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ROLE OF STARTUP INCENTIVES AND SCHEMES IN ENHANCING DIGITAL ENTREPRENEURS IN MAHARASHTRA, INDIA

Masters' thesis

MBA, International Business Administration

Supervisor: Sirje Ustav, PHD

Tallinn 2021

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The document length is 12,423 words from the introduction to the end of the conclusion.

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The paper conforms to requirements in force.

Chairman of the Defence Committee: / to be added only in graduation thesis /

Permitted to the defence

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ABSTRACT

The aim of this thesis is to review the success of the Government led incentive programmes, for startups, in India and the possible reasons as to why the scheme(s) have not been as successful. The focus of the work undertaken is limited to the roll out of these schemes to digital entrepreneurs in Maharashtra, India. The issue: Evaluate the role of startup schemes in enhancing the effectiveness of digital entrepreneurs in Maharashtra, India. This issue is important for several reasons. Digital technology led innovative and value creating companies have positively impacted economic growth and prosperity of nations. It is therefore imperative that governments fund entrepreneurship and have checks factored into these schemes to ensure that the funding outcome is as effective as possible. The methodology employed a mixed methodology approach with quantitative study via a survey instrument and few open ended question interviews with digital entrepreneurs for their points of view. This research applies convenience sampling technique in collecting the data, which is analysed using SPSS statistical software. Key survey findings include that the finance needed by the entrepreneurs to scale-up business is the most difficult challenge faced by the digital entrepreneurs. Seed funds availability, difficulties in doing business given the complexity of the regulatory mechanism; advisory services; access to market, in that order, were stated as being the main impediments.

In conclusion, the thesis identifies the effectiveness of start-up schemes and the associated satisfaction of digital entrepreneurs in Maharashtra, India. It is also found that there is a vast awareness gap about the knowledge of the benefits of different start-up schemes, which acts as a major reason for low utilisation of these schemes. The sector has many challenges, which needs to be looked upon by the policy makers, digital entrepreneurs and the government so that the effectiveness of the existing and potential startup schemes in India is enhanced. Based on the overall findings, it is recommended that proper awareness campaigns must be launched so that the digital entrepreneurs learn about different schemes, and avail different benefits. It is also recommended that the current start-up schemes are analysed for their effectiveness, and even the government can look into the option of consolidating the existing schemes.

Keywords: Digital entrepreneurs, start-up schemes, effectiveness, issues, recommendations.

INTRODUCTION

The economic performance and growth of the nations have been highly influenced by the developments in the digital technologies (Konig et al., 2019). Digitalization is concerned with the use and adoption of the rapidly evolving information technologies like big data analytics, internet of things, cloud computing etc. and their increased utilization (Parviainen et al., 2017). Over the last few decades, the rate of digital performance of the countries have substantially increased. The studies by Fisch (2019) and Ahrens et al. (2019) claims that digital technologies are being used by the entrepreneurs to finance innovation and fund business success. Digital technologies are also widely used by the entrepreneurs in creating new digital products, services and even giving rise to digitally oriented new business models. These business activities utilizing the digital technologies are termed as digital entrepreneurship and new ventures operating on this philosophy to create value are termed as digital start-ups (Berger et al., 2019; Steininger, 2019).

The growth of digital start-ups and digital entrepreneurship is also evident in one of the developing South Asian countries, India. India is ranked largest in terms of the start-up ecosystem globally, with a consistent annual growth rate of 12 to 15%. In 2018, the Indian economy was characterised with 50,000 start-ups. It is further interesting to note that out of these start-ups, more than 9000 of these start-ups are technology led initiatives. Also, the tech-oriented start-ups in the country are on continuous growth, as marked by about 1200 new technological start-ups to open in 2019 (Start-up India, 2021).

It is further held that this growth in digital entrepreneurship is fuelled by the start-up incentives, like Make in India, Start-up India, STEP, JAM, Digital India. Out of all the government led schemes, Sen (2019) claims that start-up India has been one of the most successful schemes launched by the Indian Government to develop the digital entrepreneurship platform. The success of the scheme is estimated by the achievement of the annual growth rate of 108% in 2018, and the total funding to cross US $4.2 billion. Embarking upon the importance of digital entrepreneurship in the growth and development of a nation, the current paper explores the opinions and perceptions of some of these digital entrepreneurs to understand the role of startup incentives and schemes in enhancing digital entrepreneurs in Maharashtra, India.

The first motivation for undertaking this research arises from the rise and fall of many startups in India, predominantly the business capital of the country Mumbai, Maharashtra (Pant, 2017). This led to the curiosity to study the reasons behind the same and the role of government in supporting such endeavours. The second motivation comes from the news talking and praising about the Modi Government initiative of 'Start-Up India'(Financial Express, 2018). This led to an interest level to explore the initiative, and how far this scheme has been better than the previously launched schemes by the government in the previous many decades.

The second motivation for undertaking this research is the findings from the preliminary research in this subject area. The study by Gupta (2017) commended the Indian start-up platform, with huge prospects of growth in the future. The research further made the finding that despite as large as 83% of the Indian workforce aspires to become entrepreneurs, only 11% of the actual young adults are involved in an entrepreneurial activity. To add, the study by Kankipati (2017) claims that in the past also, the Indian Government had launched various schemes and plans for boosting the entrepreneurial landscape, but none could provide effective outcomes. However, no research has been undertaken so far in evaluating how these start-up schemes and incentives offer benefits to digital entrepreneurs in India (let alone Maharashtra) and measure their effectiveness. Moreover, no study has been undertaken so far to assess the highly commendable 'Startup India 'scheme. Therefore, the rationale of the research is to fill this existing research gap and evaluate the effectiveness of the 'Startup India' scheme launched by the government, by gauging the direct responses of the digital entrepreneurs in the business capital city of India.

Research aim: The aim of the research is to assess the effectiveness of the 'Startup India' scheme launched by the government for the digital entrepreneurs in Maharashtra, India.

To that end, this research shall assess the importance of schemes and funds by the government to boost the entrepreneurial landscape for economic growth, evaluate the effectiveness of the 'Startup India' scheme for the digital entrepreneurs, gauge the perceptions of the digital entrepreneurs in Maharashtra about the satisfaction, benefits and challenges faced from availing the offering under the 'Startup India' scheme and finally to recommend the ways and strategies to make the scheme more robust and rewarding for the digital entrepreneurs and overall economic growth in India.

As such, the research questions are:

1. What are the key benefits of the Start-up India scheme launched by the Indian government?

2. What are the challenges faced by the digital entrepreneurs?

3. How far are the digital entrepreneurs satisfied with the Startup India offerings?

4. How can the existing Startup India scheme be augmented to provide for better satisfaction and higher benefits for the digital entrepreneurs, to secure economic growth?

The report will be divided into five chapters, and will cover the following aspects of research: Introduction: This chapter of the thesis provides the introduction for the overall thesis, the background information for marking the relevance of the subject area, the motivation for the research, the research gap, the research aims and the related research questions. Next, the chapter on literature review provides the theoretical framework of the research such that the key concepts, definition and theories will be discussed, using the secondary sources. Some of the main secondary sources used to populate the chapter will be the academic peer-reviewed journals and databases, industry reports and government databases. The main inclusions in this chapter will include the meaning and definition of digital entrepreneur, importance of digital entrepreneurship for securing economic growth and development. Moreover, the chapter will also discuss the details of various startup incentives undertaken by the India government in the past, and their success rates. Finally, the in-depth knowledge on the offering of the Startup India will be laid down. The aim of this chapter is to gain the theoretical knowledge of the subject, so that the primary research can be framed to meet research aim. The research methodology chapter will lay down the methodology of the research that will guide the researcher in undertaking the precise research. In this chapter, using the literature review, the research philosophy, research approach, research strategy and research design will be discussed. Moreover, the details of the data collection and data analysis will be provided. Once the data is collected, it will be analysed. It will present the key findings from the primary research. The findings will be presented in the form of graphs and tables to provide for a better interpretation of the results. The findings will also be discussed with respect to the individual research questions. Lastly, the overall conclusion will be drawn in it. The key findings from the secondary literature and the primary analysis will be collated to make the final conclusions. Also, the recommendations and the implications for different stakeholders will be made. The chapter will also discuss the limitations of the research, and the scope for future research.

1. LITERATURE REVIEW

In this chapter, the theory pertaining to the various concepts for the subject of digital entrepreneurship and different initiatives taken by the Indian government for promoting digital entrepreneurship are discussed. The meaning, definitions and importance of different important concepts used in the research are explained using the existing literature from a variety of authentic sources. Firstly, the meaning and concept of digital entrepreneurship is defined, and the importance of digital entrepreneurship ecosystem are studied. The importance of digital entrepreneurship from the economic aspects is also briefed. Thereafter, the potential for growth in the digital business landscape is also ascertained by understanding the growing popularity and demand from Indian consumers and markets, coupled with the inadequate digitalized business infrastructure to support this demand. The chapter discusses some of the significant initiatives taken by the Government of India to reform and revitalise this digital business landscape and promote start- ups and digital entrepreneurship over the last few years. Finally, the chapter unveils some of the vital challenges faced by the start- ups and digital entrepreneurs that inhibit their growth and fails to grow optimally.

1.1. Digital entrepreneurship

Many research papers have defined digital entrepreneurship (DE) in different contexts and perspectives. Sahut, Iandoli & Teulon (2021) defined DE as the "process of entrepreneurial creation of digital value through the use of various socio-technical digital enablers to support effective acquisition, processing, distribution and consumption of digital information (p.7). Le Dinh, Vu, & Ayayi (2018) also defined DE as the integration of traditional entrepreneurship with newer and smarter ways of conducting business using digital resources.

Furthermore, the formal definition of DE is also provided by the European Commission (2005):
"Digital entrepreneurship embraces all new ventures and the transformation of existing businesses that drive economic and/or social value by creating and using novel digital technologies. Digital enterprises are characterized by a high intensity of utilization of novel digital technologies (particularly social, big data, mobile and cloud solutions) to improve

business operations, invent new business models, sharpen business intelligence, and engage with customers and stakeholders. They create the jobs and growth opportunities of the future" (p.1).

Steiniger (2019) identifies that DE is majorly impacted by the information and communication technology, and plays four major roles in the life of a digital entrepreneur. These roles include facilitating, such that the ICT makes the operations for a DE easier; mediating by operating a new venture; outcome oriented, in the form of benefits and success of the entrepreneurial operations; and ubiquitous enabling, by facilitating the models of new digital businesses. Digital Entrepreneurship is also defined by Bailetti (2012) as a project investment using technologically and scientifically specialised individuals and assets for the value creation of the firm. Ferreira et al. (2016) presents a broad conceptualization of digital or technological entrepreneurship and defines it as the integration of technology- based innovation and entrepreneurship. Similarly, Beckman (2012) identifies a digital entrepreneurship as the process that exploit opportunities in the field of advance science and engineering. Nambisan (2016) also defines digital entrepreneurs to include the entrepreneurs that operates on the technology cantered business idea.

After assessing the different definitions and meanings of digital entrepreneurship, it is stated that the meaning of digital entrepreneurship for this study includes all the entrepreneurial endeavours that utilises information technology in its processes, raw materials or final products. In other words, the use of advanced technologies and communication for undertaking the business processes will mark digital entrepreneur.

1.2. Digital entrepreneurship ecosystem

Sussan & Acs (2017) identifies the entrepreneurial ecosystem as a system that comprises of many entrepreneurs that create companies and products and services using digital technologies in the global economy. Li, Badr & Biennier (2012) also defined entrepreneurial ecosystem as a system that is self-organized, scalable and sustainable that contains various heterogenous firms using digital tools, and actively interact with each other. The concept of digital entrepreneurship is a multi-sector phenomenon, in which different stakeholders interact with each other and are engaged in networking, learning and implementation of business processes happening in both online or physical workplaces (Brown & Mason, 2017). These ecosystems ensure the creation of

meaningful associations with different players, like large businesses, innovation- led high growth companies and micro- firms (Auerswald, 2014).

