STUDYING POLICY INTERVENTION FOR GROWTH ENTREPRENEURS

A case of ICT Startup

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SUBMITTED BY
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Chapter 1: Introduction

1.1 Background and the context

The global industrial economy has rapidly been shifting towards the digital economy over the last couple of decades. Use of information and communication technologies (ICT) such as mobile service, internet of things, big data, app market place, high performing computing, and robotics has transformed the nature and design of enterprises as well as reshaped the business strategies, models and processes (European Comission, 2018). Increasing integration of such novel technologies in different entrepreneurial activities has created a new avenue of economic development mainly by making digital products or services, using digital platforms and digital infrastructures to connect customers and stakeholders (Elia et al., 2020). In recent years, digital entrepreneurship, particularly ICT enabled startup has been considered as a significant means of economic growth and employment generation around the world.

ICT startups have gradually been growing over a few decades in Nepal. According to the recent report of the National Economic Census 2018, a total of 2796 establishments belongs to the information and communication sector in which about 40,000 people are involved. This number represents only 0.3 percentage of the total establishments (923356) from different sectors (CBS, 2019). In the global status of ICT development, Nepal has been ranked in 140th position in the world and 28th position in the Asia-pacific region in the world's ICT Development index in 2017 (ITU, 2017). ICT sector profile prepared by the Ministry of Industry of Government of Nepal and Nepal Investment Board has classified the ICT sector into two major categories i.e., a. communication services which include internet, telephone and mobile communication and b. IT service which comprises of IT-enabled services (ITES) and business process outsourcing (BPO). Based on their service, three types IT-enabled enterprise are operating in Nepal i.e., i. local solution provider, ii. export-oriented enterprises and hybrid enterprises (GoN, 2017).

It is evident that ICT has a significant role in national development. For a landlocked country like Nepal which does not have direct access to the sea and is isolated from the global industrial market, the ICT sector can be the brightest side of economic development. In this digital era, the ICT sector is considered as the foundation for every other sector such as agriculture, medical, tourism, hospitality, transportation, finance etc., and the evidence shows that the firms using ICT see faster sales growth, higher productivity and faster employment growth (Kramer et al.,

2007). For example, in India the digital startups known as 'ekutir' has initiated establishing communication among the entrepreneurs, smallholder farmers and other stakeholders using simple mobile applications which played a great role to add agri-value, general employment and eliminate poverty[1]. Such kind of ICT startups can be best for the Nepalese case since our economy is largely based on the agriculture sector.

The current situation created by COVID-19 has significantly added the importance of ICT in the everyday life of the people. Particularly during the time of nation-wide lockdown, ICT startups have played a vital role in connecting producers or sellers with consumers. Many e-market start-ups have started their service during this pandemic and the already established e-markets such as Daraz, Sasto deal, Hamro bazaar have expanded their services. These pieces evidence call for a greater action of promoting ICT enabled startups and enhancing their ICT capacity of for sustainable economic development.

1.2 Concept of startups

This research mainly focuses on the issues of ICT startups so that it is important to clarify it. In general startup is a young company founded by one or more entrepreneurs which are established to provide unique/new products or services. In this research the startups is defined as any ICT enabled entrepries that were eatblished within the period of last three years and their growth is still in startups/in trasition stage and they probably are growing rapidly or struggling to gorw their bissiness.

It can be defined from multiple perspectives such as innovation, age of establishments, rate of growth, risk, flexibility, scalability etc. Particularly it refers to a novel ventures, including self-employment in which innovation plays vital role in the success, the startups might have to face various uncertainties, they have high rate of failure and their success is not guaranteed (Schmitt et al., 2018, ITFactory, 2020). The startup is considered as an early stage of an entreprise in which the brand management and sales are critical aspects. The age factor of a company is not enough to define an enterprise as a startup. According to Picken (2017) the life cycle of an entrepreneurial venture consists of four stages: startup, transition, scaling and exit. The borders between these phases are ambiguous and sometimes they overlap each other. Defining and

[1] https://ekutirsb.com/ekutir-global.html

validating business ideas are challenging in the startup stage. Startups covers a narrow area with limited resources and the organizational structure might not be so strong.

1.3 Statement of the Problem

The potential of growth of ICT enterprise in Nepal is growing since people's access to phone (139% phone user density) and access to internet (75% internet user density) as well as access to other ICT services has tremendously increased over the years. In addition, more than 90 percent population have the access to electricity and due to competitive environment, the quality of internet has been substantially improved (MoF, 2020). Having greater potentials of ICT sector, there are multiple challenges which need to be addressed for the better digital economic future. For instance, Nepal's ICT sector is still remained minor and most of the ICT enterprise are smaller in size which are mainly supported by a significant numbers of freelancers (Lemma et al., 2017). The challenges of protecting intellectual property, data privacy and cyber security have become crucial issues of this sector. A study of Dawadi and Shakya (2016) found that sustainability, operability, and maintainability are the major challenges of ICT enabled startup expansion and growth in Nepal. Besides, that it might also depends on the entrepreneurial ecosystem and multiple factors (socio-economic factors, legal or policy situation) that are associated with it. Therefore for sustainable growth and long-term progress of this sector, it is essential to research the factors that could affect the digital entrepreneurial capacity and the role of public policy in the creation or expansion of digital entrepreneurial activities.

