabilities of the founder are influenced by various factors, except for educational qualifications. In the case of knowledge management capabilities and market information acquisition, gender and age do not have an impact, but previous experience does.

The study also evaluates how these founder characteristics affect a firm's ability to contribute to innovation, financial performance, and startup adaptiveness. It is found that financial performance and startup adaptiveness are affected by most of the founder characteristics, while innovation is not impacted. The study also considers the influence of these resources, capabilities, and strategies on different firm characteristics, such as incubation, legal structure, number of employees, sector, funding sources, and motivation. Among these, incubation has a significant effect on

all the resources, capabilities, and strategies. Furthermore, the sector influences all firm resources, capabilities, and strategies, except for market information acquisition strategies. Funding sources and motivation have a lesser impact on these factors.

The second part of the study evaluates the strategies employed by startup founders to mitigate the challenges of being a new company in terms of startup performance. It has been discovered that both internal and external challenges can be reduced when founders have educational qualifications and are located in business incubation centers. The previous experience of founders also helps in reducing external challenges rather than internal ones. As the number of years of registration, a startup has established increases, internal challenges decrease, indicating an inverse relationship between internal challenges and the startup's age. It is further confirmed that the accumulation of resources, capabilities, and strategies has a significant impact on reducing internal liabilities. Additionally, it is found that the founder's entrepreneurial orientation can effectively handle both internal and external challenges.

The study also empirically examines the direct impact of two firm resources, three entrepreneurial capabilities, and two marketing strategies on financial performance. It identifies the mediating role of entrepreneurial orientation in these relationships. The research reveals that intellectual capital, entrepreneurial bricolage, dynamic capabilities, and networking capabilities have an impact on both financial performance and entrepreneurial orientation, except for knowledge management capabilities. Furthermore, entrepreneurial orientation and marketing strategies are identified as contributors to innovation and startup adaptiveness, with all factors being statistically significant except for market information acquisition's impact on contributing innovation.

Finally, the researcher conducts a multigroup moderation analysis to understand how resources, capabilities, and strategies relate to various dimensions of startup performance among incubated and non-incubated startups. The conclusion is that

there are significant differences between incubated and non-incubated startups in terms of how their resources, capabilities, and marketing strategies affect their performance dimensions. In essence, business incubation centres act as a moderating factor in these relationships.

Chapter 8

RECOMMENDATION, IMPLICATIONS, AND SCOPE FOR FURTHER RESEARCH

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8.1. Recommendation/ Suggestion

The following recommendations are made in light of the findings and conclusions of the research, which were mentioned in the previous chapter. The study provides suggestions to various parties involved in the startup ecosystem, notably policymakers or governments, funding organisations, startup founders, and the general public.

8.1.1. Recommendation to Startup Founders

1. Startup founders or team members may invest more time in developing their strategies and capabilities to comprehend competitors and market signals, even if they have a strong business model and support system.

2. To attain financial performance, founders are advised to be innovative, proactive, and have a high-risk propensity. They need to act before their competitors do. Therefore, an effective entrepreneurial mindset enhances understanding of the market with novel and value-added consumer offerings, allowing employees to experiment with new ideas and investigate new customer demands.

3. The findings of the study validate the significance of intellectual capital in fostering the expansion of nascent enterprises. Hence, to exploit innovation and convert it into superior performance, startup founders could feasibly combine their resources to take advantage of human, relational, and structural capital.

4. It is advisable to identify key people and designate them as promoters of intellectual capital. This person would be in charge of coming up with a strategy for managing these intangible assets and maintaining a balance between personal and organisational goals.

5. To exploit bricolage in new ventures, founders are encouraged to organise brainstorming sessions where founding members are prompted to discuss the effective utilisation of existing resources and the potential values that can emerge from resource application. Consequently, the founding members can assist decision-makers in more effectively recognising the resources available in their hands and the opportunities for adopting bricolage through their knowledge and experience.

6. It is recommended that founders encourage their employees to acquire more updated knowledge and information by creating knowledge groups and teams.