The digital entrepreneur ecosystem is claimed to be the supportive elements that favour the emergence of new start-ups, which are majorly driven by the access to digital skills and knowledge (Mathews & Brueggemann, 2015). Weil (2011) further adds that the digital entrepreneurship ecosystem is the system that emerges as a result of effective collaboration between private and public actors driven by entrepreneurial efforts, and the networking of skillsets, with the aim to establish a dynamic relation among these factors. Hsieh & Wu (2019) further defined digital entrepreneurship ecosystem as digitally oriented output and environment that supports the start-up and growth of the digital entrepreneurial firms.

More comprehensive definitions of digital entrepreneurship ecosystem are provided by Stam (2015) and Acs, Autio & Szerb (2014) to constitute a framework that includes and integrates four concepts, namely digital infrastructure governance, digital user citizenship, digital entrepreneurship and digital marketplace. Du et al. (2018) further recognises digital entrepreneurship ecosystem as a blend of different elements in a specific region that operates to extend support to the growth and developments of the innovative start- up organizations, which strive to exploit the new opportunities provided by digital technologies. Another study by Elia, Margherita & Passiante (2020) lays down a number of characteristics of digital entrepreneurship economy, namely, entrepreneurship is seen as a dynamic process that aims to convert new opportunities to innovative business solutions; use of digital technologies for the development of product and transformation of organisation for creating value proposition; digitization- led connection between different entrepreneurial actors and supports an environment for entrepreneurial processes and digital community; and interaction and correlation of different flows in a system.

Thus, from the above literature, it can be asserted that digital entrepreneurship ecosystem comprises of different actors and stakeholders that support the growth and development of start-ups using digital technologies and infrastructure.

1.3. Importance of digital entrepreneurship

Digital Entrepreneurship is important since it bridges the gap between the start-up and innovation. Steiniger (2019) asserts that the deployment of technologies like social media, crowdsourcing and funding, digital technologies, cloud computing, big data, online reputation assessment etc. help in creating innovation in the newly established companies. The role of digitalization and digital entrepreneur in fostering innovation systems is evident in many studies (Nambisan et al., 2017; Ardolino et al., 2018; Hinings, Gegenhuber, & Greenwood, 2018). It is also supported by European Commission (2014), who views that the use of digital technologies by the businesses help shape the innovative development which becomes a reason for qualitative economic growth. Digital technologies are not only vital for exploiting business opportunities, but also lead to disruptive technologies which cause new vulnerability spaces for growth (Dong, 2019; Rachinger et al., 2019). Sigfusson & Chetty (2013) also purports that the software entrepreneurs in Iceland operated to develop the social capital and identify new opportunities by utilising social networking sites. This signifies that digital entrepreneurs contributes in the development of social capital and growth opportunities.

The employment opportunities created in the economy from digital entrepreneurship are also immense, in the domains of internet, mobile technology, digital platforms and social computing (Vineela, 2018). Digital entrepreneurship is viewed as a critical pathway for growth of the economy, creation of employment opportunities and ingrains innovation (Zhao & Collier, 2016).

Another advantage of digital entrepreneurship is that it alters the competitive environments and reshape the strategies, processes and structures of doing traditional businesses (Bharadwaj et al., 2013). This is supported by Markus & Loebecke (2013) who claims that the traditional businesses are altered by the emergence of new digital technologies like social media, cloud computing, big data, internet of things etc. These technologies facilitate active collaboration, leveraged resources, product and service design and deployment and development of open and shared technologies (Markus & Loebecke, 2013). Digital platforms and innovative competitive businesses are also important source for developing new marketplace fuelled by innovation and knowledge (Dushnitsky & Klueter, 2011).

Zhao, Wallis & Singh (2015) further adds another advantage of digital entrepreneurship in the form of cost saving for new ventures by bringing a new range of opportunities that create

immense business value. Hence, the current literature signifies that the digital entrepreneurship is one of the most promising options for an economy's growth and development, and mark a new culture of innovation and growth for the businesses.

1.4. Potential for digital business landscape in India

India is known to be one of the largest and fastest rising markets for digital markets, and is ranked second after China. Statistics have shown that India had 560 million internet subscribers in the year 2018, and the estimated mobile data used by the consumers every month averaged at 8.3 Gigabits, as compared to 5.5 gigabits in China and 8.5 gigabits in South Korea, which is termed as one of the advanced digital economies in the world (Kaka et al., 2019).

The potential of India's digital technology is further reinstated by the Mckinsey report. The findings show that between 2014 and 2018, the number of smartphones per 100 people grew from 5.4 to 26.2, and the number of internet users also rose from 239 million in 2014 to 560 million in 2018. Furthermore, the digital technology in business transactions is evident from the rise in number of cashless transactions per person from 2.2 in 2014 to 18 in 2018. Also, the potential of digital growth in India is estimated by the forecasted growth in 2025 (Kaka et al., 2019). McKinsey Global Institute Analysis estimates the growth in different sectors like financial services, are likely to grow by 170 times, as compared to growth in jobs and skills, agriculture, education, logistics and retail expected to be 70 times, 70 times, 50 times, 30 times and 11.7 times respectively (Kaka et al., 2019). Also, the core digital sectors are valued at $170 billion in 2018, and is forecasted to grow to $435 billion by the year 2025 (Kaka et al., 2019).

All these statistics are given below in Figure 1, and clearly defines the potential of digital business growth in India.
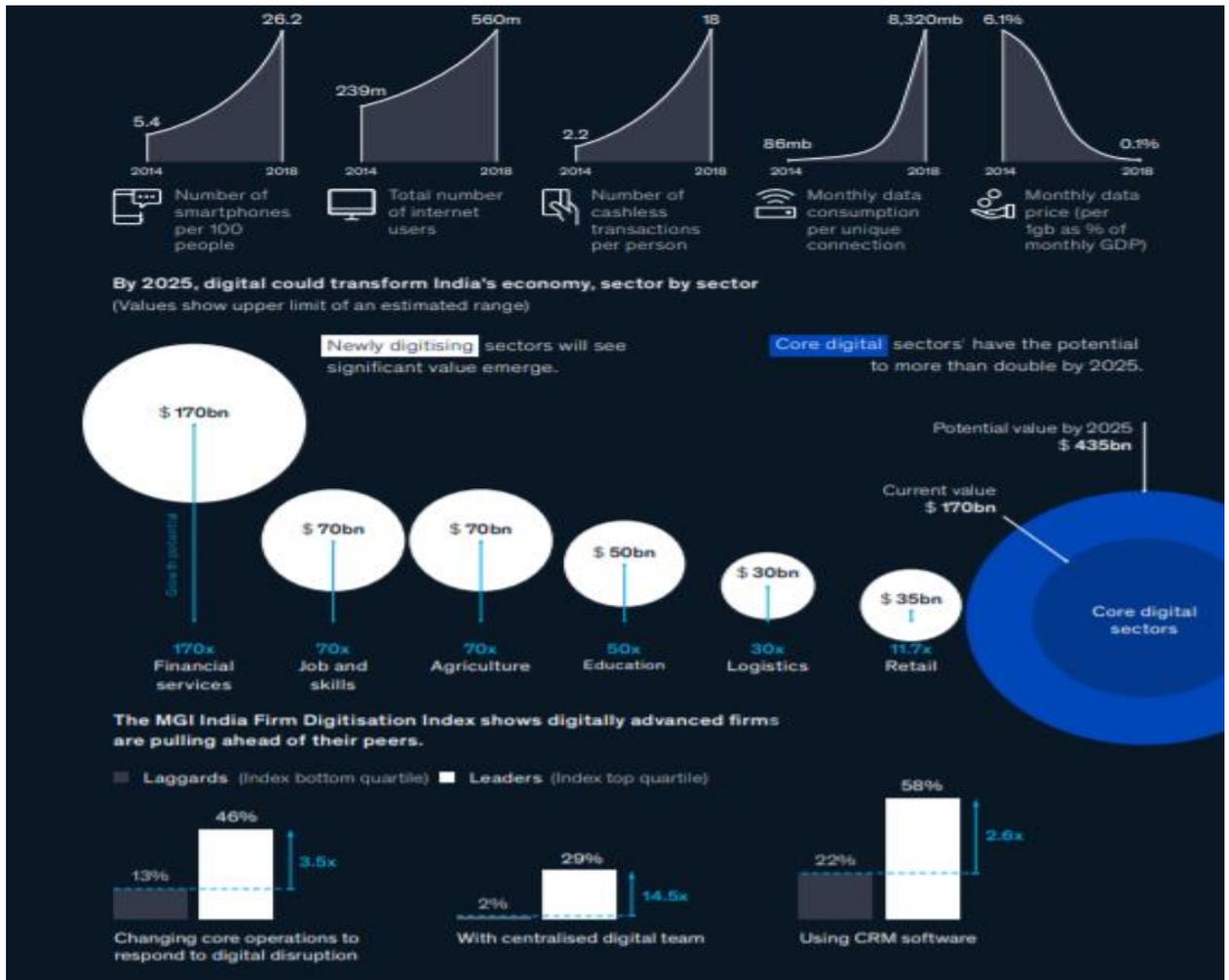
Figure 1: Potential for technology growth in India
Source: Kaka et al., 2019

Apart from the digital potential, the digital adoption rate in India is also significant. India is ranked first globally on the key dimensions of digital adoption, as 1.2 billion Indians have enrolled in the world's largest unique identity program. India is ranked second, after Indonesia, on the growth in Digital adoption index between 2014 and 2017 as shown below in Figure 2.

Country	Index
Indonesia	99
India	**90**
China	45
Russia	44
Germany	44
Japan	43
Italy	36
South Africa	35
France	35
South Korea	31
United Kingdom	30
Brazil	30
United States	30
Sweden	27
Canada	25
Australia	25
Singapore	24
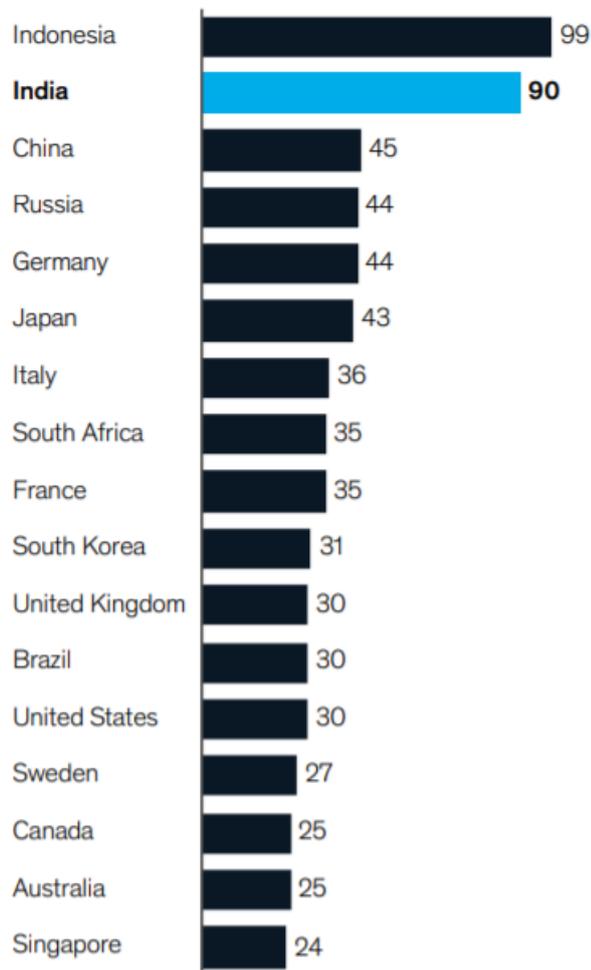
Figure 2: Growth in Country Digital Adoption Index between 2014 and 2017
Source: Kaka et al., 2019

The statistics proving high digital adoption rate include 12.3 billion application downloads in 2018, followed by 1.17 million subscribers to wireless phones (Pensworth, 2020). Furthermore, by 2018, the total number of internet subscribers accounted for 560 million, and 354 million smartphone devices are owned by the people. Finally, 294 million of users are engaged in social media (Mercer, 2019). The digital adoption is also attributed to the decrease in the prices of data, and the data quantity for every connection has kind of increased four times between 2016 and 2017.

