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Functioning of Information Technology Services Start - UPS in Kerala, India

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Abstract: ***IT sector have more relevance in the technological environment and IT companies can change quickly and are easily perceived (Davenport, T. H., 1993). A report by Start - up India says that more than 20% of start - ups come under the purview of IT services start - ups in India. It is reported that Information Technology (IT) Start - ups are those temporary organizations that create innovative products and/or services using high technology, but these types of companies are also known to be inserted in uncertain and risky scenarios, proof of this is their high mortality rate (Cho, Y., & McLean, G. N., 2009). To reduce these problems faced by start - ups, the Government of Kerala come forward to support start - ups and inculcate entrepreneurial culture that leads to the growth of young entrepreneurs in the state. Despite having so many challenges found during the period of establishing and running entrepreneurial ventures, the state witnessed a drastic boom in the start - up ecosystem, especially in digital and IT services start - ups. In these contexts, the researcher intended to study the present status of IT services start - ups in Kerala by using secondary data especially from start - up India website.***

Keywords: IT services start - ups, Growth, Ecosystem, Sectors of start – ups

1. Introduction

The Start - up concept is a recent phenomenon in the 21st century and startup businesses have always a crucial role in the development of economy and wealth around the world by introducing and developing innovative products and services and thereby generating new employment opportunities and increasing national productivity and alleviating poverty (Decker et al., 2014). More and more start - ups are generated day by day, and modern technology platforms ecosystems such as web and mobile technologies, cloud support systems, and open - source software are promoting this increasing trend. (Bosch et al., 2013). A small start - up founded by two or three entrepreneurs with a handful of employees can produce and test the feasibility of tens of possibilities for a new business idea, producing a viable product in a few months. This tendency fosters the creation of thousands of Technology start - ups around the world annually. According to the statistics of largest start - up database (Crunchbase, 2014), there have been more than 200, 000 founded start - ups in the last 10 years.

Today, IT services or software start - ups have become one of the key drivers of the economy and innovation of any country. Software/IT start - ups are start - ups that build software - intensive products/services. New software ventures such as Google, Amazon, eBay, Uber, Facebook, LinkedIn, Spotify, Pinterest, Instagram, and Dropbox, to name a few, are examples of start - ups that evolved into successful businesses.

2. Literature Review

India is the sixth - largest economy and becoming a global engine of growth in the world. To generate job opportunities in the country, the government is introducing a series of steps to foster entrepreneurship culture among the Indian population through the initiatives of the Start - up India programme by creating a vibrant entrepreneurial ecosystem. Young entrepreneurial firms have had an effective role in economic growth in the country during the last several decades. In particular, innovative start - up firms with growth ambitions are considered to contribute disproportionately to innovation, the creation of jobs, and wealth in the larger economy (Kirchhoff et al., 2007).

India is amongst the top five countries in the world in terms of start - ups. There are approximately 66000 start - ups in India. Considering the parameters of Startup in India as per Inc42 report (2021), India is the third largest Startup hub in the world, average age of founders under start - up business is 28 years, among the total founders 9% are women, and an average number of new IT services start - ups has moved from 480 in 2010 to 2000 in 2020. The majority of start - ups and investors are from metro cities. In 2015, the prime minister announced the “Startup India, Standup India” campaign and hopes that it will bring a significant amount of change in the lives of the citizens in all parts of the country. The government of India encourages various strategies and schemes towards start - ups and the integration of various ministries with startup missions.

In India, the start - up has grown the different sectors in all dimensions. The emergence of most start - ups in India from four cities such as Banglore, Mumbai, NCR (National Capital Region), and Hyderabad. It also seems that many start - ups have witnessed a decline in their business operations, except for those start - ups that have been engaging in the delivery of essential services, the educational sector, and gaming services. India has the third largest ecosystem for start - ups in the world. The United States of America (USA) and the United Kingdom (UK) are holding the first and second positions. But failure rate of the Indian start - ups are 90% due to various factors such as absence of unique business models, lack of proper strategic planning and deficiency of technological innovations. (Prashantham, S., & Yip, G. S., 2017). It also reported that the majority of tech start - ups failed in India due to a deficiency of inventions and competitiveness of ideas in

technologies with western (Inc42, 2018).