7. Our results indicate the possible advantages of networking in enhancing financial performance. Through networking, founders are encouraged to acquire resources that cannot be generated internally. Hence, to mitigate the issue of insufficient experience and knowledge in recognising business prospects, founders had to dedicate more time to building significant relationships within their network.

8. It is important to build startup founders' human capital through effective training programmes and to take the time necessary to fill each position with the ideal candidate. It is worth considering for startups to assemble teams comprising a sufficient number of skilled professionals and technological specialists.

9. The founder may assist in creating an appropriate environment for knowledge exchange among all startup community members and offer cutting-edge tools that support knowledge sharing, accumulation, and archiving to maintain competitiveness in the marketplace.

10. Founders are encouraged to advance knowledge-based dynamic capabilities to adapt to changes in the external environment. These capabilities may include the capacity to search for and interpret knowledge, identify opportunities and threats, make flexible strategic decisions, and efficiently reconfigure knowledge-based resources.

11. It is feasible for founders to build strong networks with different players in the startup ecosystem, including customers, suppliers, investors, and industry experts.

Actively participating in events conducted by the Kerala Startup Mission helps connect investors, successful startups, and startup infinities for the growth of their ventures in international operations.

12. It is advisable for startup founders to fully exploit business incubators to have access to resources, mentorship, networking opportunities, and investors who are involved in the expansion of new businesses. Additionally, they ought to foster a culture of learning from their surroundings.

13. It is recommended that to obtain a competitive advantage and promote innovation-driven growth, startups embrace emerging technologies like blockchain, data analytics, and artificial intelligence.

14. It is worth considering for founders to identify the Key Performance Indicators (KPI) to track progress, measure success, and identify areas for improvement. Such activities encourage making informed decisions and adjusting strategies according to changing customer demand and requirements.

15. It is advisable to take a series of actions, such as establishing a strong team, creating accountability, and monitoring potential risks for mitigating both internal and external liability of newness.

8.1.2. Recommendation to Policymakers and Government

1. It is recommended for the government to foster alliances and tie-ups, as well as opportunities for funding from angel and venture capitalists, to create an atmosphere that is favourable to research and development as well as innovation in new technology products and services.

2. The number of patents in India remains significantly lower than in other developed startup ecosystems, indicating a deficiency in innovation, research, and development activities. Therefore, the government wants to set aside substantial funding for R&D projects. Promote collaboration between universities, startups, and research institutes. Provide grants and subsidies to assist R&D initiatives and assist companies in bridging the innovation-to-commercialization divide.

3. The findings of our study indicate that Kerala has a lower proportion of female entrepreneurs. Globally, female entrepreneurs are carving out a place for themselves in the commercial sector. Thus, the entrepreneurial potential of women has to be harnessed. It is recommended that the government take the required actions to address the declining proportion of female entrepreneurs in the startup sector and encourage them to become more involved in business.

4. Financial assistance is the most significant challenge affected by startups in Kerala. No startup can expand and accomplish its objectives without adequate finance. Kerala offers startup companies access to both public and private financial sources. It is recommended that governments take the required actions to direct funds coming from different sources towards underprivileged areas.

5. Even though startup requirements have been simplified, bureaucratic obstacles still cause delays for many firms. Governments make sure that these obstacles are eliminated at grassroots levels and offer favourable policies that may develop a thriving ecosystem that can draw in talent from outside as well as from India. More initiatives like "Startup Infinity" may be supported by the state government to encourage collaborations on joint research and development projects, sharing of knowledge, and patent recognition agreements with other nations. This can assist Kerala startups in protecting their intellectual property and broadening their market reach.

6. It is worth considering for the government to foster innovation policies to encourage many forms and phases of innovation. Establishing university programs that assist their graduates in starting their businesses and offering mentorship programmes that assist at every level of the startup process.

7. It is recommended that government prioritise more business incubators, and initiate and establish innovation and entrepreneurship cells in educational institutions, which helps in developing their capabilities and understanding of the market potential.