The potential for digital growth is also witnessed in significant growth in the internet infrastructure, including launching new base tower stations and deeper penetration of internet

related services in even lower income states in the country (Mishra & Chanchani, 2020). The internet has penetrated deeper in the rural India, than urban parts of the country.

Moreover, the gender distribution of the use of internet across both rural and urban segments shows lesser discrepancies. Also, the online use of children in India is also on rise, at 503 million, as compared to 850 million in China (Mishra & Chanchani, 2020).

The above analysis show that the demand and potential for internet and digital services in India has shown a tremendous increase, thereby, providing ample scope of growth for the businesses. Research has further shown that Indian businesses are digitising fast, but the growth pattern is not uniform. The survey by McKinsey among 600 businesses, marking them on different factors of digitalisation confirmed these findings. Some of these factors include implementation of customer relationship management systems, acceptance of digital payments, having separate analytics team in the organization, centralised digital organization, utilization of Enterprise Resource Planning solutions etc. The main conclusion held that the companies lying in the top quartile scored only 58.2 on internet pattern, against 33.2 for the firms in the bottom quartile. The mean score of 46.2 shows that the firms are not using the digital technologies more extensively (Kaka et al., 2019). It is also interesting to note that the differences in adoption of digitalization is greater within sectors, as compared to across sectors. The top quartile digital firms are pronounced in almost all the business sectors. A figurative description of the levels of digitisation across and within different business sectors in large Indian firms is shown below.
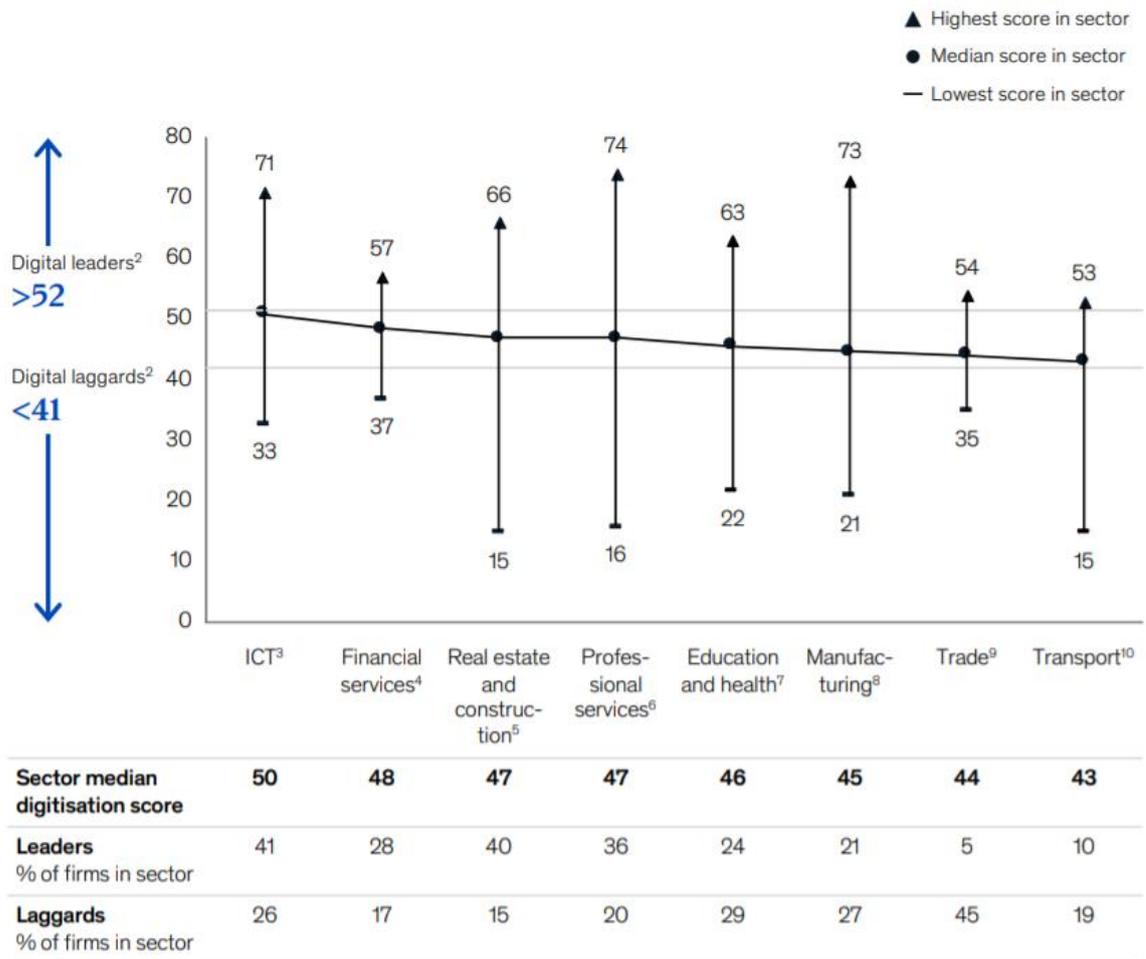
Figure 3: Levels of digitisation across different business sectors in large Indian firms

Source: Kaka et al., 2019

Hence, the current potential coupled with the underdeveloped digital landscape of the existing firms signify a major gap for digitalization. Thus, in the next section, the initiatives undertaken by the Indian government to build the digital business landscape is understood.

1.5. Evolution of digital start-ups in India

The initial footprints of information technology made its way in India in 1950s by IBM, and later the setup of Tata Consultancy Services in 1968 to take on a number of computer related projects. The IT-enabled services were thereafter, setup during 1980s with the founding of the companies like Patni Systems. TCS and Patni Systems were actually the first ones to unlock the value in offshoring. These early establishments even nurtured the developments of entrepreneurs who

later became famous for founding the IT giants like Infosys, which even marked the importance of introducing engineering as a higher education stream for providing technical knowledge in this domain (The Wharton School, 2019). During this first wave of digital entrepreneurship in India, there was no venture funding available, and the entrepreneurs of that time, majorly grew by own savings or small family loans. However, the success of these businesses has marked the growth of middle- class household incomes, and later providing the opportunity to open up for the global markets (The Wharton University of Pennsylvania, 2019).

The second wave of digitalised start-ups in India was marked by the rise in consumerism and foray of many brands like Amazon an Uber. But the most important feature of this wave was the discovery of over 25 hoe- grown unicorns like Ola, Zomato, PayTM, Swiggy etc. During this time, the rise of various Me-Too platforms and web aggregators models marked towards innovation and gave way to the unique culture and shaped demands like 'cash on delivery' model (Mishra, 2010).

The final and on-going wave of digital India start-ups has been marked by the rise of B2B models and innovation driven by IPs and deep technologies. From juts an IT, services and business process outsourcing hub, India has become a centre for many multinational corporations and many Silicon Valley start-ups (The Wharton University of Pennsylvania, 2019). These new emerging models provide the strive for innovation and mark an opportunity for new digital start-ups in India.

1.6. Indian Government initiatives for promoting digital entrepreneurship

The government of India took active initiatives since 2014, in boosting in start-up ecosystem. The first of the efforts was the launch of 'Make in India' in September 2014 for boosting the manufacturing industry and draw foreign direct investment (FDI) in different business sectors for economic growth (Ghosh, 2020). Th aim of the initiative is to promote entrepreneurship by scoring high on 'ease of doing business'. The initiative has high prospects owing to some of the developments marked by the pandemic and global policies.

As triggered by the pandemic, the US government announced the suspension of H-1B visa to help the American workers in IT field (BBC News, 2020). This has, marked lost opportunity for

the IT employees to seek work in the US (Gooptu & Srivastava, 2020). Coupled with this, as the Indian government tightened the immigration policy, this led the Indian tech workers to develop technologies in the country itself, thereby fuelling the Make in India initiative (Saxena, 2020).

Another notable initiative taken by the government that directly and indirectly promotes the entrepreneurship and digital growth in the country is the *AtmaNirbhar Abhiyaan* or *Self-Reliant India Movement* amidst the covid outbreak, on 12th May 2020 (Invest India, 2020). As part of this initiative, the government organized many start-up business competitions so that the Indian entrepreneurs ideate, build, nurture and grow different technological solutions for the Indian and foreign markets. For instance, the Indian companies were promoted to provide the alternative to hundreds of Chinese apps which were now ban, like TikTok, Baidu, WeChat, Alipay etc. (National Informatics Centre, 2020).

One more initiative was the Challenge Hunt under NGIS for Advanced Uninhibited Technology Intervention or 'Chunauti'. This initiative was launched in August 2020, under the Next Generation incubation scheme (NGIS), with the aim to increase the competitions of Indians in producing, developing and supplying different innovative and secured software products (My Government, 2020). This initiative helped cultivate the network of start-up enterprises in different business sectors like fintech, logistics and transport, health care, agritech etc. In this competition, the government announced that about 300 start-up businesses will be selected for seek funding for the amount of 25 lakh Indian National Rupees (Mihindukulasuriya, 2020). These firms will also be benefited from facilities like incubation facilities, mentorship, facilities for security testing services, funding from venture capital, industry networks and advisory services in different matters including legal, patent and human resources (Ghosh, 2020).

On similar track, a number of other start-up competitions were also organized by the government to boost different sectors and IT initiatives in the economy. One such initiative was MedTech Start-up Open Challenge Program Contest (My Government, 2020a). The aim of this competition was to encourage for boosting start-ups in medical equipment, health informatics and electronics, so that the import of these items can be reduced. Another similar initiative is the Innovation Challenge for Development of Video Conferencing Solution (Ghosh, 2020). This initiative is to promote the development of solutions for video conferencing for serving the business needs of collaboration.

Apart from these competitive spirits to promote entrepreneurship and digital technologies, the government is also investing significant resources in the opening up many Centres of Excellence for the development of different emerging digital technologies, like blockchain, animation, AR, VR and internet of things (My Gov, 2020b). Digital India Scale- up Program was another important step taken by the government of India in the year 2015. The aim of this program was to transform the Indian businesses digitally (Ghosh, 2020).

Yet another initiative of the government was Atal Innovation Mission (AIM) with the aim to foster innovation and entrepreneurship. The target sectors for this mission included NGOs, higher secondary schools and academic institutions, science, engineering, micro small and medium enterprises and even big corporates (Ghosh, 2020). The government initiative for this included establishing Atal Tinkering Labs and dedicated workplaces so that the budding entrepreneurs can use different do-it-yourself (DIY) technological kits like robotics, 3D printing, internet of things, miniaturized electronics and develop other innovative solutions utilizing these technologies (Ghosh, 2020). This initiative was even supported by the program, Mentor India, which is a mentoring network start-up. The government has also organized different challenges so that product innovations are encouraged to uplift the social and economic variables.

Start-up India initiative was another important initiative of the government, which was propounded in the year 2016. The aim of this initiative is to support and nurture entrepreneurship and create a significant ecosystem for the start-ups. The offerings under this initiative include legal support, start-up/seed funds, incubator and innovative labs and different competitions. To add, this initiative was interlaced with the self- reliant Indian initiative so that a self-reliant robust digital ecosystem is developed and fostered (Ghosh, 2020).

