

**BARRIERS FACE BY SRI LANKAN CIVIL  
ENGINEERING GRADUATES TO BECOME  
ENTREPRENEURS**

BY

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# TABLE OF CONTENTS

Front page	i
Table of Contents	ii
List of Tables	iv
List of Figures	v
Aknowledgment	vi
Declaration	vii
Abbreviations	viii
Abstract	ix

## CHAPTER 1 - INTRODUCTION

1.1. Background of the Study	1
1.2. Problem Statement	3
1.3. Problem Justification	3
1.4. Research Question	4
1.5. Objectives	4
1.6. Limitation of the Study	5
1.7. Methodology	5
1.8. Arrangement of the Report	6

## CHAPTER 2 - LITERATURE REVIEW

2.1 Who is an Entrepreneur	8
2.2 Entrepreneurship in the Current World Context	9
2.3 Entrepreneurial Intentions, Motivation	10
2.4 Entrepreneurs Vs Culture and Social Background	12
2.5 Entrepreneurship vs Gender	13
2.6 Entrepreneurial Risk	15
2.7 Entrepreneurial Education	16
2.8 Entrepreneurial Characteristics & Behavior	18

### **CHAPTER 3 - METHODOLOGY AND FINDINGS**

3.1 Research Design	25
3.2 Steps in the Research	25
3.3 Research Approach	25
3.4 Areas Under Research	26
3.5 Research Model	27
3.6 Questionnaire	31

### **CHAPTER 4 - DATA PRESENTATION AND ANALYSIS**

4.1 Introduction	33
4.2 Data Presentation and Analysis	33
4.3 Data Analysis Summary	37

### **CHAPTER 5 - CONCLUSION AND RECOMMENDATIONS**

5.1 Conclusion	41
5.2 Recommendations	44
5.2 Suggestions for Further research	45

<b>WORK CITED</b>	46
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<b>APPENDIX</b>	50
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Annex-I : Questionnaire Survey	51
--------------------------------	----

Annex –II : Section II Data Presentation	61
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## LIST OF TABLES

	<b>Page</b>
Table 1: Operationalization of Variables, Indicators & Measure for Preference for Salaried Jobs	28
Table 2: Operationalization of Variables, Indicators & Measure for Motivational Factors for Startups	29
Table3:Operationalization of Variables, Indicators & Measure for Barriers Influencing to Become Entrepreneurs	30
Table 4: Overall Rating for Preference for Salaried Jobs	38
Table 5: Overall Rating for Motivational Factors for Start-Ups	39
Table 6: Overall Rating for Barriers Influencing to Become Entrepreneurs	40

## **LIST OF FIGURES**

### **Page**

Figure 1: Conceptual Framework	29
Figure 2: Belong Generation of the Respondents	33
Figure 3: Gender of the Respondents	34
Figure 4: Years of Experience of the Respondents	34
Figure 5: Business Background of the Respondents	35
Figure 6; Involvement of Parttime or Fulltime Business	35
Figure 7: Formal Education Related to Entrepreneurship in Under Graduate Study Period	36
Figure 8: Received Education is Substantial or Not	36
Figure 9: Received Education has Developed Entrepreneurial Skills or Not	37

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I hope that the findings of this research will be beneficial to Project Management discipline and it will deliver insights for further examination in and around the topic.

## DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university to the best of my knowledge and believe it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for inter library loans, and for the title and summary to be available to outside organizations.

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## **ABBREVIATIONS**

TEA	: Total Entrepreneurial Activity
GEM	: Global Entrepreneurship Monitor
UNDP	: United Nations Development Project
NIBM	: National Institute of Business Management
SLIDA	: Sri Lanka Institute of Development Administration
RTP	: Risk taking Propensity
LC	: Locus of Control



## ABSTRACT

Entrepreneurs are viewed as a noteworthy supporter of national economy and advancement, which has been affirmed in numerous nations around the globe. A century back, individuals accepted that business abilities were conceived ability, however now the entire world has acknowledged pioneering aptitudes can be instructed, and that training can build up an individual's innovative reasoning. Our engineers are furnished with key subject matters and investigative aptitudes, and show extraordinary execution as far as present day suspecting. This study expects to think about hindrances to enterprise among Sri Lankan Civil Engineering graduates. Information from project engineers, consulting engineers were gathered with their own businesses background and industry expertise which contribute to the society to add to the fundamental learning.