1.4 Research questions

This study is assess the factors that hinders to grow ICT enabled startups and it explores the policy interventions required to break those impediments.

- What are the factors that could impede the sustainable growth and innovation of ICT enabled startups in Nepal? **(Identification of the challenges)**
- What policy interventions needed to help them to grow and innovate?

1.5 Scope of the study

Multiple sub-sector of the ICT startups are functioning in Nepal and most of them are located in Kathmandu valley, however, there are some start-ups growing outside of the valley. This research assumes that the case of ICT startups located within the Kathmandu valley and the case

of ICT startups located out of the valley can be different and they might be facing different problems/challenges. The government might have to address their problem differently so it is significant to compare the cases between valley-based and out of the valley enterprises. This research covers the cases of ICT startups that are operating both inside and outside of Kathmandu valley.

Chapter 2: Methodology

Methodology is the systematic procedures that applied in a particular research ranging from literature review, empirical data collection to analysis and drawing conclusions. This study follows the qualitative research framework which is believed to be captured holistic understanding with the greater validity of a research (Jick, 1979). The following research procedures were used in this research.

2.1 Research methods

I have used different methods in this research, initially I spent certain time to prepare interview guidelines and questionnaires. The research process began with reviewing relevant local and global literatures as well as policy documents related to the ICT startups. The review process helped to get idea to make research more concrete and specific. Some relevant non-academic documents and media papers were also reviewed to understand present situation of ICT startups.

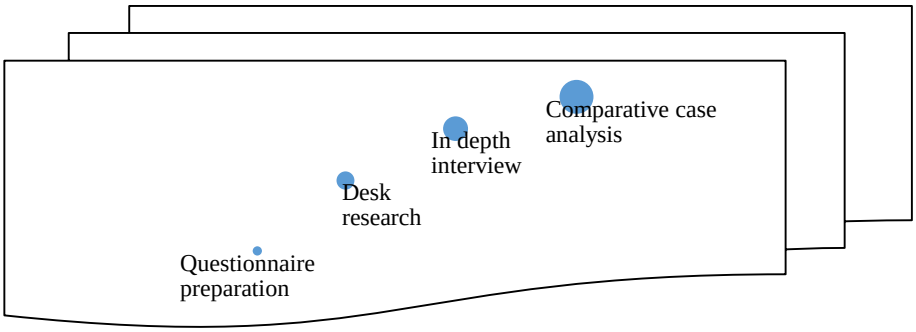


Figure 1 Research Methods

In depth interview

Interviews that involve the verbal exchange of information between the researcher and the interviewee in which interviewer attempts to elicit information or expressions of opinion or belief from interviewee" (Maccoby and Maccoby cited in Hay, 2000:101). The Interview is the major research tool of this research. I have conducted interviews with CEOs, business managers and directors of ICT startups. The types of questions used in the interview were unstructured that grant freedom to the interviewee for his/her opinion, insights or meaning of social events or issues (Williamson, 2013). In the beginning of the interview I asked general questions related to

demography and human development indicators of the owner of ICT startup such as age, gender, education, working experience etc. Which provided the overall social-economic situation of the entrepreneurs. After that I asked questions related to entrepreneurial structure, internal environment and the external environment. The problems they are facing, support from government and finally I asked them their policy expectation from the government.

Comparative case study/analysis: Valley vs. out of valley

According to Mills (2010) the comparative case study examines rich details of the context and features of two or more instances of the same phenomena. The comparative case analysis reveals the contrasts, similarities or patterns across the cases. The structure of comparison can be either within case or between-case study. Within-case study, for example might include several organizations within a specific industry which might be located in a different part of the country (Yin, 1981). This research is designed to compare the ICT startups located within the Kathmandu valley and out of the valley. The Kathmandu valley is the capital city and the socio-economic context is largely different than other parts of the country. The entrepreneur ecosystem might be different between the enterprises located within the valley and out of the valley. Therefore, it is interesting to compare the cases of ICT startups located within Kathmandu valley and out of Kathmandu valley.

2.2 Challenges of data collection/fieldwork

As planned, I started to collect primary and secondary data in the middle of July. The greatest challenge that I faced while collecting data is COVID-19. Considering the COVID-19 effect, most of the interviews have been conducted through a mobile phone. I searched the contact details and number in the website of the selected ICT startups. The initial interviews were quite unproductive since I tried to call without getting an appointment with the responsible person of specified ICT startups. Then, started to get an appointment before calling them. The process besides phone interview, I managed to take couple of interviews in person i.e. in Kathmandu (face to face).

2.3 Sampling procedure

There are several sampling strategies in qualitative research, which are principally associated with non-probability sampling or theoretical sampling. For instance, purposive sampling, quota sampling, the emblematic case, snowball sampling etc. (Gobo, 2004). The sample selection in

this research is based on purposive or selective sampling that is associated with the theoretical sampling. The theoretical sampling is conducted based on the concept that is thought to be theoretically relevant or selecting information rich cases for the study .(Glaser and Strauss, 1967 cited in Gobo, 2004).