Thus, the excerpts show that the government of India understands the need for developing policies that support the growth of the digital entrepreneurship and digital ecosystem, for attaining the overall benefits for the country. In the light of this view, the next section of this chapter will discuss the key challenges that are faced by the start- ups to sustain growth and development.

1.7. Challenges for start-ups in India

So far, it has been found that the start-ups, and particularly, digital start-ups and entrepreneurship are important pillars for the economic and social growth of the company. These initiatives provide a large number of offerings which are propounded to offer a plethora of benefits of the budding Indian entrepreneurial spirits. However, previous studies have highlighted certain challenges associated with these start- ups which are discussed herein.

The first set of identified challenges is the difficulties faced in building and scaling a start- up. It has been claimed that a start- up undergoes a number of phases, starting from problem identification to achieving the solution. When the start-up is new, the need for resources, like funds, human resources and strategies. However, when it comes to scaling- up the business, it comes with many challenges like the need for multi-functional teams, high- tech processes, standards and regulatory framework and managing cists (Zajko, 2017). Some other scaling- up issues that restrain the growth of start- ups include interpersonal conflicts among the employees, inefficient hierarchical management structures, management of working capital, managing legal compliance, competitive pressures etc. (Nanavati & Bedarkar, 2020). Most of the government initiatives are available for the igniting and starting the entrepreneurial firm, but long- term sustainability becomes an issue for the start- ups.

The second set of challenges faced is the presence of unorganized, fragmented and diversified nature of Indian market (Edelweiss, 2017). Due to this, the laws and their compliance is not very effective and uniform. Apart from this, the culture and habits of the consumers are so vast that every 200 km, the lifestyle of the people significantly differs (Nanavati & Bedarkar, 2020). Such a vast diversity makes it difficult for the businesses to understand and deliver to the different buying patterns of the consumers. Also, many people work on daily wages and are kind hand- to-mouth, but this informal sector is crucial and hold a major part for the Indian economy. Hence, building a pan-India strategy with limited knowledge of all the regional differences may not be apt for a country like India (Nanavati & Bedarkar, 2020).

The next major challenge faced by the Indian start- ups is with respect to the complexity in the regulatory environment. These regulatory complexities often discourage the start-ups, as they find hassles when it comes to deal with registration formalities, legal tasks and even winding up of the business (The Economic Times, 2019). This is even evident from the 'Ease of Doing

Business' ranking, as India has been ranked at 63rd position out of 190 nations (The World Bank, 2020). Although, there is some improvement in this ranking, but the nation failed to attain its target of under 50. It signifies that the business environment of India, through different reforms, have improved, but still is plagued by various inefficiencies like bureaucracy, complex regulations, tax mechanism, difficulty in getting credit facility, construction permits, insolvency and cross- border trading. The current start- up initiatives do not address these issues, and thus, inhibit the growth of the digital entrepreneurships (Nanavati & Bedarkar, 2020).

Next, the start- ups often face the issue of hiring qualified talented workforce for achieving the optimum benefit of the entrepreneurial concern (Peram & Koteswari, 2018). This is majorly due to the fact that not the high talented people look at the start- ups as an attractive opportunity for their career growth, as they look for higher salaries, brand value and stability in job by joining the large established organizations. This causes the start- ups to lose upon the requisite experience and expertise of the talented pool of people. Thus, the current initiatives and programs fail to provide any resources that address this issue.

In the planning and growth stages of the start- ups, the need for funds and mentoring is utmost needed (McKevitt & Marshall, 2015), which acts as one of the important challenges faced by the new start-ups. The survival of small businesses, in fact, is much more dependent on these resources. Many initiatives are founded by the government of India that aid the start- ups with funding. However, offering mentorship to the start- ups are generally not the agenda of the government initiatives to promote digital entrepreneurship. Effective mentorship is needed to bring new perspective to the entrepreneur that widens the opportunities and thinking process to redefine the start- ups to reach utmost heights.

The above- mentioned challenges are some of the issues faced by the start- ups in establishing and sustaining operations in India. Although there are many government programs and initiatives by the government that reformed the business landscape significantly, but there is still scope for improvement.

This chapter has discussed the literature about digital entrepreneurship and some of the related concepts so that the theoretical understating of the research subject is gained. The importance of the digital entrepreneurship for the growth of social and economic factors is determined.

Also, it is found that the potential for growth in digital entrepreneurship is high, as there is a significant gap between the demand and growth of internet and technological penetration and the supply of resources to fulfil this demand. This gap and need for digital entrepreneurship has been well understood by the Modi government in past decade. In view of this, the government has announced many important initiatives to boost the growth of digital landscape and start- ups. These start- ups and entrepreneurs also face many challenges that are beyond the scope of these initiatives, which also accounts for the reason for failure of many start- ups in India. It is also found that no significant literature is available that studies the specific challenges faced by the digital entrepreneurs established utilising these initiatives.

2. RESEARCH METHODOLOGY

In this chapter, the research framework will operate as a guideline for the researcher to understand the research for meeting the pre-determined research objectives. The inclusions of this chapter will be the research philosophy, research strategy, research approach and research methods. The details about the data collection and data analysis will also be discussed in this chapter. The justification for each of these variables of the research framework will be provided using the literature review.

2.1. Research Philosophy

Saunders et al. (2019) defined research philosophy as the belief system that helps define the research knowledge. Philosophy helps determine the assumptions that help understand the research questions so that informed research can be discharged. There are two types of research philosophies identified by the researchers, namely, positivism and interpretivism. The positivism philosophy is concerned with observable reality, which do not consider any human influences (Saunders, Lewis & Thornhill, 2007). In contrast, the interpretivism philosophy is concerned with studying the social constructs of research that cannot be studied using the objective data (Alharahsheh & Pius, 2020). That is, when the subjective social variables are to be studied, it uses interpretivism philosophy, while the objective data is assessed using positivism philosophy. In this research, since the perceptions and experiences of the Indian digital entrepreneurs are studied, which are subjective in nature, it is stated that it will utilise the interpretivism philosophy.

2.2. Research approach and strategy

Merriam (1998) defines research approach as laying down the detailed procedure of the research such that the identified philosophy is applied for the collection, analysis and interpretation of the data to meet the objectives of the study. Thus, it can be identified that the research approach is influenced by the problem statement that the researcher wishes to investigate (Yin, 1994). Kentokivi & Mantere (2010) further discusses that deductive approach is used when conclusion from a set of logically-driven premises are derived, while the inductive research approach is used when the conclusion of research is made after undertaking observations from the social world.

In this existing research, the researcher will derive the conclusion after studying the observations from the social constructs. That is, the subjective views of the respondents will be studied for finding the answers to research questions, and thus, inductive approach will be used.

Babbie & Mouton (2008) describes the research strategy as the functional plan of the research, which guides the researcher in collecting and analysing the data for performing the research. The strategy of research can utilise either of the qualitative method or quantitative method. The quantitative method is a science oriented method in which the data is collected which can be stated in numerical format and is objective in nature. The quantitative data is generally collected from a large population and some statistical modelling is undertake the analysis (Grinnell & Unrau, 2010). In contrast, the qualitative method entails the collection of the data from studying the social subjective constructs, which cannot be converted into numerical format (Tashakkori and Creswell, 1998).

In this research, the researcher aims to study the experiences and satisfaction of the digital entrepreneurs about different startup initiatives by the Government of India. Thus, a mixed methodology approach is used in this study, where in mainly quantitative analysis is used (for measuring using a survey instrument) and a qualitative method of research (by way of open ended question interviews) will be undertaken to accomplish the research objectives.

2.3. Data collection method

The research is discharged by using data or information. Nicholson & Bennette (2008) identifies that they are two ways to collect the data for research, which are primary method and secondary method. Primary data is the information that is collected by the researcher afresh predominantly for the purpose of undertaking a specific research, and answer specific research questions. In contrast, secondary method entails the collection of information which has already been collected by some other researcher in the past, and its findings are derived to be used in the existing research (Douglas, 2015). The primary data is up to date, recent and cater to the specific research questions, while the secondary data suffers from these limitations.

Douglas (2015) further lays down number of ways or instruments for collecting the data for each of these methods. The ways to collect primary data are through in depth interviews, survey questionnaires, experiments, field study; while the secondary data can be extracted from the already documented sources like journals, research databases, company records and industry research reports, news articles, conference proceedings etc.

In this research, both the primary and secondary method of data collection are utilised. The secondary data is used to understand the theoretical concepts of digital entrepreneurship, digital entrepreneurship ecosystem, initiatives by the government to promote the digital entrepreneurship in the country and the challenges faced by the entrepreneurs, as identified in the previous studies. However, it has been identified that there are no researches to gauge these challenges for the digital start-up entrepreneurs in Maharashtra.

Hence, to fill this research gap, primary data is collected using questionnaire. The questionnaire is designed keeping in mind the pre-determined research questions. The details of the questionnaire and its mapping with the research questions will be discussed in the next section of the chapter. Some of the elements of the primary data collection is given as under:

Population profiling: The population for the research includes all startup enterprises in Maharashtra (with a specific focus in Mumbai) which provide the business offerings by utilising the digital and information technology tools.

Sampling: The method of sampling used is snowball sampling such that the participants are selected on non-random (non-probability) basis. The research seeks the participants as per the unique characteristics, which are otherwise hard to find (Naderifar, Goli & Ghaljaei, 2017). The researcher specified the inclusion criteria for selecting the participants. The inclusion criteria contained: (a) participant is an employee in a start- up/ entrepreneurial concern; (b) the entrepreneurial concern is situated and operate from and within (Mumbai) Maharashtra; (c) the entrepreneurial concern utilises any of the digital tools to undertake the operations; (d) the entrepreneurial concern has utilised the offerings of by the 'Start- up India' initiative announced by the Government of India; (e) the entrepreneurial concern is not wound up, and still continuing the operations.

Research Instrument: The research instrument used for collecting data is a questionnaire such that most of the questions in it are closed-ended. That is, for the questions, a number of options are provided to the participants, and they are supposed to answer within the options provided. Using close-ended questions offers the benefit of narrowing down the data collection and data analysis primarily to serve the aims and objectives of the research. However, using closed- ended questions suffer from the limitation that they may not reflect the true nature of the perceptions and opinions of the respondents surrounding the research objectives. To overcome this issue, the research makes use of open-ended questions also, to gauge the free flow of responses from the participants. The copy of the research instrument (questionnaire) is given in Appendix- 1.

Table 1. The questions in the questionnaire are further mapped with the research questions along with the rationale is given.

Questions	Rationale	Research Question Mapping
For how long are you working as a digital entrepreneur?	Learn about the experience of the participant	These questions are important to determine the eligibility of the participant.
What is your nature of business? What kind of products or services do you offer to your customers?	Learn how the start- up in linked and operate as a digital entrepreneurship	
Are you eligible to avail the 'Start-up India' Scheme launched by the government of India?	Knowledge about the start- up India scheme by the government	These questions are asked to learn the knowledge and awareness of the participants about the 'Start- up India' scheme launched by the government of India
If the answer in Question 3 is yes, did you avail the benefit of the scheme?	Learn whether the participant is eligible for the survey or not. If answer is yes, then consider the response for further synthesis else not.	

Are you satisfied with the offerings of the Start-up India initiative by the government?	Gauge the satisfaction level of the participant with the 'Start-up Indian' scheme launched by the government	Research Question 4
What all benefits could you avail under the start-up India scheme?	Learn about the perceived benefits of the start-up India scheme by the participants	Research Question 2
Did you find the benefits under the scheme useful?	Learn about the importance of the benefits availed by the participants from the start-up India scheme	Research Question 2
What are the key challenges faced by your start-up?	Learn opinion of the participants about the key challenges perceived by the participants from starting the digital entrepreneurship endeavour	Research Question 3
How far the Start-up India initiative by the government helpful in mitigating each of the above- mentioned challenges?	Gauge the opinion of the participants about the importance to the start and growth of the digital entrepreneurship	Research Questions 2 & 4
In your opinion, what can the government do, to manage each of the above- mentioned challenges?	Learn about the opinions of the participants for the ways to improve the existing scheme/ make it more effective	Research Question 5

Medium of Distribution: The research instrument is distributed among the target respondents using web forms (Google docs) through emails. The low mobility and travel restrictions have encouraged the researcher to use this medium to gauge the responses of the participants.