Questions were chosen from several areas for the questionnaire for inspecting comfort for each area and information was broke down utilizing a Microsoft Excel. Final information demonstrate the consequences of low-level business levels Sri Lanka engineer, however all interior factors in the example examination are sure, it can advance enterprise. Notwithstanding, it has been discovered that there are some outside variables, for example, non-accessibility of assets and the absence of family consolation for the business visionaries. Civil Engineers have demonstrated gentle enthusiasm for working with individuals, and this can cause issues when those aptitudes are fundamental for a business. Researchers found that poor strategic policies, which could be viewed as a noteworthy snag. As we as a whole know, in the present circumstance, engineers should expand the degree of business. By changing the educational program, college culture change, increasingly inventive opportunity for understudies, giving a wellspring of financing to imaginative undertakings and bringing issues to light of work laws and tax assessment arrangements, can improve the degree of business enterprise.

Key words: Entrepreneurship, Risk, Entrepreneurs, Gender,

## ***CHAPTER 01 - INTRODUCTION***

### **1.1 Background of the Study**

Entrepreneurs are the lifeblood of the economy. They serve the community by providing employment and wealth through their innovative and creative business start-ups. Entrepreneurial development is a significant component in economical expansion and energizing in developing countries. Nimalathasan & Achchuthan (2012) state small business plays a significant role in job creation and influencing policymakers to promote new start-ups. In United States, small start-ups accounted for 99.7% of all employer companies, employing about half of the private sector employees (Karim & Sufian, 2016).

In Sri Lanka, we are lagging in terms of the number of entrepreneurs. Our citizens need to discover new ideas and implement those ideas in start-ups for the development of our country. Further our graduates need to consider entrepreneurship as an alternative vocation. Unemployment among graduates is much higher than less-educated workers according to the Department of Census and Statistics (2017) report and unemployment rate lies around 10% in graduates. Undoubtedly entrepreneurship development will be the best way to address the growing problem of unemployment among university graduates. This study aims to identify barriers faced by Civil engineering graduates to become entrepreneurs. Some foreign governments encourage entrepreneurship among graduates, but that kind of attitude is rare to find from government agencies in Sri Lanka. A few exceptionally perceive business analysts in Sri Lanka continually call attention to Sri Lanka ought to support home developed business people. Enterprise Sri Lanka is such a program started by Sri Lankan Government to advance business people in the local setting. However, legislature of Sri Lanka is as yet inadequate with regards to the theoretical background to create home developed business visionaries.

Karim and Sufian (2016) explain that engineer's analysis, quantitative and logical thinking as well as structure and methods of thinking have a very strong preference in the business world. Therefore, engineering students have great potential to become successful entrepreneurs.

Our culture celebrates last month's guarantee of paying jobs. Business start-ups are always risk-related. Some scholars believe that some cultures embedded in entrepreneurial activity. Some people believe that the colonial and post-colonial mentality of cultural bias results in safer career preference. Thus young to be entrepreneurs in these countries are discouraged to explore their own endeavors. With the country's rapid development, it requires a new batch of young entrepreneurs. Our education system does not provide in-depth entrepreneurial education to students through the curriculum. In most local universities, we still lack business topics.

According to the Department of Census and Statistics (2017) report, the economically active population in Sri Lanka is about 8.6 million and 63% are male. The Unemployment rate in Sri Lanka is about 5.2% according to them. "Employment Youth and Development" which is a report published by UNDP emphasizes to promote entrepreneurship development, as the Government to strengthen entrepreneurship is of fundamental importance to generate interest in economic overflow to the advantages of creating a positive impact on four macroeconomic variables: growth, employment, development and innovation. It further highlights the importance of introducing the entrepreneurship principle to education, access to low-cost finance and networking among different business actors (UNDP, 2014). Therefore, one of the 21st-century University's missions is through entrepreneurship training and entrepreneurship development to engage their surrounding social development and economics.

The results of this study can be useful to policy-makers, not only to understand the relationship between entrepreneurship and civil engineering graduates but also to understand the importance between entrepreneurship vs general public. Further, the findings of this research can be used to generate new policies for the development of entrepreneurial goals of future entrepreneurs.