Chapter 3: ICT in Nepal

3.1 A brief history ICT of Nepal: Legal and Institutional framework

Nepalese history of ICT can be dated back to 1913 with the installment of telecommunication service for the first time. Nepal government used the first computer (IBM 1401) in the census in 1971 that was an important step of ICT history. Formulation of National Communication Policy 1992 and the Telecommunication Act and Regulations in 1997 were the milestone of the legal and institutional framework (MoIC, 2015).

Table 1 History of ICT development

Unite of time	Event Name
1913	Started Telecommunication
1951	Started Radio Nepal
1957	The Radio Act
1971	GoN used computer first time
1974	National Computer Center
1982	First foreign investment in software development
1985	Started T.V Broadcasting
1992	National Communication Policy
1993	Internet introduced first time (RONAST and MOS)
1996	Established Ministry of Science and Technology
1997	The telecommunication regulation
1999	Cellular telephone service was launched
2000	IT policy
2003	High level Committee for Information and Technology
2004	Telecommunication policy
2010	IT policy revised
2014	Broad band policy
2015	IT policy
2019	National Science, Technology and Innovation Policy, 2019

MoIC, 2015, Karki, 2019)

These policies and regulations paved the way for telecommunication liberalization. In 2000, the first IT policy announced in Nepal that basically considered IT as vital tool for development and growth. The revised version of telecommunication policy and IT policy were rolled out in 2004

and 2010 respectively. Currently, there are IT policy 2015 and National Science, Technology and Innovation Policy, 2019. The chronological development of ICT is listed below in table. (See in table 2.1).

While looking at institutional arrangement, the Ministry of Information and Communication and Ministry of Science, Technology and Environment are major bodies of the government whereas at the regulatory and implementation level, the Nepal Telecommunication Authority and Department of Information Technology are existing authorities of ICT sector.

3.2 The Kathmandu valley VS out of valley: ICT startups

The ICT sector is one of the growing sectors of Nepal. A recent report of economic survey shows that the significant numbers of establishments in ICT sector has been started within couple of decades (see figure 2.1).

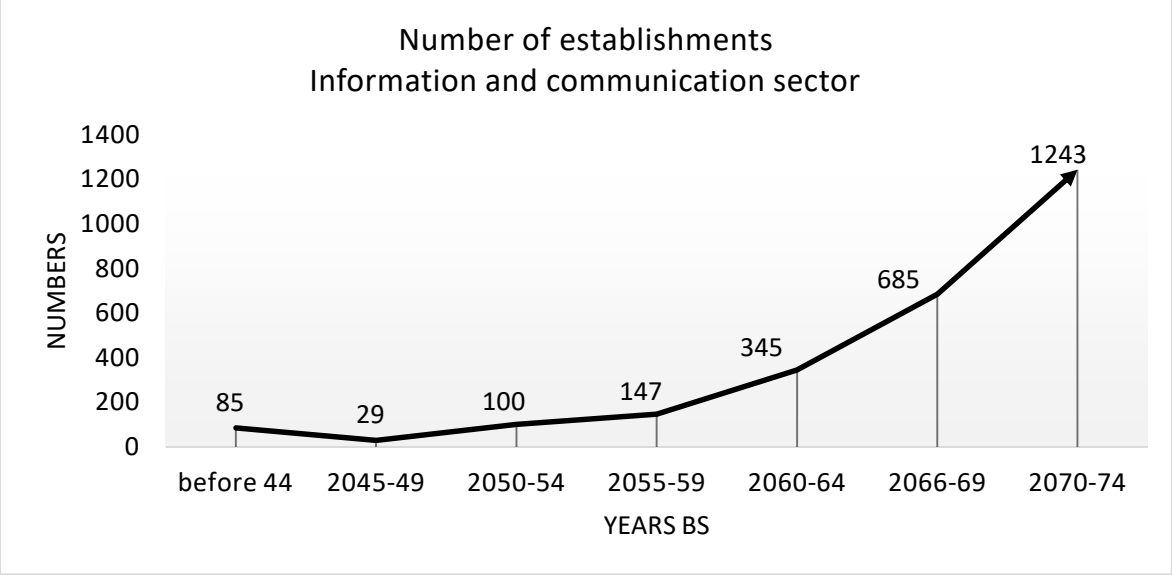


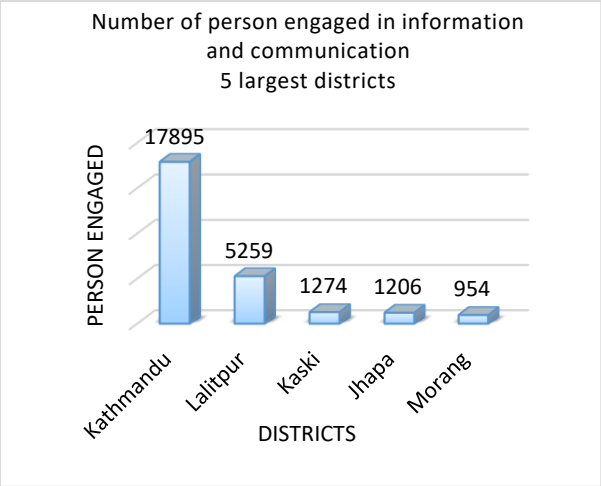
Figure 2.2 Number ICT establishments by start year