But in recent years, India witnessed a dramatic boom in the start - up ecosystem, especially in digital and software services. In the study of Sikka, G. (2015), India is the world's fastest - growing start - up ecosystem having an average valuation of an Indian start - up is $2.3 million as compared to an American start - up of $4.2 million. Out of this 43% of the start - ups are focusing on the global market and 28% running as a technology hotspot. In India, the majority of the start - ups are using the Business to Consumer (B2C) model of business (59%) followed by Business to Business (B2B) (37%) and B2C/B2B (4%).

Table 1: Top 10 highlighted sectors in terms of the number of start - ups in India

Sl. No.	Start - ups	Rank
1	IT services	1
2	Healthcare and life sciences	2
3	Education	3
4	Professional and commercial services	4
5	Food and beverages	5
6	Agriculture	6
7	Finance technology	7
8	Construction	8
9	Green technology	9

Source: Start - up India website, 2021

Table 2: Kerala start - up ecosystem - Key highlights

S. No.	Items	Figure
1	Total number of start - ups	4000+
2	Total investments in start - ups	4280 crores
3	Total Fund of Funds created by the Kerala government	$101 Mn+
4	Total entrepreneurs in start - ups	30, 000
5	Percentage of women entrepreneurs in start - ups	9%
6	Total number of jobs created start - ups	40, 000+
7	Total number of active incubators	63+
8	Total number of mini incubators	375
9	Total number of Super Fablab	1
10	Total number of Fablab	23
11	Total number of Mini Fablab	23

(Source: Inc42 report, 2022)

Nowadays, the government of Kerala has been taking necessary steps to provide adequate help and support in infrastructure and finance to young entrepreneurs in the state by setting up Technology Business Incubators (TBI). Now TBI has changed its name as Kerala Startup mission. As a nodal agency of Kerala government, Kerala Startup Mission (KSUM) has been actively initiating various programs and policies for promoting start - ups in the state. The KSUM identifies entrepreneurial talents among youth to promote and develop entrepreneurial culture in Kerala.

Table 3: Trends of start - ups recognized and job generated in India

Year	Start - ups recognized	Jobs reported
2017	5425	49 K+
2018	8947	96 K+
2019	11701	1.5 Lakh
2020	14740	1.7 Lakh

Source: Five - year achievement report, December 2020, Startup India

India is currently making a fundamental change in the start - up - friendly policy and in the business environment - friendly environment. To do this, it is necessary to create opportunities for a large number of youth as well as to create employment opportunities for India. In order to pursue this challenge, the Indian Industry Association (CII) has stressed building a strong early ecosystem in the country with national and state governments and industry other stakeholders.

1) India and Kerala ecosystem

In India, the majority of start - ups are running in metro cities because of their own history and local peculiarities. Bangalore is the primary hub in India considering the parameters of a number of start - up support organizations and investors. Also, most of the technology start - ups are running in Bangalore city (NASSCOM, 2018).

Following Banglore, the majority of start - ups are running in Mumbai and National Capital Region especially Delhi, Gurgaon, and Noida. It is reported that out of the total Indian technology start - ups 21% are situated in NCR and 14% in Mumbai (NASSCOM, 2018). These three cities are members of "Elite Global Start - up Hubs". The above cities are considered global start - up hubs in India. But the start - up ecosystem is also developing in Tier 1, and Tier 2 cities such as Pune, Hyderabad, Ahmadabad, and Calcutta. These are considered as emerging start - up hubs.

Further Kerala is also considered as an emerging state and hub of start - ups (NASSCOM, 2018). But in some states including Kerala where people have fewer visibilities in entrepreneurship; fewer support organizations, and a lack of possibilities for founders to interact with others.

2) IT services start - ups

In this digitalized world, every individual in their current urban social life should have a basic understanding of IT so - called digital economy (Tapscott, D., 1997) requires a basic understanding of IT to include individuals in our current urban social life (Ziemba, D., 2017). This phenomenon happened due to various factors ranging from social media to digital trade, and technology start - ups, particularly those related to software or IT services start - ups. Now IT services companies contribute $225 Bn revenue to the Indian economy and include $170 Bn exports under IT services sector. There are 5 Mn people are working in IT services sectors (Inc42 report, 2022). These technology - based software start - ups are engines of innovation and the economy of any nation (Start - up Genome.2019; Marmer et al., 2011).

3. Statement of the Problem

Nowadays much attention has been given to high - technology firms. IT sector have relevance in this environment and IT companies can change quickly and are easily perceived (Davenport, T. H., 1993). A report by Start - up India says that more than 20% of start - ups come under the purview of IT services start - ups in India. It is reported that Information Technology (IT) Start - ups are those temporary organizations that create innovative products and/or services using high technology, but these types of companies are also known to be inserted in uncertain and

risky scenarios, proof of this is their high mortality rate (Cho, Y., & McLean, G. N., 2009). Based on the various kinds of literatures, it can be seen that the failure rate of such firms is high worldwide.