The rest of this paper consists of five parts: a literature review describing the conceptual framework, and to reflect previous studies in support of the model and assumptions; in succession, we describe the purpose and assumptions; samples and measures partially explain the methods used; later, propose and discuss results; section 5 explains the conclusions and implications, and to discuss future restrictions and a final analysis.

## **1.2 Problem Statement**

Among Sri Lankan graduates few are expecting to be entrepreneurs. The young graduates are job seekers rather than job providers. According to the Department of Census and Statistics report (2017) unemployment rate among graduates were much higher than other less educated work force. There were 34,316 unemployed graduates in the country in 2017 and it was 10% of the total unemployed workforce. Entrepreneurship development is a good strategy to address this unemployment issue among graduates.

The importance of new start-ups plays a significant role in economic development. This study focuses on finding the reasons barring young engineering graduates to become Entrepreneurs. Entrepreneurship is an individual's desire to play out pioneering conduct. Entrepreneurial intentions can be influenced by several factors such as Culture and Social environment. To promote entrepreneurship in Sri Lanka it is essential to find those influencing factors in Sri Lankan context.

## **1.3 Problem Justification**

Today, Sri Lanka is in the process of developing as a country. Development needs generation of jobs, opening up new industries, invention of new technologies, etc. while protecting the environment to achieve economic development under a sustainable basis. Entrepreneurship has been identified as the main weapon which can be put in front of these timely needs. Entrepreneurship development has been successfully practiced as a strategy in countries like Singapore, Malaysia, China and Japan. Our graduates tend to look for salaried jobs rather than entering into their own business. Further, there is less enthusiasm for entrepreneurship as an alternative vocation among our young graduates. There are many reasons that they prefer salaried jobs. Those reasons need to be understood to promote entrepreneurship intention among them.

Therefore, it is a timely need to promote entrepreneurial culture among university graduates in Sri Lanka. Very few studies have been conducted in the Sri Lankan context on entrepreneurship-related areas. A research carried out to find a relationship between entrepreneurial motivation and entrepreneurial intentions of management undergraduates of the University of Jaffna by Nimalathan & Achchuthan (2013) is such a rare finding.

Further another research carried out by the same researchers discusses the entrepreneurial motivation and self-employment intention among management undergraduates of the University of Jaffna (Nimalathan & Achchuthan, 2012). However it very rare to find studies that are based on entrepreneurship related to the engineering sector. Hence, there are a lack of literature and empirical studies in the Sri Lankan context. This study attempts to address that gap.

#### **1.4 Research Questions**

This research will provide an in-depth analysis of problems face by Civil Engineering Graduates in cultural, financial and educational aspects to become entrepreneurs. The objectives of this research can be categorized as follows.

- Identify whether the entrepreneurial educational received by civil engineering graduates in their study period is relevant and substantial.
- Identify the priority of motivational factors to start a new venture.
- Identify reasons which influence Civil Engineering graduates to prefer salaried jobs rather than entrepreneurship
- Identify the influencing barriers which discourage entrepreneurship among civil engineering graduates.

#### **1.5 Objectives**

- What are the main factors to prefer salaried jobs than entrepreneurship?
- What are the fear factors that hindering entrepreneurial intentions of Civil Engineering graduates
- What are the motivational factors for Civil Engineering Graduates to become an entrepreneur and how much they influence them.
- Whether the current entrepreneurial education is enough to develop the entrepreneurial skills of the students.

## **1.6 Limitations of the Study**

Every research has certain limitations. In this research, following limitations were identified

- This research carried out only among Civil Engineering graduates to narrow down the sampling area.
- The survey data was solely collected through web based system. So the respondents are mainly users of technology and there can be an omission from non tech-savvy engineers in this research.
- Respondents may understand the questions differently because they are not familiar with the topic of entrepreneurship. They might mistake the questions to give a proper answer.
- Due to the time restraint, the respondents were limited to 50 numbers. The questionnaire was emailed to more than 250 civil engineers and only 51 were responded. The small sample size can negatively affect the accuracy of the outcome.