National Economic Survey 2018

People's access to telephone, internet and electricity is growing(MoF, 2020). Moreover, the youth population accounts for more than half of the total population (CBS, 2011) and they are more used to with modern tools and technology. ICT teaching institutes/collages of the country are providing ICT education and producing numbers of the ICT professionals. This shows the thriving scene of ICT sector that possibly contributes to make the nation economically

prosperous. In this research I have tried explore the hindrances that ICT startups are facing in both Kathmandu valley the outside the valley.

The Kathmandu valley is the capital city of the country which includes three big cities- Kathmandu, Lalitpur, and Bhaktapur. The valley accounts for a considerable portion of the



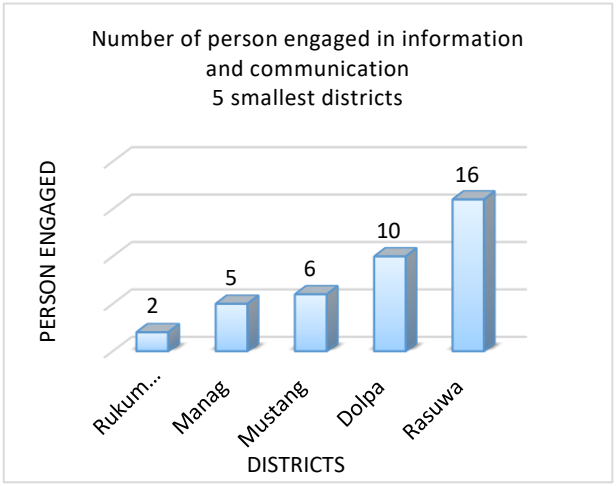


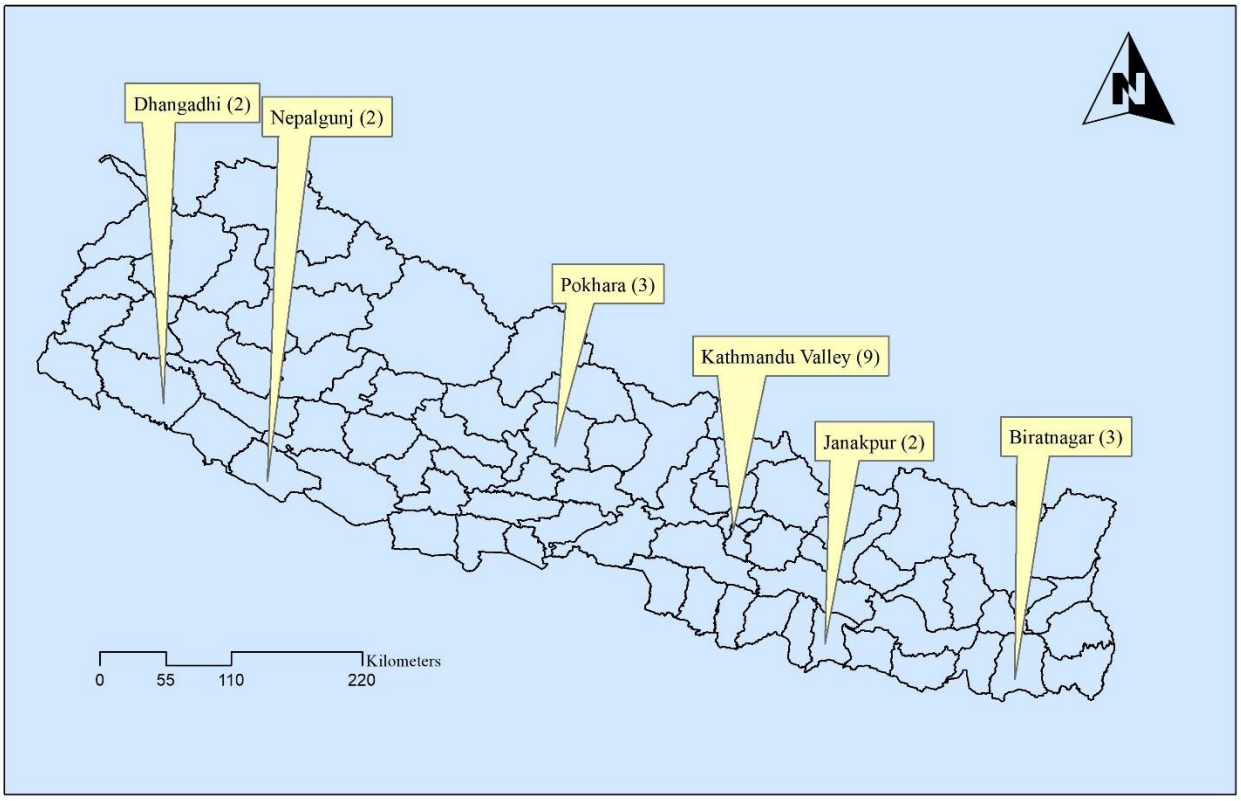
Figure 2.2 Number of person engaged in ICT *National Economic Census, 2018*