8. Government and policymakers may encourage programmes like 'Government as a Marketplace' to provide a platform for conducting marketing research before implementing the product into the market. Moreover, programmes like 'Demo Day' and 'Demand Day' should encourage supporting startups in Kerala and overall social development.

9. It is advisable that the government foster international collaboration and supportive mechanisms that would encourage networking capabilities and foster their operation to cross border levels, share knowledge, and access new markets.

10. Both the central and state governments have to take proper measures to mitigate the external liability of newness in the form of setting up business incubators, providing regulatory support, providing access to infrastructure, and providing funding at different stages. As a result, the failure rate of startups in Kerala can be reduced to its maximum.

11. It is the responsibility of educational institutions and governments to cultivate an entrepreneurial mindset among their students. To promote student entrepreneurship in the state, educational institutions and universities may set up Tinkering Labs at the school level, Atal incubation centres, and IEDC cells at the college level.

8.1.3. Recommendation to Investors

1. Given that there are comparatively fewer unicorns in Kerala than in other states, investors may thoroughly assess the startups before investing to allocate their funds to growing initiatives.

2. It is recommended that investors participate in the investor connect and pitching programme conducted by the Kerala Startup Mission to select the best investment avenues.

3. It is advisable for investors to compare companies and make appropriate investments by calculating intellectual capital using the MVAIC model.

4. The findings of the research reveal that a large number of businesses in their early phases depend on their capital. The role conflict between investors and startup founders could cause this. Therefore, there may be sufficient clarity regarding the roles that each side plays.

5. It is recommended that investors make proper investment decisions based on the uniqueness of ideas contributed by the founders, their expertise, and market potential.

6. Investors may provide both financial and nonfinancial assistance in the form of funding, mentoring, guidance, and connections to networks and resources that can help increase their capabilities and accelerate performance.

7. Investors have to make a diversification strategy by spreading their investment activities into different sectors as a way to mitigate the initial liability of newness. Apart from that, the focus should be on scalability, competitive advantages, and growth and expansion.

8.2. Implications

This section consists of both theoretical and practical implications. Further, the practical implications for a wide range of stakeholders, including startup founders, government officials, policymakers, the general public, funding organisations, and aspiring entrepreneurs, are presented below.

8.2.1. Theoretical Implications

The role of resources and capabilities in influencing performance has been extensively discussed in entrepreneurship literature. However, there has been relatively less exploration of their impact on three dimensions of performance—financial, innovative, and adaptiveness—particularly within the startup context. Moreover, previous research has often examined the influence of intellectual capital, bricolage, dynamic capabilities, networking capabilities, market information acquisition practices, and market orientation on startup and new venture performance individually, with few studies considering them collectively. The current research

addresses this gap by developing a model that integrates the significance of firm resources, capabilities, and marketing strategies in explaining the dimensions of startup performance.

Firstly, the model is constructed by evaluating the resource-based view theory and resource orchestration theory, addressing the interaction among firm resources and capabilities to predict a startup company's financial performance. The findings of the study indicate that resources and capabilities strongly affect the financial performance of startup companies. Additionally, entrepreneurial orientation is identified as a mediator between the relationships of resources, capabilities, and financial performance. Moreover, the study delves into the social networking theory of entrepreneurship, elucidating the importance of social actors in contributing to startup performance. Lastly, the research contributes to the existing literature by explaining the role of business incubators in shaping resources, capabilities, and strategies contributing to performance, thereby supporting the real options theory of entrepreneurship. The study provides a comprehensive framework for mitigating the liability of newness by incorporating internal resources and strategies. It concludes that effective utilisation of internal capabilities and strategies can mitigate the internal liability of newness to a certain extent. Thus, the study contributes to the existing literature on the strategic drivers of new venture performance and the management of the liability of newness among startup companies.

8.2.2. Practical Implications

This section has been divided into five sessions with implications for founders, the general public, investors, aspiring entrepreneurs, policymakers, and the government.