To reduce these problems faced by start - ups, the government of Kerala comes forward to support start - ups and the growth of young entrepreneurs. Despite having so many challenges found during the period of establishing and running entrepreneurial ventures, the state witnessed a drastic boom in the start - up ecosystem, especially in digital and IT services start - ups. In these contexts, the researcher intends to study the present status of IT services start - ups and the study is confined to answering the following research questions:

1) What is the present status of IT service start - ups in Kerala?
2) What are the focused areas upon which the IT service start - ups concentrate their business in Kerala?
3) Do they pass through different stages of development just like other businesses? If yes, what are the different stages of development through which the IT service start - ups are passing through?

4. Research Objectives

To analyze the present status of IT service start - ups in Kerala in terms of numbers, focused business areas, business models, and development stages.

5. Research Methodology

This study is descriptive in nature. The current study mainly used secondary data. Data and Information related to recent trends and growth of IT service start - ups and various statistical reports were used. The present study mainly focuses on the functioning of Information Technology services start - ups in Kerala. This study will be very useful to entrepreneurs aspirants especially young entrepreneurs, students or tech - savvy coming out from different engineering, polytechnic, and other science students by providing necessary information and knowledge about the running of technology or IT start - ups in the state and the government in taking various actions to promote IT services start - ups in the state.

Table 4: Major sectors of Start - ups in Kerala

Sl. No.	Sectors	Numbers
1	IT services	660
2	Healthcare and life science	250
3	Education	210
4	Technology hardware	138
5	Enterprise software	122
6	Agriculture	101
7	Food and beverage	98
8	Artificial Intelligence	96
9	Marketing	86
10	Green technology	72
11	Real estate	68
12	IOT	66
13	Travel and Tourism	62
14	Media and Entertainment	60
15	Construction	58
16	Finance technology	54
17	Robotics	46
18	Others	873
Total		**3120**

Source: Start up India report, September 16, 2020

Table 5: Total IT Services Start - ups in Kerala (Stage wise)

Stage	India		Kerala	
	Total	DIPP Registered	Total	DIPP Registered
Ideation	8411	2539	458	213
Validation	5928	2729	371	222
Early Traction	6561	3017	384	221
Scaling	2828	1162	176	91
Total	**23728**	**9447**	**1389**	**747**

Source: Compiled data from Start - up India (21/08/2022)

The above table reveals the stage - wise total services start - ups in India and Kerala. It also depicts the total start - ups along with DIPP - registered start - ups. This shows DIPP registered start - ups are changing parallel to the changing of total IT services start - ups in India as well as Kerala.

Stages wise IT services start - ups in India and Kerala

Start - up India statistics shows that stages of IT services start - ups in India are classified into four stages such as ideation stage, validation stage, early traction stage and scaling stage. The present status of stage wise IT services start - ups in Kerala are presented in the following table.

Table 6: Total Stage wise IT services start - ups in India and Kerala

Stage	India		Kerala	
	2022	%	2022	%
Ideation	8411	35.4	458	33
Validation	5928	25	371	26.7
Early Traction	6561	27.7	384	27.6
Scaling	2828	11.9	176	12.7
Total	**23728**	**100**	**1389**	**100**

Source: Data from Start - up India as on 31/08/2022

The table 6 explains that in Kerala, 33% of IT services start - ups coming under the Ideation stage, 26.7% of start - ups coming under the Validation stage, 27.6% of start - ups coming under the early traction stage and only 12.7% of start - ups belongs to the stage of scaling. The table also reveals that the percentage level of stage wise IT services start - ups in India is seen as the same percentage level of IT services start - ups in Kerala.