2.4. Data analysis

Once the data was collected, the same was be coded in Microsoft Excel for facilitating the analysis. Then the data will be exported to SPSS, wherein the analyses was undertaken. Thereafter, a missing value analysis was done so that any unfilled or partial- filled questionnaire are discarded and not considered for further analysis. It was also important to consider only fully filled questionnaires so that any biasness in the responses is disregarded. After the initial missing analysis, the data is studied and certain themes are framed in the light of the pre-determined research questions. This is helpful to undertake the 'thematic analyses' and the data is assessed. Some of the ways by which the data is analysed include descriptive analysis, frequency distribution, cross- tabulation, regression and correlation analysis etc. The analysis is finally presented using graphs, charts and tables to formulate better interpretation of the data collected.

3. RESEARCH ANALYSIS AND FINDINGS

In this chapter, the findings of the primary research will be analysed using the statistical software, SPSS version 26.0. Once the data is coded and exported to the software, missing value analysis is performed to eliminate any partial or unfilled questionnaires. Next, the reliability of the responses is tested using Cronbach Alpha test. Next, a number of themes are prepared and the data is analysed in the light of the pre-determined research questions.

3.1. Missing value analysis

Initially, a total of 80 responses are sought. Before the participants profile is mentioned, from careful observation, it is found that many responses are unfilled or partial filled. It triggers undertaking the missing value analysis. The missing value analysis is given in Table- 1:

Table 2: Missing Value Analysis

Univariate Statistics							
	N	Mean	Std. Deviation	Missing		No. of Extremes[a]	
				Count	Percent	Low	High
Experience	80	2.09	.970	0	.0	0	0
Business_nature	79	2.85	1.503	1	1.2	0	2
Eligibility	80	1.93	.897	0	.0	0	0
Availed_startup_scheme	73	2.14	.769	7	8.8	0	0
Satisfation_with_startupscheme	78	2.10	.920	2	2.5	0	0
Usefulness_of_benefits	75	1.93	.949	5	6.3	0	0
Challenge_Advisory_support_service	76	2.24	1.018	4	5.0	0	0
Challenge_SeedFunds	78	2.06	.972	2	2.5	0	6
Challenge_Scaleup_finance	77	1.92	.929	3	3.7	0	4
Challenge_Access_to_market	75	2.19	.881	5	6.3	0	0
Challenge_Regulatory_di	77	2.10	.940	3	3.7	0	0

fficulties						
Chellenge_Digital_infrast ructure	77	2.35	.914	3	3.7	0	0
Challenge_Hire_talented _workforce	76	2.42	.942	4	5.0	0	1
Challenge_Existing_com petition	76	2.49	.959	4	5.0	0	2
Challenge_Mentoring_se rvices	73	2.55	1.028	7	8.8	0	2
Startup_helpful_advisory _support_service	70	2.59	.940	10	12.5	0	4
Startup_helpful_seedfund s	68	2.74	1.002	12	15.0	0	5
Startup_helpful_scaleup_ finance	71	2.68	1.011	9	11.3	0	5
Startup_helpful_Access_t o_market	70	2.64	1.008	10	12.5	0	3
Startup_helpful_regulator y_difficulties	69	2.64	1.163	11	13.7	0	6
Startup_helpful_digital_in frastructure	70	2.50	.897	10	12.5	0	2
Startup_helpful_hire_tale nted_workforce	68	2.87	.976	12	15.0	0	5
Startup_helpful_existing_ competition	67	2.93	1.005	13	16.2	0	0
Startup_helpful_mentorin g_services	68	2.59	.851	12	15.0	0	2
a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).							

Source: Author calculation

The above table shows that many cells in the questionnaire are missing, which has the scope for causing biases in the analyses. Furthermore, the summary of the missing values is given below in Figure 4.

Overall Summary of Missing Values

Complete Data
Incomplete Data

Variables: 5 18.52%, 22 81.48%

Cases: 26 32.5%, 54 67.5%

Values: 149 6.898%, 2,011 93.10%
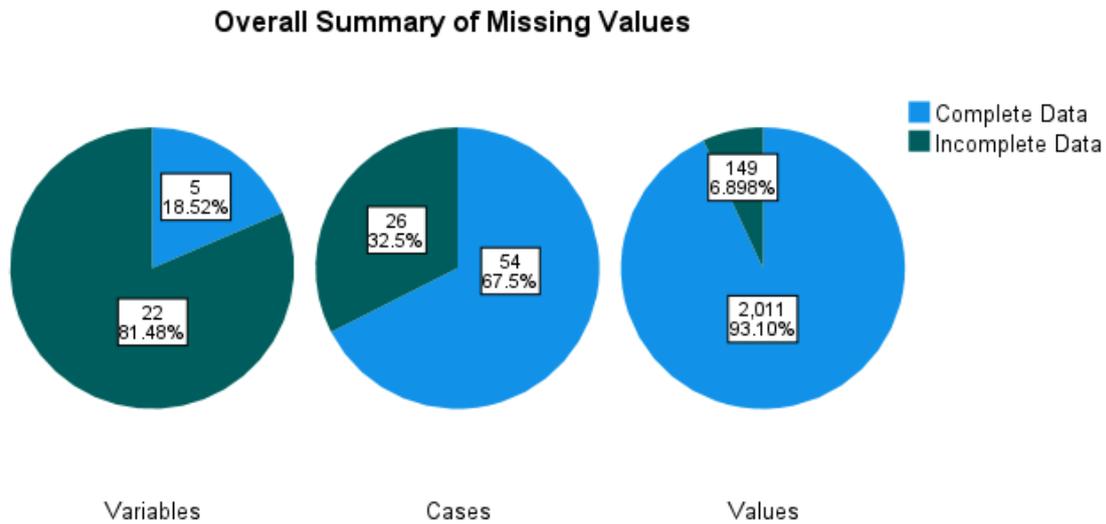
Figure 4: Summary of Missing Values in collected data

It is found that about 6.9% of the total values are missing, which are eliminated for further analyses. These unfilled questionnaire responses are finally deleted and 54 responses remain.

3.2. Reliability analysis

The reliability of the collected data is found using Cronbach Alpha test.

Reliability statistics test results: The alpha coefficient for all the items is 0.838, (with 29 N of items) which suggests that the items have relatively high internal consistency and thus, is acceptable for further synthesis.

3.3. Participants' profiling

The experience level of the participants for working as a start-up is gauged using frequency and the findings are given below in Table 3.

Table 3: Frequency distribution of participants

Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 Year	16	29.6	29.6	29.6
	1 to 3 years	21	38.9	38.9	68.5
	3 to 5 years	10	18.5	18.5	87.0
	More than 5 years	7	13.0	13.0	100.0
	Total	54	100.0	100.0	

Source: Author calculation

It is found that 38.9% of the participants have an experience of 1- 3 years of working as a start-up, while 29.6% are relatively new start-ups with the experience of less than one year. Furthermore, about 18.5% and 13% of the participants possess the work experience of 3-5 years and more than 5 years respectively.

These findings are also shown below using graphical pie chart representation in figure 5.
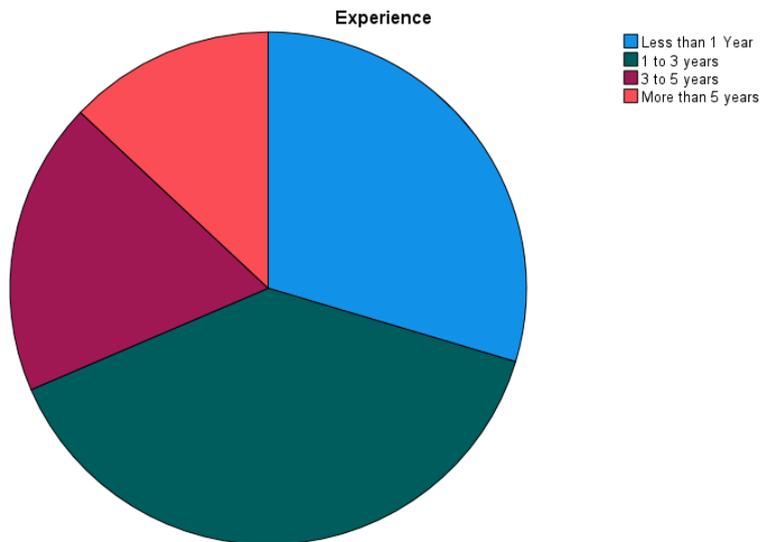
Figure 5: Participants' profiling for experience of working as start-ups

Source: Author calculation

Next, the nature of the businesses of the respondents are also assessed and their frequency is given below in Table 4.

Table 4: Frequency distribution of nature of business of respondents

Business_nature		Frequency	Percent	Valid Percent	Cumulative Percent
Val id	Digital service	10	18.5	18.5	18.5
	Digital Marketing	19	35.2	35.2	53.7
	Ecommerce and digital sales	10	18.5	18.5	72.2
	Software technology	4	7.4	7.4	79.6
	Fintech	8	14.8	14.8	94.4
	Knowledge processing, BPO	2	3.7	3.7	98.1
	Others	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Source: Author calculation

From the table- 4, it can be found that 35.2% of the participants are engaged in digital marketing, while 18.5% each are dealing in e-commerce and digital sales, and digital services businesses respectively. About 14.8% of the participants are running Fintech, while 7.4% are involved in software technology business, and finally 3.7% are engaged in knowledge processing and BPO services. These findings are also graphically represented below in Figure 6.
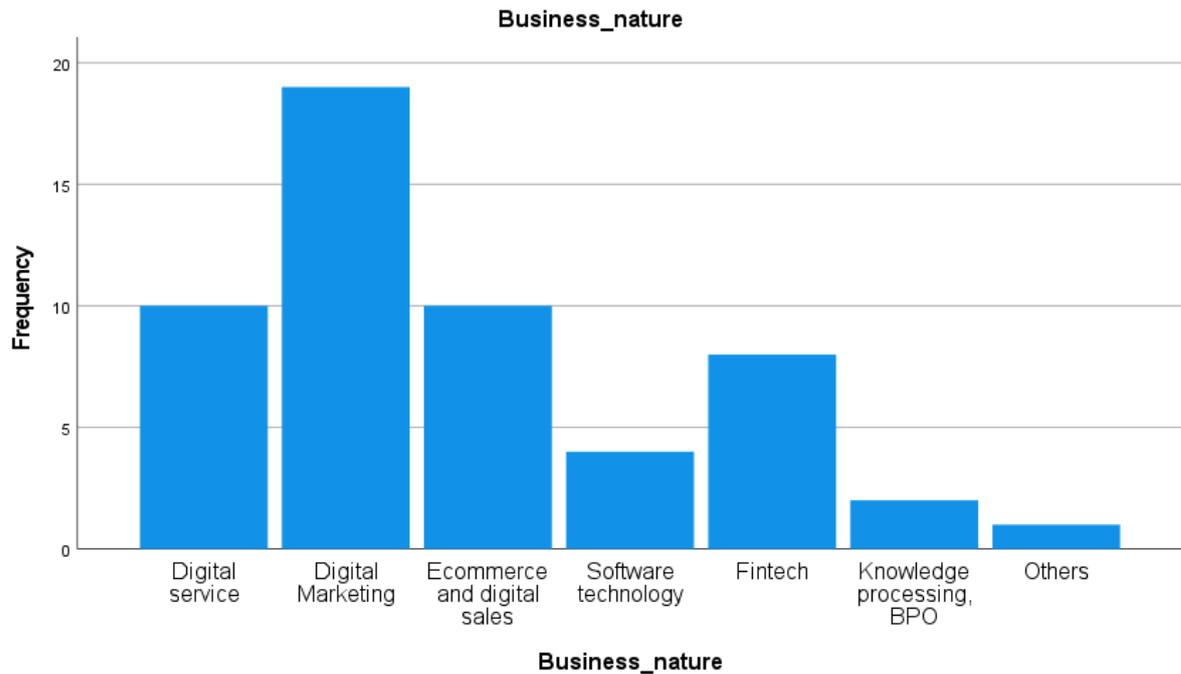
Figure 6: Frequency distribution of nature of business of respondent

Source: Author calculation

The above analysis signify that all the respondents are engaged in digital businesses, and thus, are eligible and true representative for this research.