8.2.2.1. Implication to Founders

The current study has several implications for startup founders. First and foremost, entrepreneurs can engage heavily in building their resources and recognise the intangible assets that their companies own. Additionally, the marketing tactics examined in this study help entrepreneurs better grasp consumer preferences, market trends, and competitive environments. Similarly, the significance of human capital in

improving startup success was employed in this study. Attracting and keeping top personnel is therefore essential for the long-term success and survival of ventures. Thus, it can be achieved through the application of excellent talent management practices.

The current research indicates that startup enterprises can mitigate the negative effects of resource constraints on their growth and competitiveness by implementing the bricolage strategy, which enables the repurposing of existing resources. Similarly, by strengthening their networking skills, entrepreneurs can also open doors to government resources, like funding or advantageous policies, which will lessen the reliance of new businesses on their resources and offer them more avenues for expansion. Lastly, focusing on the tactics used in this study can help to mitigate the failure probability of new endeavours to a certain extent.

8.2.2.2. Implication to the Government/Policy Makers

Through this study, the government and policymakers can identify what kinds of major challenges are faced by startup companies in scaling their products. Thus, the government can create a range of plans and initiatives to support the growth of startups, including employee and entrepreneur training, technology gradation, formalising production procedures, and technology exchange programs. The report also gives the government permission to approve government funding programmes for a range of industries that promote innovation, job creation, and sustainable growth. The results of this study assist decision-makers in the government and policy domains when deciding which regions to establish business incubation centres. In conclusion, this research helps the government foster inter-firm cooperation between Kerala and other countries through the sharing of resources and expertise from both areas.

8.2.2.3. Implication to the General Public

Society is the prime beneficiary of entrepreneurial activities. Companies that invest in social capital are more able to foresee market changes and meet customer needs effectively. So, having an understanding of the societal aspect assists managers in recognising social relationships and making prompt decisions regarding corporate

social responsibility (CSR). Ultimately, these research findings also lead to benefits for consumers through the introduction of innovative products and solutions.

8.2.2.4. Implication to Aspiring Entrepreneurs

To encourage innovation, Kerala startups now provide a range of student-supporting initiatives throughout the state by establishing IEDC cells. These studies guide aspiring business owners on the important elements to take into account and tools to use to improve their performance. Similarly, the importance of carrying out exhaustive market research to pinpoint industry gaps and opportunities can also be identified. It also provides access to a robust network of startup professionals for advice and assistance. Finally, aspiring entrepreneurs can prepare for challenges, failures, and uncertainty in the startup journey through this study.

8.2.2.5. Implication to the Funding Agencies

New ventures and startups are continuously exploring ways to secure investments from angel investors and venture capital agencies. These agencies invest in new ventures based on a range of criteria. Therefore, the study offers valuable insights for funding agencies. The research offers techniques to identify the various components essential for startup valuation. Through this study, an investor can decide whether their investment can be put into incubated or non-incubated startups based on their capacity to foster innovation and adaptiveness.

8.3. Scope for Further Research

It has been suggested that future researchers look into investigating the following topics:

1. The impact of firm resources, competencies, and marketing strategies on other performance indicators, like new product development speed, quality, economic value added, and balanced scorecard (BSC), might be investigated in future studies.

2. Artificial intelligence tools and digital marketing adoption can be integrated into future research to enable informed decision-making.

3. It is suggested that focus groups, case studies, and interviews be used in future research to investigate new venture performance through qualitative methods and startup entrepreneurs' insights.

4. The study solely took into account business incubators as the moderating variable; further investigation is needed to understand how other factors, such as emotional intelligence or a leader's efficacy as a moderator, influence relationships between resources, capabilities, and performance.

5. Future studies might compare the strategic performance indicators of the startup ecosystems in Bangalore and Kerala.

6. To assess the performance of startups at various phases of their development, a longitudinal study of startup enterprises will be conducted in the future.

7. Future studies could assess the impact of institutional factors, public policies, funding accessibility and availability, tax incentives, and other macroeconomic factors on the expansion of start-up businesses.