Stage wise performances of IT services start - ups in India and Kerala

As per start - up India statistics, the stage wise comparison of performance of IT services start - ups in the year 2021 and 2022 are listed in the following table:

Table 7: Stage wise performances of IT services start - ups in Kerala

Stage	India			Kerala		
	2021	2022	% increase	2021	2022	% increase
Ideation	6456	8411	30.30	334	458	37.10
Validation	4490	5928	32	291	371	27.50
Early Traction	5335	6561	23	312	384	23.10
Scaling	2148	2828	31.70	134	176	31.30
Total	18429	23728	28.80	1071	1389	29.70

Source: Data from Start - up India as on 31/08/2021 and 31/08/2022

The above table 7 exhibits that the increasing trend of IT service start - ups (stage wise) both in India and Kerala considering the last two years (2021 and 2022). The table reveals that there is high increasing trend in the registration of IT services start - ups in India and Kerala in the year 2022 compared to previous year 2021. It is seen that in Kerala 37.1% increase in IT services start - ups under Ideation stage, 27.5% increase in IT services start - ups under Validation stage, 23.1% increase in IT services start - ups under Early traction stage and 31.3% increase in IT services start - ups under Scaling stage. It also found that the increasing trend of IT services start - ups in Kerala is parallel to increasing trend of IT services start - ups in India.

Sector wise performances of IT services start - ups in India and Kerala

The sector wise performance of IT services start - ups in India and Kerala are depicted in the following table:

Table 8: Sector wise performances of IT Services in India and Kerala

Sectors	India		Kerala	
	Total	**%**	**Total**	**%**
Application development	**4834**	**20.4**	**443**	**29.1**
BPO	431	1.8	13	0.9
IT Consulting	**5549**	**23.4**	**222**	**14.6**
IT Management	2327	9.8	71	4.7
KPO	118	0.5	2	0.1
Machine Learning	1	0	0	0
Microbrewery	25	0.1	1	0.1
Product development	**4448**	**18.7**	**383**	**25.1**
Project Management	565	2.4	140	9.2
Testing	98	0.4	2	0.1
Web development	**3406**	**14.3**	**162**	**10.6**
Others	1948	8.2	84	5.5
Total	**23750**	**100**	**1523**	**100**

Source: Data from Start - up India as on 31/08/2022

The table 8 discloses the sector wise performance of IT services start - ups in Kerala. In Kerala, Out of total sectors of IT services start - ups, Application development sector constitutes a major portion of start - ups having 443 (29.1%) start - ups followed by product development of 383 (25.1%) stat - ups. IT consulting and Web development are the next popular sectors of IT services start - ups having 222 (14.6%) and 162 (10.6%) respectively. All other sectors have minimum number of start - ups and not popular in Kerala. The table also reveals that compared to Indian IT services start - ups, the entrepreneurs in Kerala using sectors in different manner. In India, the most popular IT services start - up is IT consulting having 5549 (23.4%) start - ups followed by Application development having 4834 start - ups (20.4%). The next large number of IT services start - ups coming under the sector of product development having 4448 start - ups (18.7%) followed by web development having 3406 start - ups (14.3%). All other sectors have only minimum number of start - ups in India.

6. Results and Discussion

The study found that there is steady growth in the development of IT services start - ups in terms of stage wise and sector wise performance in India and in Kerala. In the case of stage wise IT services start - ups in Kerala, 33% of start - ups come under ideation stage followed by 27.6% of start - ups come under the early traction stage. It shows that stage wise increase in numbers of IT services start - ups in Kerala is parallel to the increase in numbers of IT services start - ups in India. In Kerala, it is seen that 37.1% of increase in the number of total IT services start - ups come under ideation stage in 2022 compared to 2021 followed by 31.3% increase in the IT services start - ups come under scaling stage. In Kerala, it is seen that 29.1% of IT services start - ups come under application development sector followed by 25.1% of IT services start - ups come under product development sector. In the case of sector wise performance of IT services start - ups, it shows that an increase in the number of IT services start - ups in Kerala is not proportionate to the increase in number of IT services start - ups in India.

7. Conclusion

Today's digitalised world, IT services start - ups has a vital role in the development of a country. It brings innovative ideas and solutions to the society and corporate world that lead to creation of new industries. This mechanism generates employment opportunities thereby increasing economic development of country. For this a conducive environment is required to develop a start - up ecosystem in the state by initiating and implementing different policies, schemes, supports and facilities on the part of policy makers and society. Despite having so many challenges found, some good prospect also there behind running IT service start - ups. The increasing trend of starting new venture daily shows the growing interest in developing entrepreneurship culture in the state.

8. Future Scope

This research work provides a vast scope for the researchers to stick on their area in Information Technology services start - ups. The increased trends of starting new start - ups under IT sector helps the new researcher can study about growth factors, problems encountered by IT services start - ups entrepreneurs and growth prospects of IT services start - ups in each country. Also the business strategies adopted by the IT services start - ups such as financial strategies, HRM strategies, marketing strategies etc. can be investigated that will be very beneficial to entrepreneurs aspirants and public at large.

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