country's gross domestic product that makes it the country's largest urban economy. About 2.5 million people live in the valley that is almost half of the countries urban population. It is a densely populated area with more than 4 thousand people per square km. The valley has the highest literacy rate i.e. 89.6 percent (census, 2011) and it is the main economic hub of Nepal which hosts a number of industries such as handicrafts, garments, finance, tourism, etc. ICT enterprises are also largely concentrated in Kathmandu valley. For example, the recent National economic survey conducted in 2018 shows that about 40,000 people are engaged in the information and communication sector. Among them about 60 percent are in Kathmandu valley (see in figure 2.2).

The constitution of Nepal 2015 officially declared the federal government system in Nepal that means the power authority has been divided into federal, provincial, and local governments. The decentralization approach of the federal system has officially launched so that the local business ecosystem might have improved. The local markets might be enlarged throughout the country. It is also expected that the centralized population of the Kathmandu valley is likely to disperse outside the valley as well as the current rate of population concentration of valley will be

reduced. That means entrepreneurs or business persons hopefully get the business environment outside the valley. Under the federal structure, the official process of enterprise registration and documentation process in the other parts of the country might become easier. However, the enterprise/startups operating outside of the valley might have various issues and challenges in comparison to the startups operating inside of the valley. They might need special consideration while formulating policies and programs

3.3 Sampled ICT startups



Map 1 the sampled ICT start-ups

3.4 Descriptive statistics

In order to compare the cases, nine ICT startups were taken from the Kathmandu valley and total twelve ICT startups sampled from the major five cities located outside of the Kathmandu valley (See. Map 1). This study covers the five different categories of ICT startups based on types of service provided i.e. E-market, Online Cleaning Company, Food delivery, Software and app

developer and E-pharmacy (See table 2). The education level of entrepreneurs and types of ownership of enterprises are sown in table 3 table 4.

Table 2 Types of Start-ups studied

Startups types	*Within the Kathmandu valley*	*Outside of the Kathmandu valley*
E-market	2	4
Online Cleaning/Dobi	2	0
Software and App Developer	2	4
Food delivery	1	2
E-Pharmacy	1	2
Total	9	12

Table 3 Education background of the entrepreneurs

Level of education completed	*Within the Kathmandu valley*	*Outside of the Kathmandu valley*
+2 and below	0	1
Bachelor	4	5
Masters	5	6
Total	9	12

Table 4 Ownership of enterprises

Ownership of enterprises	*Within the Kathmandu valley*	*Outside of the Kathmandu valley*
Individually owned	3	8
Collectively owned	6	4

Chapter 4 Findings

There is a general understating that startup entrepreneurs always strive to grow and scale of up their business. A raw data shows that nine out of ten startups fail to grow and scale up their business (Forbes.com, 2020). Currently, several startups are experiencing an unprecedented exogenous shock due to the ongoing Covid-19 pandemic around the globe. Nepalese startups have also been hit hard by the pandemic and the resultant lockdown. Broadly this research covers the questions such as why do ICT startups succeed and fails to grow and what policy fosters their entrepreneurial activities?

The factors that impede the growth of ICT startup can be categorized into two major groups; entrepreneur related factors and environment-related factors. The primary data were collected the through in-depth interviews with the startup entrepreneurs and with various stakeholders. I interviewed nine ICT startups entrepreneurs from Kathmandu valley and twelve interviews were taken with ICT startups located out of the Kathmandu valley. Based on interview information and some secondary sources, I have identified three entrepreneur related factors and four environment-related factors that are elucidated in below.

4.1 Entrepreneur related factors

4.1.1 Human Capital: Skill, Knowledge, Experience and Capacity

Human capital pertains to individuals' skills, knowledge, experiences, and abilities which considered an intangible asset of a company. Human capital can be acquired through formal and informal education and training. These different forms of human capital can be converted into resources and economic activities that help to survive and grow the startups. It means entrepreneurs who are well educated and good in different skills and experiences can secure benefits from the entrepreneurial activities (De Clerq and Arenius, 2002). Entrepreneurs' knowledge, skills, and experience play a significant role to enhance innovative capacity. The study found that combination formal education and training as well as the real-life experience of the related field foster and innovate entrepreneurial activities.