## **1.7 Methodology**

This part incorporates data and information collected for the research "Barriers face by Sri Lankan Civil Engineering graduates to become Entrepreneurs". In this study, a questionnaire was used to collect data from the target group of respondents. Questions were developed to access and identify the wide range of area that hinders the intentions to be an entrepreneur. Those areas include Risk, Culture, Social Environment Etc. Also, questions were added to collect general information of the respondents. The designed questionnaire let the respondents to provide their opinion based on their experiences and views.

### **1.7.1 Sample Design and Procedure**

Participants are randomly selected civil engineers who had an email address to contact them. A pilot survey was carried out in the developing stage of the questionnaire. This pilot survey was carried out with 5 civil engineering graduates in different sectors and

different age groups. According to the pilot survey questions were changed and added. The study was directed to gather data from Civil Engineering graduates

### **1.7.2 Data Collection Methods.**

Because of easy access and limited time requirement, Google forms were used to collect data for the survey. A Google form is a web-based survey engine that provides free services for individuals. The intended sample size for the research is 100 respondents. Two week waiting period was allocated for the participants to give feedback. Two reminders were sent to the participants to responded to the questionnaire after find out the respondent number is too low. 51 responded for the survey and those data were taken into an excel sheet for further investigation

### **1.7.3 Method of Data Analysis**

The investigation utilizes a couple of complete advances and techniques to channel the information in an efficient way. The essential information is exhibited in the initial step and after that contrasted with the meeting subtleties to build up a first stage result or an essential examination result. The subsequent examination step utilizes writing, meetings, and key information portrayals to decide connections and build up the idea of connections through the investigation.

## **1.8 Arrangement of the Report**

### **Chapter 1: Introduction**

This chapter provides the foundation of the research, venture goals, and way to deal with the investigation. In other words, this chapter illustrates the background to entrepreneurship in Sri Lankan and world context. Further, it outlines the research problems, research questions, research objectives and limitations to the study.

### **Chapter 2: Literature Survey**

This chapter summarizes and explains the relevant literature in the field of entrepreneurship. Mainly journal articles from prominent scholars and academics were taken to develop this chapter. In addition, several reports and books were examined to

write this chapter. The literature was taken from most recent and relevant findings. Variables were identified by the researcher through own survey.

### Chapter 3: Research Methodology

This chapter Illustrate technique and information gathering in detail used by the researcher.

### Chapter 4: Data presentation and Analysis

Analysis of the findings and dialog of information gathered present in this chapter

### Chapter 5: Conclusion and Recommendations

The researcher concludes the discoveries of the exploration dependent on task destinations and gives recommendations in this chapter.



## CHAPTER 02 – LITERATURE REVIEW

### 2.1 Who is an Entrepreneur?

Entrepreneur went into monetary writing during the eighteenth century and it has been a hot topic among the policymakers and affected popular government a great deal from that point forward. The literal definition of an entrepreneur was first detailed by economist Richard Catillion in the eighteenth century as cited by Ray (1994). Entrepreneur is a French term which has the meaning of “to undertake” or “go between” referring to the position an individual assumed when pursuing an opportunity (Nimalathasan & Achchuthan, 2012).

Different creators have given various definitions for the word Entrepreneurship. Tiftik and Zinciakiran (2014) condense a few definitions around the globe to depict entrepreneurship in one of their article."The purpose of entrepreneurship is to make an investment in order to produce or serve" they state. In another definition, they depict entrepreneurship exist to produce or provide the products and services likely to be in demand. The business visionary goes out with a high risk with labour and capital for a business that he sees as financially profitable and steps into the market. In another definition, they say the reason for enterprise is to discover and bring the generation components of work, capital and nature together in a manner to fulfill the prerequisites of individuals, produce items and administrations.

Entrepreneur term is relatively new to Sri Lankans and they do not distinguish the differences between entrepreneur and businessman. A business enterprise is a voyage not a goal Kwapisz (2019) depicts. She further includes "On the adventure there is generally a series of triumphs and disappointments". Another arrangement of definitions for business visionaries were gathered and composed by Louw,Eden and Bosh (2003) in their examinations. In one definition they state entrepreneurs as an individual who moves monetary assets out of a territory of lower efficiency into a zone of higher profitability. In another definition, they portray entrepreneur as a focal individual in the market-driven economy and the organizer, winner and designer. Most of the time entrepreneurs turn their

own bad experience in to create new business ventures. However, an own bad experience about a business can prevent a young inexperienced individual to become an entrepreneur.