8. The current study applied a performance measurement scale that does not cover dimensions extending beyond financial, innovative, and start-up adaptiveness aspects. No suitable scale for this purpose was found in the literature research. Therefore, it is recommended that researchers create one as well.

9. Research may look into which stage of the development of a new business each effect of the liability of newness has a greater influence than the other. In addition to LON, additional liabilities like the liability of ageing and adolescence may also be considered in connection with new endeavours.

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APPENDIX

Appendix I

Respected Sir/ Madam,

I am Jumana NP, a research scholar pursuing my Ph.D. at the Research Department of Commerce and Management Studies, Farook College (Autonomous), Kozhikode, Kerala. This questionnaire is the foundation for my doctoral thesis titled "Harnessing Resources, Capabilities, and Strategies for Growth: A Framework for Innovation and Performance of Startups in Kerala." This survey aims to collect accurate and reliable data regarding the resources and capabilities utilized by startups based in Kerala. I assure you that all information provided will be kept confidential and used exclusively for my research. I kindly request your cooperation in completing the questionnaire.

Thank you for your kind cooperation

(To be filled by incubated or non-incubated startup companies registered in Kerala Startup Mission between 2010 and 2020).

Section1: Demographic Profile of Founders

Please read the following and put a tick mark in the appropriate columns *(Tick only one option)*

1. Gender
   - ☐ Male
   - ☐ Female
2. Age
   - ☐ Below 20
   - ☐ 20-25
   - ☐ 25-30
   - ☐ 30-35
   - ☐ Above 35
3. Educational Qualification
   - ☐ Arts and science
   - ☐ IITs or NITs
   - ☐ IIMs
   - ☐ Others
4. Prior business experience
   - ☐ Zero
   - ☐ 1-3
   - ☐ 3-5
   - ☐ Above 5
5. Have you incubated or graduated from any business incubation centers?
   - ☐ Yes
   - ☐ No

Section II: Startup Characteristics:

Please read the following and put a tick mark in the appropriate columns *(Tick only one option)*

6. Year of establishment

- ☐ Before 2015
- ☐ 2015-16
- ☐ 2016-17
- ☐ 2017-18
- ☐ After 2018

7. Legal form of your company

- ☐ Partnership firm
- ☐ LLP
- ☐ Private limited firm

8. Number of employees working in your company

- ☐ Below 10
- ☐ 10-20
- ☐ 20-30
- ☐ 30-40
- ☐ 40-50
- ☐ Above 50

9. Sector in which your company operates?

- ☐ Software
- ☐ Health tech
- ☐ Edtech
- ☐ Hardware
- ☐ Others

10. No of startup founders: ……

11. Location of your business

- ☐ Trivandrum
- ☐ Kochi
- ☐ Kozhikode

12. Major source of funding

- ☐ Own funding
- ☐ Seed money
- ☐ Friends and family
- ☐ Angel investor/VC

13. Motivation for starting new ventures

- ☐ Job security
- ☐ Wealth maximization
- ☐ Creates income
- ☐ To serve society

Section III: Firm resources

14. Schedule for assessing the firm resources used in startup companies operating in Kerala. Please indicate your level of agreement on the following statements by marking a tick in the relevant columns. (SA *indicates Strongly Agree, A indicates Agree, N indicates Neutral, D indicates Disagree, and SD indicates Strongly Disagree).*

1	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Intellectual capital	Our employees/ team members are highly skilled					
	Our employees are considered experts in their particular jobs and function					
	We collaborate extensively with external parties (e.g., customers and suppliers) to develop new solutions					
	We use intellectual property rights (patents/registered software, and copyrights) as a way to store knowledge					
2	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Entrepreneurial bricolage	We are confident of our ability to find workable solutions to new challenges by using our existing resources					
	Applying combinations of resources at hand for new operations					
	Applying combinations of resources at hand to create new products or services					
	When we face new challenges, we put together workable solutions from our existing resources					