Worthy evidence of this point is an entrepreneur of Nepalgunj who is running a Software and App developing ICT startup called 'SUPPORTIES'. He has an ICT degree of Nepal. After finishing his study he got an opportunity to work in the ICT field in a foreign country. He

worked in an international ICT company for almost two years and returned to Nepal. He also worked in Kathmandu but now he is running an ICT startup in Nepalgunj. His startups are going very well. While talking about his startup growth he was confident with his work and said that his startups will be expanded in major cities of western Nepal in five years. When asked why he is more optimists with his startups to grow, he shares:

> *I have knowledge of ICT and almost three years of experience in the same field. I can do major tasks of website designing and app development. Another important thing is that I have crossed the most struggling phase of my company.*

Human capital is an intellectual capital which is directly associated with the competitiveness of the firm so that it is considered as a source of entrepreneurial success (Dubra, 2010). It helps entrepreneurs to explore the ideas and strategies of success. Evidence of an ICT company located in Dhangadhi shows that the ICT entrepreneurs with higher education and research background initiated preliminary business research as well as public awareness regarding the necessity of ICT before the beginning of his startups. Doing so entrepreneurs he was able to enter in the local ICT market and get many clients within a short period of time. He stated:

> *In the starting three/four months I spent all the time with local people to clarify them about the necessity of ICT, Basically with local schools, colleges and other business persons. Gradually, people started to recognize the importance of ICT and now I have about 100 local clients.*

It is true that ICT entrepreneurs always have to identify new opportunities, think innovative ideas, and discover possible ways as well as potential paths for their growth so that they must remain updated with advanced technologies. Some of the entrepreneurs located outside valley agreed that they could not compete with other big competitors in the city as they have limited business experiences and knowledge. Especially entrepreneurs who graduated from the local college outside of the Kathmandu valley and who get less exposer with the new technologies in comparison to the enterprise located inside of valley seems struggling with entrepreneurial growth.

4.1.2 Social Capital: Social Network, relation with incubators, accelerators and other stakeholders

The success of startups not only depends on the quality or capacity of the entrepreneur but also largely depends on social capital. Social capital is defined as the assets embedded within, available through and derived from the social network which has a greater role in the success of the business (Spiegel et al., 2016). The role of network and relationship is more significant when it comes to startups because as they need the assistance of different actors such as investors, incubators, mentors, accelerators, and financers in their early stages. These actors help to unlock the entrepreneurial potential and provide innovative solutions in the time of emergencies. The study found that ICT entrepreneurs located outside of the Kathmandu valley reported lack of incubator and accelerators at the regional level and they don't have good contact with the incubator located in Kathmandu valley. Since most of the business incubators and accelerators are operating in Kathmandu valley, it is quite difficult for them to get access to entrepreneurial development services and information.

A network is considered as a strong asset for the startups since it helps to access information, opportunities, power, and other assistance. Particularly, strong ties with friends, families, and informal circles help entrepreneurs to begin the business. A study conducted in Nederland's ICT start-ups found that both strong and weak ties within the network help start-ups to survive and grow (Elfring and Hulsink, 2004). One of an entrepreneur who is running an online cleaning company called 'SMART DHOBI' in Kathmandu valley has got an IT assistance especially for building his company's website, form a friend who is studying IT in India. He said that help from his friend has reduced initial cost of investment.

4.1.3 Growth intention

The growth and success of an enterprise also depend on entrepreneurs' intention, passion, and willingness to take action. It has been well documented that if entrepreneurs do not intend to grow their enterprise, their enterprises are less likely to grow (Neneh and Vanzyl, 2014). In line of this proof, our study also found that some of the ICT enterprises from both locations, mainly enterprises that are owned by individuals or families, do not want to expand their business. For example, an entrepreneur who is running an e-pharmacy named 'OkPharmacy' in Pokhara said that he running his business with the help of his family and the available job in his enterprise is

enough for his family member. As he said he does not want to hire a worker from outside so that he has no plan of extension. It seems he has no desire to grow his business.

4.2 Environment related factors

4.2.1 Access to Human capital

It is obvious that entrepreneurial performance depends on access to human capital i.e co-founders, employees, and other partners so that it the most important asset of any enterprise. An experienced, innovative, and capable workforce is beneficial to enterprises. Especially for startups, the workforce matters more since they have to deal with many transitional challenges. Due to tight budgets, startups often hire low wage and entry-level employees to keep operational costs down. As a consequence company might not get fully qualified and experienced workers. Enterprises can increase their human asset by providing training to the employees.

In Nepal, there is a trend of young talent migration from small cities to big cities and abroad. Our study found two major problems related to human capital in ICT startups - lack of experienced workers and a higher rate of labor mobility. Particularly ICT startups located outside of the valley reported the shortage of skilled manpower. They usually hire IT graduates from local colleges and they trained them but most of the staff leave the company after working short period of time and they move to the Kathmandu valley as well as abroad. On the one hand that makes the company unstable and on the other hand hiring and giving tanning to the new workers adds the company's operational cost.

In the Kathmandu valley, only an online cleaning company reported the problem of skilled manpower. The company is using modern washing machines, equipment, and chemicals for the workers must have knowledge, skills, and technical efficiency to use those machines and chemicals. However, most of the workers in this field are uneducated and only used with traditional and manual methods of washing and cleaning. According to owner of URBAN NEPAP,

> *'I have six staff to whom I have given in-service training before the beginning of work. Initially, they even did not know how to operate washing machines. Most of the workers in this field have low educational background so that we have to spend time and cost to train them about the machine and chemicals.*

4.2.2 Access to Finance

Finance is one of the crucial factors of entrepreneurial growth. Nepalese financial sector is increasingly being expanding over the years. The banks and other financial institutions are growing. However, one of the biggest challenges the entrepreneurs have been facing is the lack of affordable and appropriate financial access (World Bank, 2020). Existing regulatory complexities, issues of collateral, and several gaps in Nepal's financial infrastructures create restrictions for entrepreneurs. Most of the ICT start-ups interviewed reported that they did not face difficulties while managing money for the establishment as they began their business with their own funding. However, some of the ICT start-ups unable to sustain and scale up their business due to a lack of finance.