## **2.2 Entrepreneurship in the Current World Context**

In current world context, entrepreneurship is a hotly debated topic among the policy maker's particularly in developing nations and now both developed and developing nations have distinguished the significance of this idea. The most elevated Total Entrepreneurial Activity (TEA) rates can be found in Angola (41%) which is a low pay nation as indicated by the Global Entrepreneurship Monitor 2018/2019 report. It further shows Guatemala (28%) as the most astounding Total Entrepreneurial Activity rate nation among center salary nations while Chile (25%) as the most elevated Total Entrepreneurial Activity rate nation among high pay nations (Bosma & Kelley, 2019). Due to few political changes, enthusiasm for the enterprise has expanded since 1990. The collapse of the Communist coalition in Europe and Soviet Russia is one of the major political change that has energized the business intrigue. Chinese methodology for market economy helped part to make a large number of new business visionaries in terrain China. We can distinguish World financial rescission and High joblessness rates in the nineties as efficient variables that made more business people on the planet.

Koi, Sa'ari and Majid (2012) portray entrepreneurs as "motors of monetary development". In current circumstances all the visionaries around the globe consider entrepreneurs are job creators. They contribute essentially to the economy and society through their new pursuits. The business enterprise has been advanced as an appealing bearer elective among understudies in numerous nations. As per Koi, Sa'ari and Majid (2012) entrepreneurship development is a moderately youthful field of study and recommends that further research ought to be done for this area. According to Kwapisz (2019), numerous nations execute various arrangement activities to help private companies and animate the formation of new business adventures. Further, it can be identified government policies and schemes are one of the most powerful motivational factors for potential entrepreneurs. So there is a special responsibility lies with the policymakers to bring legislation that positively support the to be entrepreneurs.

In the current world context, small business start-ups are the main engine of job creation and poverty reduction in developing countries. Now, most of the countries consider entrepreneurship development as an important strategy to enhance the economy. Small businesses can be considered as organizations with fewer than 9 laborers. In Germany, during 2013 19.25 % of the employees worked in a small private ventures while 37% worked in enormous organizations with over 250 laborers (Barkhatov, Pletnev, & Campa, 2016).

### **2.3 Entrepreneurial Intentions, Motivation.**

Entering into business is not a straight and smooth way and it doesn't have an ideal arrangement to do nature. Numerous entrepreneurs bound to fail inside 3 years of their first endeavor. Entrepreneurs have a strong aim more often succeeds. Analyst researchers are broadly examining the variables that impact the business person's goals in general settings. These components incorporate different inner factors, for example, character and outside variables, for example, culture. Yildirim,Cakir and Akun (2016) state " Entrepreneurship research has since quite a while ago inspected the immense effect of individual history and social setting on the affinity to take part in an enterprise by going into business".

Nimalathan & Achchuthan (2013) found out that entrepreneurial intentions of the Sri Lankan management undergraduates was at the lowest level in one of their research. We can assume the same scenario for all the sectors in Sri Lanka. According to the Nimalathan & Achchuthan (2013) entrepreneurial intentions of Sri Lankans depend on several factors and these factors can name as financial difficulties, lack of infrastructure, lack of technology, lack of support from the government.

Generally, motivation addresses three questions. 1) What activates person 2) what makes him one thing over other 3) why do different people respond differently for the stimulants. Two motivation theories can be identified in writings and they can be named as Drive Theory and Incentive theory. Drive theory states when there is an internal stimulants such as hunger or fear that internal stimulant guide an individual or a group to the direction of less tension. As an example, if there is a war people try to avoid it by migrating to a peace

zone and here fear is acting as the internal stimulant. Incentive theory suggests motivation comes as a goal which guides a person toward it. In drive theory push factor is the main dominant component while in incentive theory push factor acts as the dominant component. Fear for unemployment, Dissatisfaction with a job can be identified as push factors to start new ventures while a desire to earn money, previous positive experiences, to gain social prestige, implement a business idea, etc. can be identified as pull factors start a new venture.

The motivation of a person is not static and motives change throughout their life. Barkhatov , Pletnev and Campa (2016) state once in a while negative elements like social minimization can go about as triggers to begin new endeavors. In nations where great job openings are accessible entrepreneurship is less appealing for their citizens. When the fear of unemployment is less there will be fewer entrepreneurs. The majority of Entrepreneurs begin their business either in 25-34 or 35-44 age as per Bosma and Kelley (2019). We can assume dissatisfaction with job or occupation motivates people to start new endeavors. However, data to prove this assumption is not readily available.