3.4. Satisfaction with Start-up schemes

To judge the knowledge about the Start-up schemes, the respondents were asked if they are eligible to avail the incentives provided by various start-up schemes launched by the government of India. Apart from the eligibility status, they are also asked whether they have successfully availed the schemes or not. These responses are cross-tabulated and given below in Table 5.

Table 5: Cross tabulation of eligibility of respondents for startup schemes and participants that availed these schemes

Eligibility * Availed_startup_scheme Crosstabulation					
Count					
		Availed_startup_scheme			Total
		yes	No	Don't know	
Eligibility	Yes	12	14	1	27

	No	0	6	4	10
	Don't know	0	3	14	17
Total		12	23	19	54

Source: Author calculation

From Table 5, it can be found that 27 respondents are eligible for availing the start-up schemes, while 10 refused the same. To the surprise, 17 respondents had no idea if they were even eligible for availing the start- up schemes or not. Out of those eligible, only 12 respondents actually availed the government start-up schemes. Also, about 23 respondents did not avail the schemes, and 19 are unsure whether they availed it or not. Similarly, 17 respondents did not know if they are even eligible for availing the start-up schemes. This shows a vast awareness gap.

Next, the respondents were asked whether they were satisfied with the offerings of these start-up scheme initiatives. Since, only 12 out of 54 respondents have actually availed the scheme, a cross- tabulation between those who have availed and the perceived satisfaction level have been computed. The findings for the same is given below in Table 6.

Table 6: Cross- tabulation between participants who availed the start- up schemes and percieved satisfaction level from these schemes

Availed_startup_scheme * Satisfation_with_startupscheme Crosstabulation					
Count					
		Satisfation with startup scheme			Total
		Yes	No	Don't know	
Availed startup scheme	yes	10	1	1	12
	No	13	4	6	23
	Don't know	0	1	18	19
Total		23	6	25	54

Source: Author calculation

The above table shows that out of the 12 respondents who availed the start- up schemes launched by the government, 10 were satisfied, while 1 of them was not satisfied and 1 was unsure about it. The rest of the respondents marked the services to be dissatisfactory or showed unawareness.

3.5. Benefits of start-up schemes

Next, the perceptions and opinions of the respondents were gauged pertaining to the benefits availed by them from the start- up schemes launched by the government of India. Using the literature review, different benefits were identified, namely Legal Support and advice, Start up or seed funding, Access to incubator and innovative labs, Regulatory ease and Digital infrastructure. The perceptions of the participants about different benefits is given in Figure 8.
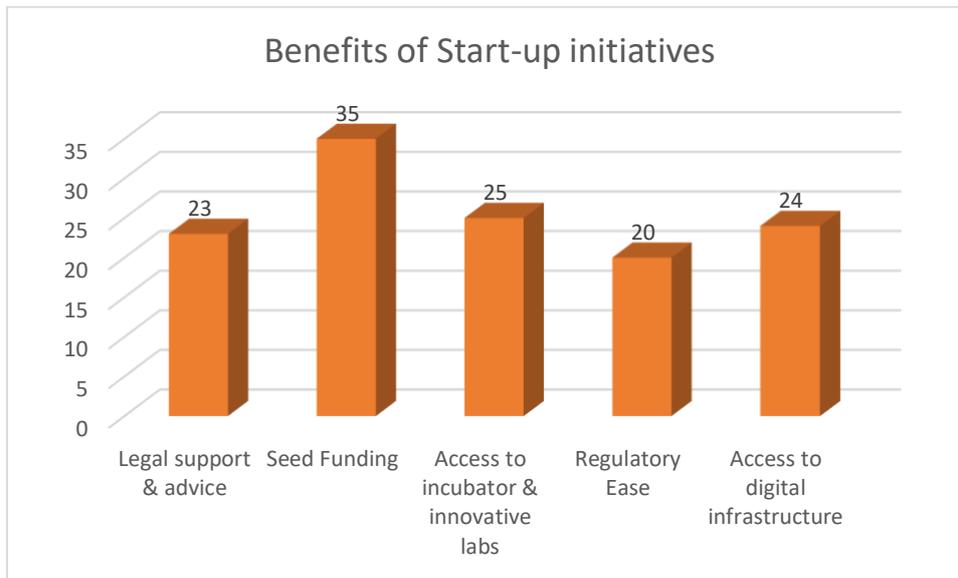
Figure 3: Participants' perceptions about benefits of start-up initiatives
Source: Author calculation

The above figure shows that out of 54, 35 participants found the most important benefit of these start-up initiatives is the seed funding or initial capital help. The next important benefit has been the access to incubator and innovative labs, followed by access to digital infrastructure. The participants also viewed that regulatory ease and legal support and advice were the least availed benefits or help by these start-up initiatives.

Furthermore, the usefulness of these offerings was gauged by the participants, and the differences between their perceptions (useful or not useful) for each of these benefits is tested using ANOVA. The findings are given below in Table 7.

Table 7: ANOVA to find out association between the perceived benefits of start-up initiatives according to their perceived usefulness

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Benefits_legal_ support_advice	Between Groups	.172	2	.086	.337	.716
	Within Groups	13.032	51	.256		
	Total	13.204	53			
Benefits_seed_ funding	Between Groups	1.986	2	.993	4.904	.011
	Within Groups	10.329	51	.203		
	Total	12.315	53			
Benefits_access_to _incubator_ innovative_labs	Between Groups	4.377	2	2.189	12.335	.000
	Within Groups	9.049	51	.177		
	Total	13.426	53			
Benefits_regulatory _ease	Between Groups	.005	2	.003	.011	.989
	Within Groups	12.587	51	.247		
	Total	12.593	53			
Benefits_digital_ infrastructure	Between Groups	1.093	2	.546	2.276	.113
	Within Groups	12.241	51	.240		
	Total	13.333	53			

Source: Author calculation

The results in the ANOVA show that there is a statistically significant difference between groups (based on their perception about whether SA employees are loyal or not) as demonstrated by one-way ANOVA employee loyalty factor- working environment: Anova (F (2, 97) = 7.570, p = 0.001).

There is no statistically significant difference between groups (based on their perception about usefulness of benefits of startup schemes) as demonstrated by one-way ANOVA for the benefit of legal support and advice: Anova (F (2, 51) = 0.337, p = 0.716).

There is a statistically significant difference between groups (based on their perception about usefulness of benefits of startup schemes) as demonstrated by one-way ANOVA for the benefit seed funding: Anova (F (2, 51) = 4.904, p = 0.011).

There is a statistically significant difference between groups (based on their perception about usefulness of benefits of startup schemes) as demonstrated by one-way ANOVA for the benefit access to incubator and innovative labs: Anova (F (2, 51) = 12.335, p = 0.000).

There is no statistically significant difference between groups (based on their perception about usefulness of benefits of startup schemes) as demonstrated by one-way ANOVA for the benefit of regulatory ease: Anova (F (2, 51) = 0.011, p = 0.989).

There is no statistically significant difference between groups (based on their perception about usefulness of benefits of startup schemes) as demonstrated by one-way ANOVA for the benefit of access to digital infrastructure: Anova (F (2, 51) = 2.276, p = 0.113).

The above analysis signifies that the benefits of access to digital infrastructure, regulatory ease and legal support and advice are viewed as equally important for all the participants despite the difference in perception about usefulness of the benefits of the startup schemes.

For gauging better understanding, the cross- tabulation benefits each of these benefits and the perception of usefulness of these benefits is performed. The findings of the cross-tabulation is given below in table 8:

Table 8: Cross- tabulation between usefulness of benefits & different benefits of startup initiative

		Legal support & advice	Seed Funding	Access to incubator & innovative labs	Regulatory Ease	Access to digital infrastructure
Usefulness of benefits	Yes	13	22	20	10	13
	No	2	1	0	2	0
	Maybe	8	12	5	8	11
	Total	23	35	25	20	24

Source: Author calculation

Furthermore, the above findings are also graphically represented and given below in Figure 8.
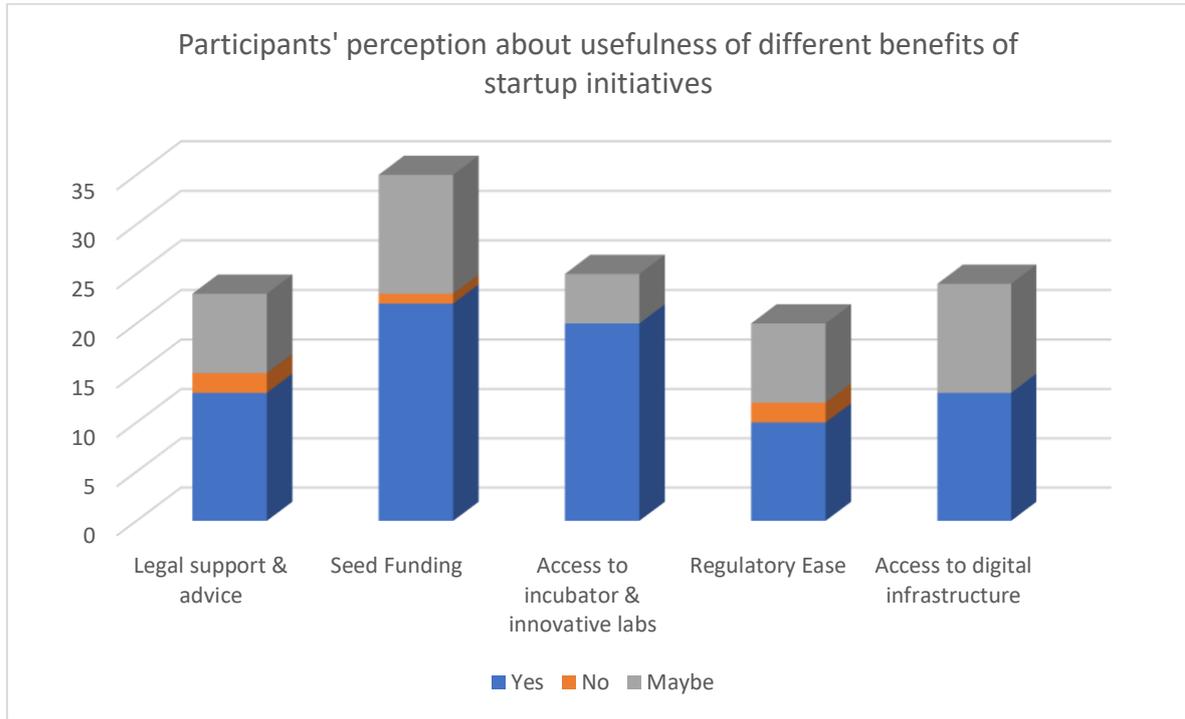
Figure 8: Participants' perception about usefulness of different benefits of startup initiatives

Source: Author calculation

The above analysis show that out of 23 people who found legal support and advice as an important benefit of the startup initiative, also found it to be useful for the digital entrepreneur, while 2 of them found it to be non- useful, and remaining 8 failed are unsure about the importance of the benefit.