Another big challenge ICT entrepreneurs are facing in access to finance is the problem of the international payment system. The financial infrastructure for the international payment system in Nepal is still limited. The people who hold the USD account on the bank only able to pay in the process of buying goods and services from the foreign country (Danpheadventure, 2020). More than half of the sampled ICT startups mentioned the problem of the international payment system. For example, an entrepreneur how owned an IT company in Pokhra called 'Mandala IT solutions said:

> *'We have a problem with the international payment system. It very difficult to pay while buying international domains for a foreign country.'*

4.2.3 Access to Market

Access to market refers to the ability of a company to sell goods and services. The market for ICT enterprises highly depends on people's access to the internet and other modern technologies. Internet penetration is one of the basic requirements for ICT trade. It is true that the use of internet service is growing in Nepal. Various broadband technologies such as ADSL, Wireless Modem Optical Fiber Wi-Fi, 3G, and VSAT, etc. are currently in use. In the figure, Nepal has 75% internet user density (MoF, 2020). However, in reality, a large proportion of the people has still left form access to the internet. Affordability, connectivity, and limited literacy are the major factors that hindered access to the internet in Nepal. Many parts of the country do not have internet and electrical infrastructures. The place where the infrastructure of the internet is built

but many people can't afford it due to people's lower purchasing capacity. Additionally, many people do not have good ICT knowedge so that they can't operate it well. The market for ICT startups, for example e-stores, e-pharmacy, and online cleaning companies is more accessible in the big ciites. The study found that some of the ICT startups located outside of the Kathmandu valley have a problem of market access. Despite having enough threshold of the local population, the people are not used to with online goods and services. Here is a case of an online grocery store called 'Mom's Online Mart' of Janakpur.

> *It is evident that the main customers of the grocery stores are the mom's i.e. women. As they have limited ICT literacy they can't use the online services. Instead, they walk long distances to reach the physical grocery stores even if they have to pay higher price for the same item.*

Another prevalent challenge related to access to the market is building trust and satisfaction with customers. It is true that the trust gap between buys and sellers widens when the seller does not send the goods as per the order. It has been almost a decade since the practice of online markets started in Nepal. Over the years the numbers of online markets have significantly grown but the service delivery and customer satisfaction is still not good. Vendors of the high ranking online grocery store located the Kathmandu valley have reported the challenge of building customer trust as a key impediment to the growth of e-commerce. It is because most of the online platforms do not deliver the goods as per the customers' expectation (The Kathmandu Post, 2020). Most of the sampled online markets pointed out that they have a big problem of establishing relationship with customers. We have observed that online market owners have a greater desire of establishing a good reputation for their business rather than expanding business. An owner of an online market called 'GUDREE' from Biratnagar said:

> *My only aim for the coming five years is to establish public trust and make an established online shopping platform of the country like Amazon.*

Nepal does not have good postal services and address directories which is one of the important infrastructures for the online market. In order to drop the order, one must meet the responsible person so that every online sopping must have its own delivery staff. One of the online market owners said:

We don't have reliable postal services which have limited us within a short distance where we can deliver by staffs'

4.2.4 Regulatory complexity and ignorance of startups

The industrial policy BS 2067 of Nepal has categorized businesses into five categories-micro enterprises, traditional and other cottage industry, medium scale industry, and large scale industry but the category or definition of startups has not been clearly defined by governmental documents. Entrepreneurs, researchers, and institutions involved in startups community have defined startups through their own perspective and based on their needs. Defining startups is crucial for the formulation of specific policies and programs targeting startups. We can find different international practices of defining startups as a separate category of business. For example, in India, to be a startups a company must have 5 years of age from the date of integration, the turnover should not exceed 25 crores in the last five financial year and the company must be working in innovation, development, and commercialization of new products and services (Startupsnepal, 2020).

Some years ago Nepal government had announced the 'Challenge Fund' for startups but it did not come into implementation due to ministerial dispute between the Ministry of Finance and Ministry of Industry, Commerce, and supplier (Myrepublica, 2020). Recently (in May 2020) the government has announced a provision of 'Seed Capital' for innovative business startups that aims to promote innovative ideas and technologies. The majority of the sampled ICT startups reported that they could not approach that seed fund due to the complex documentation process and identity ambiguity of startups. Due to the lack of specific and defined criteria of business startups, they failed to approach that fund.