Section IV: Entrepreneurial Capabilities

15. Read each item carefully and then rate how much you agree with each item using a point Likert scale. Please mark your response as *SA for Strongly Agree, A for Agree, N for Neutral, D for Disagree, and SD for Strongly Disagree.*

1	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Knowledge management	Our employees or team members access valuable knowledge from external sources					
	Our employees or team members represent knowledge in documents, databases, and software					
	Our employees or team members use accessible knowledge in decision-making					
	Our employees or team members generate new knowledge					
2	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Dynamic capabilities	The resource integration capability of our team members is efficient					
	The resource reconfiguration capability of our team members is efficient					
	The learning capability of our team members is efficient					
	We can respond to the rapidly changing environment					
	Our organization is strong in distinguishing different groups of users and market segments					
3	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Networking Capabilities	Spent much effort on cultivating connections with financial institutions					
	Spent much effort on cultivating connections with competitors					
	Spent much effort on cultivating connections with officials of governments and their agencies					
	I can obtain information about my industry from my network of contacts faster than competitors can obtain the same information					

Section V: Marketing Strategies

16. Schedule for assessing the marketing strategies used in startup companies operating in Kerala. Please indicate your level of agreement on the following statements by marking a tick in the relevant columns. (SA *indicates Strongly Agree, A indicates Agree, N indicates Neutral, D indicates Disagree, and SD indicates Strongly Disagree).*

1	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Market information Acquisition	Our company has formal processes for continuously collecting information from customers					
	Our company has formal processes for continuously re-examining the value of information collected in previous studies					
	Our company has formal processes for continuously collecting information from external experts, such as consultants.					
	Our company has formal processes for continuously collecting information about relevant public					
2	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Market orientation	We have routine or regular measures of customer service					
	Our product and service development are based on good market and customer information					
	We have a good sense of how our customers value our products and services					
	The customer's interest should always come first, ahead of the owners					

Section VI: Entrepreneurial Orientation

17. Read each item carefully and then rate how much you agree with each item using a point Likert scale. Please mark your response as *SA for Strongly Agree, A for Agree, N for Neutral, D for Disagree, and SD for Strongly Disagree.*

Sl. No.	Entrepreneurial orientation	5	4	3	2	1
Entrepreneurial orientation	We are good at identifying opportunities					
	We always take initiative in every situation					
	Our business emphasizes opportunities for exploration and experimentation					
	Our business is creative in operating methods					

Section VII: Liability of Newness

18. Read each item carefully and then rate how much you agree with each item using a point Likert scale. Please mark your response as *SA for Strongly Agree, A for Agree, N for Neutral, D for Disagree, and SD for Strongly Disagree.*

1	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Internal Liability of Newness	Buildup administrative routine					
	Recruitment of personnel					
	Uncertainty about roles and function					
	Lack of informal structure					
2	**Statements**	**SA**	**A**	**N**	**D**	**SD**
External Liability of newness	Uncertainty about market potential	0				
	Handle laws and regulations					
	Arrange long-term finance for business					
	Handling marketing and influencing the customers					

19. Schedule for assessing the performance dimensions of startup companies operating in Kerala. Please indicate your level of agreement on the following statements by marking a tick in the relevant columns. (SA *indicates Strongly Agree, A indicates Agree, N indicates Neutral, D indicates Disagree, and SD indicates Strongly Disagree).*

1	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Innovation	Our company constantly develops new products or services.					
	The companies' new products and services are often perceived as novel by customers					
	Our company introduces modifications to its existing product or services.					
	new products and service introductions, our company is often first-to-market.					
2	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Financial Performance	Our sales are growing every year					
	Our startup seeing business growth					
	Our growth is profitable					
	Our market share is increasing					
	Our return on investment is increasing					
3	**Statements**	**SA**	**A**	**N**	**D**	**SD**
Startup adaptiveness	We allow the business to evolve as opportunities emerge					
	We adapt what we are doing to the resources we have					
	We are flexible and take advantage of opportunities as they arise					
	We avoid courses of action that restrict our flexibility and adaptability					