Similarly, out of 35 participants who found seed funding as an important benefit, 22 of them found the offering as useful, and only 1 found it not useful, and remaining 12 are unsure about it. 20 out of 25 participants who found the access to incubator and innovative labs as an important benefit, even perceived the offering as useful, and remaining were unsure about it. Similarly, out of 20 participants who found regulatory ease an important benefit offered by the startup initiates, only 10 found it useful and 2 found it non- useful. Finally, 24 participants viewed access to digital infrastructure as an important benefit, but only 13 out of these 24 found the benefit as useful and 11 were not sure about the usefulness of the benefit.

From the overall analysis, it can be found that the most important benefits of the startup initiatives by the Indian government, as perceived by the Mumbai- based digital entrepreneurs

are seed funding, access to incubator and innovative hubs and legal support and advice. In contrast, the other two benefits, regulatory ease and access to digital infrastructure, although are important benefits of the initiatives, but not highly useful for the digital entrepreneurs.

3.6. Challenges faced by digital entrepreneurs

Now, in this section, the different challenges as faced by the digital entrepreneur in starting and operating their startup enterprises are studied. Different challenges considered from the literature include Advisory and support service, Seed funds, Finance to scale-up business, Access to market, Regulatory difficulties, Digital infrastructure access, Hire talented workforce, Existing competition and Mentoring services. To learn about these challenges, each of these challenges is studied with respect to the years of experience by the digital entrepreneur. Hence, Anova is found between the year of experience and each of these challenges, and is given in Table 9.

Table 9: ANOVA results to study the association between experience of digital entrepreneurs & challenges faced by them

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Challenge_Advisory_support_service	Between Groups	5.663	3	1.888	2.560	.065
	Within Groups	36.874	50	.737		
	Total	42.537	53			
Challenge_SeedFunds	Between Groups	1.762	3	.587	.768	.517
	Within Groups	38.238	50	.765		
	Total	40.000	53			
Challenge_Scaleup_finance	Between Groups	2.131	3	.710	.845	.476
	Within Groups	42.017	50	.840		
	Total	44.148	53			
Challenge_Market access	Between Groups	3.651	3	1.217	1.650	.190
	Within Groups	36.886	50	.738		
	Total	40.537	53			
Challenge_Regulatory_difficulties	Between Groups	6.062	3	2.021	2.668	.058
	Within Groups	37.864	50	.757		
	Total	43.926	53			
Chellenge_Digital_infrastructure_access	Between Groups	10.350	3	3.450	4.434	.008
	Within Groups	38.909	50	.778		

	Total	49.259	53			
Challenge_Hire_talented_ workforce	Between Groups	2.961	3	.987	1.115	.352
	Within Groups	44.243	50	.885		
	Total	47.204	53			
Challenge_Existing_comp etition	Between Groups	3.699	3	1.233	1.250	.302
	Within Groups	49.338	50	.987		
	Total	53.037	53			
Challenge_Mentoring_ser vices	Between Groups	8.342	3	2.781	2.855	.046
	Within Groups	48.695	50	.974		
	Total	57.037	53			

Source: Author calculation

The above results of show that there is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of advisory support and service: Anova $(F_{(3, 50)} = 2.560, p = 0.065)$.

Also, there is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of seed funds: Anova $(F_{(3, 50)} = 0.768, p = 0.517)$.

There is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of scale-up finance: Anova $(F_{(3, 50)} = 0.845, p = 0.476)$.

There is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of market access: Anova $(F_{(3, 50)} = 1.650, p = 0.190)$.

There is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of regulatory difficulties: Anova $(F_{(3, 50)} = 2.668, p = 0.058)$.

However, there is a statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of access to digital infrastructure: Anova $(F_{(3, 50)} = 4.434, p = 0.008)$.

There is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of hire talented workforce: Anova $(F_{(3, 50)} = 1.115, p = 0.352)$.

There is no statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of existing competition: Anova $(F_{(3, 50)} = 1.250, p = 0.302)$.

There is a statistically significant difference between groups (based on the differences of experience in the startup) as demonstrated by one-way ANOVA for the challenge of mentoring services: Anova (F (3, 50) = 2.855, p = 0.046).

Thus, it can be observed that the participants' perceptions about most of the challenges (except mentoring services and access to digital infrastructure) remain same, despite the experience years in the digital startup.

Furthermore, the frequencies of different challenges as per their importance rating by the participants is found and is given below in table 10.

Table 10: Frequency distribution of importance of different challenges experienced by digital entrepreneurs

	Advisory support service	Seed Funds	Scale-up finance	Access to market	Regulatory difficulties	Access to digital infrastructure	Hiring talented workforce	Existing competition	Mentoring services
Most important	16	15	25	16	21	13	9	11	12
More important	20	28	17	19	16	18	20	18	17
Neutral	15	8	9	17	15	17	19	18	17
Unimportant	3	2	3	2	2	6	5	6	7
Least important	0	1	0.0	0.0	0	0	1	1	1
Total	54	54	54	54	54	54	54	54	54

Source: Author calculation

These frequencies are also presented below using the graphical representation in figure 9.
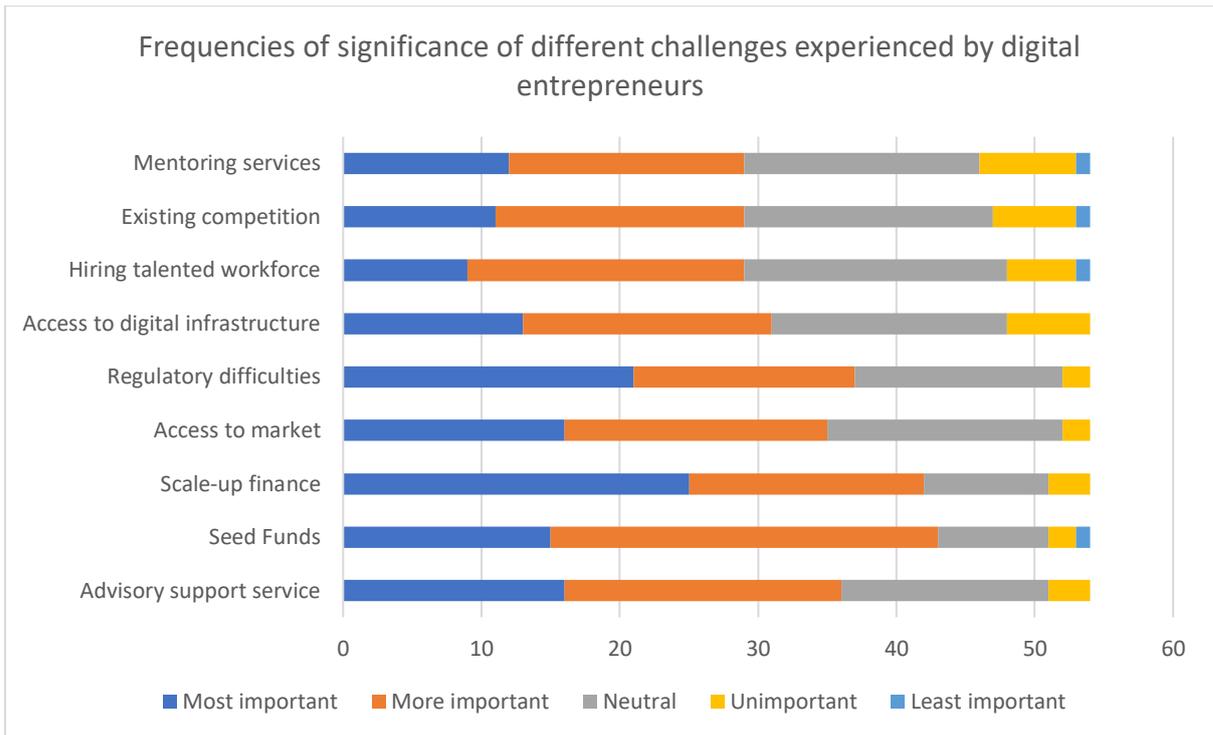
Figure 9: Participants' perception about significance of different challenges experienced
Source: Author calculation

The above findings show that finance needed by the entrepreneurs to scale-up business is one of the most important challenge faced by the digital entrepreneurs, as perceived important and most important challenge by 42 participants. The other main challenges faced by them are seed funds availability (43), regulatory difficulties (37), advisory and support services (36), access to market (35). In contrast, the challenges of mentoring services (29), existing competition (29) and hiring talented workforce (29) are considered most important by lesser number of participants.

3.7. Importance of start-up to overcome start-up challenges

Having identified the main challenges faced by the digital start-ups, in this section, the importance of the start-up initiatives by the government of India is gauged in mitigating these challenges. To learn about this, the perception of the participants is gauged for the importance of the start-up initiative against each challenge identified in the previous section. The frequency of the participants' perceptions is found is given below in Table 11.

Table 11: Perceptions of participants about importance of startup initiatives in mitigating different challenges faced by digital entrepreneur

	Advisory support service	Seed Funds	Scale-up finance	Access to market	Regulatory difficulties	Access to digital infrastructure	Hiring talented workforce	Existing competition	Mentoring services
Most helpful	5	4	4	8	8	8	2	5	2
Helpful	27	24	24	19	18	20	22	15	28
Neutral	13	16	18	15	15	20	17	20	15
Not helpful	5	6	4	9	7	4	8	10	7
Least helpful	4	4	4	3	6	2	5	4	2
Total	54	54	54	54	54	54	54	54	54

Source: Author calculation

The frequency findings are also presented using the following graph below.
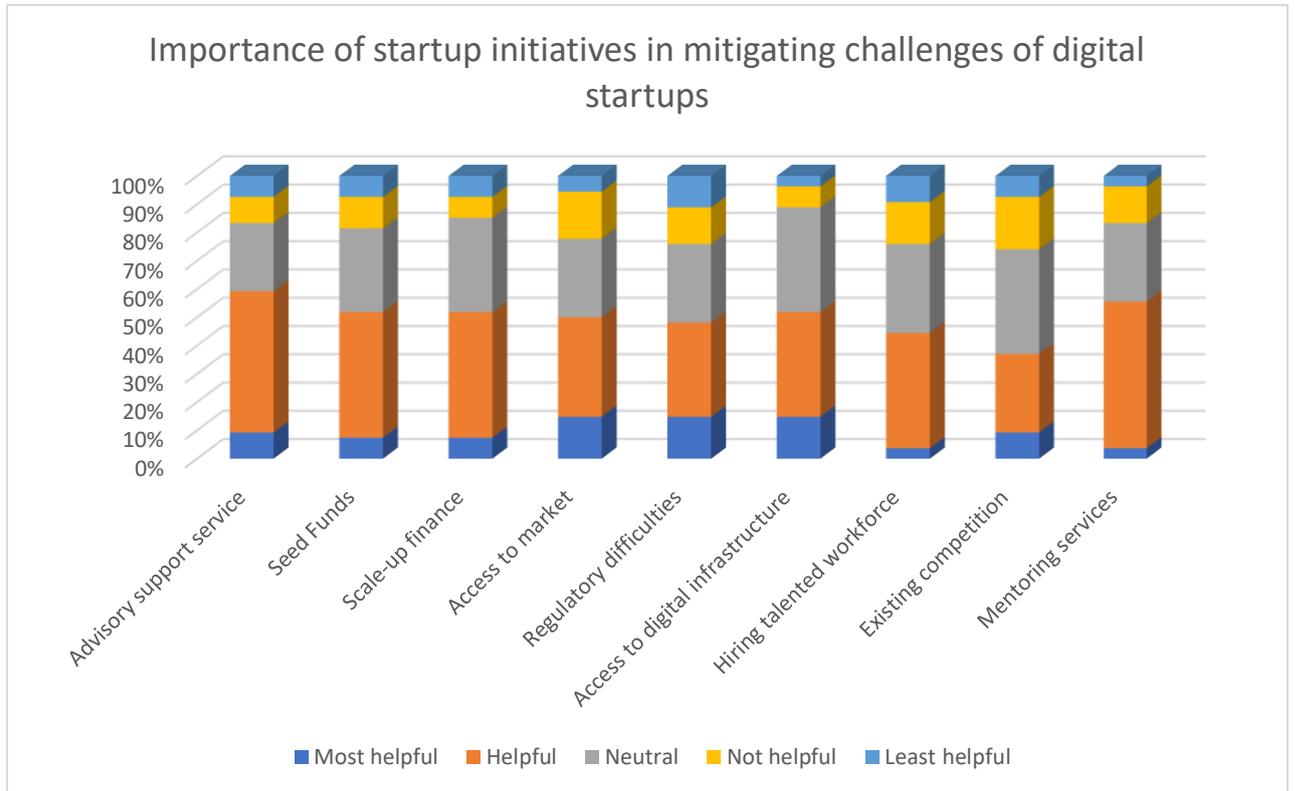
Figure 10: Participants' responses about importance of startup initiatives in mitigating challenges
Source: Author calculation