It is widely accepted that the startups are driving force of the economy. Many innovations and innovations have been initiated by individually and collectively in Nepal. The issues of Nepalese startups have not precisely address in the governmental policy and programs. We have had many young innovators in the country in the past years but they remain unidentified or have not been promoted. While talking to some stakeholders, one of the important issues they raised was issue ignorance. One of stakeholder shares his thoughts:

Nepal's government does not have a startup promotion culture. Nepalese people invented and initiated many things. They build a helicopter, they build electric bikes and solar cars. But where is government support to them? and where are they now?

Table 5 Summary of major problems identified

S.N	Major problems identified	Within Kathmandu valley	Outside of Kathmandu valley
1.	**Entrepreneur related problems**		
1.1	Lack of skill, knowledge, experience and leadership capacity	No	Some
1.2	Lack of social network, relation with incubators and accelerators	No	Yes
1.3	Lack of willingness of accomplishment and growth	Some	Some
2.	**Environment problems**		
2.1	Access to Human Capital	Some	Yes
2.2	Access to Finance	No	Some
2.3	Access to Market	No	Yes
2.4	Regulatory complexity and ignorance of startups	Yes	Yes

4.3 Conclusions

The ICT sector is one of the fastest-growing sectors of Nepal. Over the past decade there have been significant improvements in this sector. However, the Nepali ICT startup ecosystem is still in the infancy stage. The ICT startups are facing many critical challenges so that their entrepreneurial growth seemed sluggish. Considering startups as the most critical, challenging, and crucial stage of an entrepreneurial venture, this research aimed to point out the challenges that are obstructing the growth of ICT startups. The cases were compared between ICT startups located within the Kathmandu valley and the ICT startups located outside of the Kathmandu valley. The research incorporated both primary and secondary data and information. I have

conducted 21 in-depth interviews with ICT startups entrepreneurs and some interviews with stockholders such as governmental officials, startup incubators, and consumers.

Based on evidence I have identified three entrepreneur related problems- i) lack of skill, knowledge, experience and leadership capacity, ii) lack of social network, relation with incubators and accelerators, iii) lack of growth intention and four environment related factors- i) access to human capital, ii) access to finance, iii) access to market and iv) complexity of regulations. Finding shows there are some differences in these issues between ICT startups located within the Kathmandu valley and outside of the Kathmandu valley which is summarized in table no. 5. The common and more critical issues that I have identified are listed below:

- ✓ Ambiguity in startups identity/definitaion
- ✓ Lack of ICT literacy and knowledge of the market
- ✓ Lack of customer satisfaction and the ability to build trust with customers
- ✓ Higher labor mobility
- ✓ Problems in delivery due to lack of precise address directory system
- ✓ Difficulties in internal and international payment

This conclusion does not mean that these are the only challenges that ICT startups facing in Nepal. There might be more challenges that can be explored and research in the coming days.

Policy recommendations

Short and medium-term policy recommendations: Entrepreneurs related

1. The government must have a clear and more precise definition of startups to address the challenges of startups and promote them through policy and programs.
2. Initiate ICT research and development collaboration
   a. Collaboration between ICT enterprises and universities
   b. Collaboration ICT entrepreneurs and local collages and other research institution in the local lvel.
3. Organize business forum at the provincial level with investors, entrepreneurs, incubators, accelerators and other stakeholders to identify the innovative ICT solutions for the existing challenge and business models.

4. Establish vertical and horizontal coordination among the related ministries and governmental bodies to avoid overlapping mandates and official provisions.
5. Initiated to build ICT startups community/multi stakeholder's platform that will connect the entrepreneurs, investors and other entrepreneurial actors.
6. Build a national database for ICT human resources and prepare talent pool to address the shortage of ICT experts.

Long-term Policy recommendations: Entrepreneurs related

1. Increase investment in ICT education.
2. Standardize and update existing ICT curriculum of schools and collage
3. Establish techno-parks with modern tools and technologies at least one in each province and make that open for all the ICT entrepreneurs and students.

Short and medium Policy recommendations: Environment related

1. Launch ICT literacy programs targeting the rural and backward community to educate consumers and expand e-market.
2. Introduce different startup promotion incentives and funds
    a. Simplify the regulatory complexities in the application process.
    b. Identify growth oriented, service oriented and innovative startups while providing funds and incentives.
    c. Priority should be given to e-marketplaces that promote local goods and items
3. Provide tax holidays and tax incentives to the startups for a certain period in the beginning as well as in the time of disasters/loss.
4. Assist struggling startups providing zero-interest or interest subsidized loans.
5. Build easy and reliable online payment services to improve cash on delivery system and protect consumers from online fraud in payment.
6. Introduce a regulatory mechanism to ensure consumer protection and to control online fraud and scams that exist in online shipping.
7. Build and implement effective policy to ensure intellectual property, cyber security and data privacy.

Long-term Policy recommendations: Environment related

1. Expand the digital infrastructure especially in the rural area and ensure better internet connectivity.
2. Invest to build better and secure electronic transactions with the access of international transactions of foreign currency.
3. Develop the proper address directories and efficient postal services so that goods ordered from online stores can be easily sent to the consumers' address through the post.
4. To achieve the vision of 'Digital Nepal' as intended in the National ICT policy 2015, the government must ensure the affordability of the digital infrastructure.

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