The above responses signify that very less participants viewed that the startup initiatives perfectly helped mitigate any of the identified challenges. However, the startup initiatives somewhat helped with some of the challenges like advisory and support services (32 participants considered it to be most helpful and helpful); followed by mentoring services (30), fund seeds (28), scale up finance (28) and access to digital infrastructure (28). The startup initiatives were not highly perceived to be helpful for addressing the challenges of existing competition, hiring talented workforce, regulatory ease and access to market.

To provide a guidance to the government and the policy makers, the association between all these variables are computed using correlation. That is, the correlation between the participants' perceptions about the ability of startup initiatives in addressing different challenges is found, and findings are given below in Table 12.

Correlations

		Advisory support service	Seed funds	Scale up finance	Access to market	Regulatory difficulties	Digital infrastructure	Hire talented workforce	Existing competition	Mentoring
Advisory support service	Pearson Correlation	1	.741**	.822**	.741**	.608**	.405**	.586**	.646**	.659**
	Sig. (2-tailed)		.000	.000	.000	.000	.002	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54
Seed funds	Pearson Correlation	.741**	1	.872**	.737**	.625**	.545**	.538**	.546**	.510**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54
Scale up finance	Pearson Correlation	.822**	.872**	1	.748**	.542**	.483**	.513**	.576**	.489**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54
Access to market	Pearson Correlation	.741**	.737**	.748**	1	.673**	.506**	.644**	.665**	.575**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54
Regulatory difficulties	Pearson Correlation	.608**	.625**	.542**	.673**	1	.604**	.436**	.486**	.543**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.001	.000	.000
	N	54	54	54	54	54	54	54	54	54
Digital infrastructure	Pearson Correlation	.405**	.545**	.483**	.506**	.604**	1	.620**	.520**	.589**
	Sig. (2-tailed)	.002	.000	.000	.000	.000		.000	.000	.000
	N	54	54	54	54	54	54	54	54	54
Hire talented workforce	Pearson Correlation	.586**	.538**	.513**	.644**	.436**	.620**	1	.838**	.728**
	Sig. (2-tailed)	.000	.000	.000	.000	.001	.000		.000	.000
	N	54	54	54	54	54	54	54	54	54
Existing competition	Pearson Correlation	.646**	.546**	.576**	.665**	.486**	.520**	.838**	1	.676**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000
	N	54	54	54	54	54	54	54	54	54
Mentori	Pearson	.659**	.510*	.489**	.575**	.543**	.589**	.728**	.676**	1

ng services	Correlation		*						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	
	N	54	54	54	54	54	54	54	54	54

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12: Correlation between participants' perception about importance of startup initiatives to solve different challenges
Source: Author calculation

The above table shows that there is a high to moderate positive association between different the ability of startup initiatives to mitigate different challenges faced by digital entrepreneur. This implies that the startup initiatives to mitigate one challenge also helps solve the other associated challenges positively.

CONCLUSION

This is the concluding chapter of the thesis in which the overall conclusions of the research are drawn in the light of the pre-determined research aims and objectives. The overall findings of the secondary and primary researches are collated to arrive at the overall conclusions. Also, based on the findings and analysis, the managerial implications and recommendations for further improvement are drawn. The chapter also discusses the limitations of the research, along with the scope for future research for guiding future researches in the selected subject area.

The first important finding of the research is the importance of the startup schemes launched by the Government of India to boost economic growth. The primary analysis found that the knowledge and importance of different schemes among the digital entrepreneurs have been high. Despite this knowledge, the proportion of entrepreneurs who actually availed and benefited optimally from these schemes have been low (as 12 out of 54 entrepreneurs actually availed the startup schemes). This is a major finding in the awareness among the young entrepreneurs.

The next major finding is to gauge the satisfaction level of the entrepreneurs from availing the startup schemes launched by the Government of India to boost the digital entrepreneurship in the country. The primary research analysis shows that only 22% of the total respondents derived the satisfactory results from the startup schemes. It is also interesting to note that the lack of satisfaction was majorly owing to the unawareness about the scheme and their benefits. There has been limited secondary research that gauges the level of satisfaction from the schemes, however, the literature unveiled the huge potential for the growth of digital entrepreneurship ecosystem in India. This brings to the conclusion that there is a vast awareness gap in understanding and exploiting the huge potential for exploring the digital entrepreneurship landscape in India.

The second major conclusion derived from the thesis is the knowledge about the benefits of the startup initiatives. The primary research identifies the most important benefit to include seed funding, access to incubator and innovative labs, access to digital infrastructure, legal support and advice, and ease of regulation. These findings are also supported by the literature research. As stated by Ghosh (2020), some of the prominent benefits of the start- up digital schemes include incubation facilities, mentorship, facilities for security testing services, funding from

venture capital, industry networks and advisory services in different matters including legal, patent and human resources. This proves that the benefits of the start- up schemes for the digital entrepreneurs are huge, with huge potential.

The next vital conclusion drawn from the research is the investigation of the challenges faced by the digital entrepreneurs in availing the identified benefits of different startup schemes launched by the Indian government. The primary research identifies the key challenges to include Advisory and support service, Seed funds, Finance to scale-up business, Access to market, Regulatory difficulties, Digital infrastructure access, Hire talented workforce, Existing competition and Mentoring services. These findings are also supported by the literature research as well. For instance, Zajko (2017) identifies that the start-ups face challenges at different phases, like When the start-up is new, the need for resources, like funds, human resources and strategies. However, when it comes to scaling- up the business, it comes with many challenges like the need for multi-functional teams, high- tech processes, standards and regulatory framework and managing costs. Nanavati & Bedarkar (2020) adds to these challenges and includes interpersonal conflicts among the employees, inefficient hierarchical management structures, management of working capital, managing legal compliance, competitive pressures etc. Similarly, other challenges as identified by the secondary research are unorganized, fragmented and diversified nature of Indian market (Edelweiss, 2017); complexity in the regulatory environment (The World Bank, 2020); hiring qualified talented workforce (Peram & Koteswari, 2018) and funding and mentoring issues (McKevitt & Marshall, 2015). Finally, the paper concludes that one of the optimum solutions in mitigating the above mentioned challenges is the effective deployment of the digital startup schemes by the government.

Recommendations

Based on the overall findings, it is signified that there is huge potential for the development of digital entrepreneurship in India, and there are many challenges being faced by the digital entrepreneurs. It is also worth noting that there are many startup schemes being offered by the government, but its utilization is low. Thus, it is recommended to identify the reason for this low awareness and utilization. There may be two gaps in this aspect, firstly, the entrepreneurs are not aware about these initiatives, and secondly, the issues with the proper avail of these schemes which limit the utilisation of these schemes by the digital entrepreneurs. It is also recommended that the schemes are altered to meet the needs of the entrepreneurs, and funding is done in an optimum manner. Finally, proper awareness campaigns need to be designed and launched by

collating different stakeholders, including, the policy makers, entrepreneurs, industry experts, government agents so that the awareness is enhanced.

Limitations of Research

The current research is not filled with challenges and limitations. One of the major limitations was the limited literature available on the perspectives of satisfaction on different digital startup schemes launched by the Indian government. Secondly, the primary research to fill this gap is only limited, as the responses were gauged using semi-structured questionnaire in the wake of the covid travel restrictions. Another plausible limitation was that the research covered the opinions of the digital entrepreneurs focused mainly around one of the metropolitan areas in India, Mumbai and did not cover all other areas in the country. This, therefore, poses the limitation of narrowed or limited scope of research.

Scope for Future Research

In the light of the overall analysis and above mentioned limitations of research, it can be stated that there is vast scope of future research for thus subject area. Firstly, since this is an unexplored research subject, there is huge scope for future research in evaluating different initiatives by the government, their potential benefits, challenges and even the ways by which they can be overcome for optimum channelising. It is also possible to expand the current research findings to other areas in the country, and even frame a comparative analysis of different schemes launched in different parts (as well as pan Indian context). Moreover, the current research studies the perspective of the digital entrepreneurs, which can be extended to cover the outlook of the government. This will help understand the challenges being faced by them in making different initiatives available to the digital entrepreneurs. Another area of future research is to study each of these initiatives and look for consolidation or improvement in the deliverables of each of the schemes with the aim to provide best of the benefits to the digital entrepreneurs.

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APPENDICES

Appendix- 1: Survey Questionnaire

1. For how long are you working as a digital entrepreneur?
    a. Less than 1 year
    b. 1 year- 3 years
    c. 3 years - 5 years
    d. More than 5 years

2. What is your nature of business? What kind of products or services do you offer to your customers?

....

3. Are you eligible to avail the 'Start-up India' Scheme launched by the government of India?
    a. Yes
    b. No
    c. I don't know about any such scheme

4. If the answer in Question 3 is yes, did you avail the benefit of the scheme?
    a. Yes
    b. No
    c. Don't know

5. Are you satisfied with the offerings of the Start-up India initiative by the government?
    a. Yes
    b. No
    c. Don't know

6. What all benefits could you avail under the start-up India scheme?

    a. Legal Support and advice

    b. Start up or seed funding

    c. Access to incubator and innovative labs

    d. Regulatory ease

    e. Digital infrastructure

    f. Any other, kindly mention...

7. Did you find the benefits under the scheme useful?

    a. Yes

    b. No

    c. Somewhat

8. What are the key challenges faced by your start-up? Rate each of these challenges on the scale of 1 to 5, such that 1 = most important challenge, 2 = important challenge, 3 = neutral, 4 = unimportant challenge and 5 = least important challenge

    a. Advisory and support service

    b. Seed funds

    c. Finance to scale-up business

    d. Access to market

    e. Regulatory difficulties

    f. Digital infrastructure access

    g. Hire talented workforce

    h. Existing competition

    i. Mentoring services

    j. Any other challenge, please mention..

9. How far the Start-up India initiative by the government helpful in mitigating each of the above- mentioned challenges? Rate 1 = most helpful, 2 = helpful, 3 = neutral, 4 = not helpful, 5 = least helpful.

   a. Advisory and support service
   b. Seed funds
   c. Finance to scale-up business
   d. Access to market
   e. Regulatory difficulties
   f. Digital infrastructure access
   g. Hire talented workforce
   h. Existing competition
   i. Mentoring services

10. In your opinion, what can the government do, to manage each of the above-mentioned challenges?

   …………………………………………………………………………………………………
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11. Any observation/ experience/ views you wish to share pertaining to the Start-up India initiative in boosting the digital entrepreneurial in the country?

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