In the writings, different researchers have referenced the relevant components which influence entrepreneurship. Camelo, Diane, & Ruiz, (2016) identify various entrepreneurial intentions of an Individual such as financial components, political elements, social elements, managerial complexities, access to assets/labour and physical institutional framework in their research. Start an enterprise required a certain capital and most of the time entrepreneurial intentions were hindered by economic problems face by to-be entrepreneurs. Further, availability of labour is another important factor that is affecting the entrepreneurial intentions in a country like Sri Lanka. As indicated by Yurtkura, KabadayKascu, & Dogany, (2014) intentions are influenced by individual contrasts and can be happened because of a person's mentality, inclinations (biasness), aptitudes and capacities and psychological contrasts. Then again, expectations are additionally influenced by situational elements like related knowledge in an enterprise, accessibility of good examples, desire to earn money and the disposition towards business in the general public an individual lives and so forth (Louw, Eeden, & Bosch, 2003). Tiftik & Zinciakiran, (2014) recorded that foundation variables like individual, social and data

components effect on goal. Further, they recognized that individual elements which influence expectation are, character, temperament, feeling, insight, values, generalizations, general frames of mind and experience while such social elements are training, age, sexual orientation, religion, race, ethnicity and culture. The expectation is characterized as a particular perspective that coordinates consideration towards an objective. People with the aim to begin a business have an affinity to begin, yet what's more, embrace a balanced conduct to arrive at their objective.

## **2.4 Entrepreneurs Vs Culture and Social Background**

Culture and social background assume a noteworthy job in the field of Entrepreneurship. A few societies acknowledge and offer motivations to business visionaries while a few societies de propels the new startups. A culture which acknowledges new business thoughts makes a way for future business people. Macgrath, Macmillian, Yang, & Tsai (1992) depict that a national culture is a genuinely steady arrangement of significant worth ornamentation created in light of the way that there are set number of normal social issues with a restricted no of known reactions. Hofstedes ( 2011) definition for culture can state as "Culture is aggregate programming of the mind that recognizes the individuals from one gathering or classification of individuals from others".

Different investigations show culture is one of the most significant inspiration factors in business enterprise. Brancu, Munteanu and Gligor (2012) clarify culture can persuade people, make esteems and convictions to create enterprising possibilities. The expanding worldwide association of the cutting edge world prompts inquiries concerning the profundity and diligence of social contrasts Macgrath, Macmillian, Yang, & Tsai (1992) state in their Journal article. There are proceedings with talks whether a few societies produce more ingenuity and business visionaries than others in the field of business. Culture is identified with the manners by which social orders compose and social practices. Due to the high affectability to its surroundings in ventures entrepreneurs are influenced by the social setting of his nation Brancu, Munteanu, & Gligor (2012) state in one of their article. The Hofstade model of six components of national culture incorporates Power Distance, Uncertainty Avoidance, Individualism/community, Masculinity/Femininity, Long/Short direction and Indulgence/Restraints. (Hofstede, 2011).

According to the researchers, social background assumes a huge component in effective business visionaries' life. For instance, effective business visionaries in the USA guided and motivated by their folks to set up a business. In their exploration, Laguia & Moriani (2019) have discovered family backing is straightforwardly influencing the innovativeness of enterprising expectations and it is a significant factor for inventiveness. They further include family backing that could compare to being in an innovative family. Some cultures glorify salaried jobs and demonize the entrepreneurship. According to a research carried out by Nimalathasan & Achchuthan( 2013) lack of parental support is a significant component that hindering entrepreneurial intentions of management undergraduates in Jaffna district. As a culture with a colonial mentality, Sri Lankan family setting suppresses the entrepreneurial intentions of the young graduates by influencing them to seek salaried jobs.

A business enterprise is considered diversely as per the topographical area of the nations. In most European and North American individuals accept business enterprise have high status than a decent professional choice while Latin American and Caribbean individuals hold the contrary view (Bosma & Kelley, 2019). However, we can assume salaried jobs hold a high social status than entrepreneurs in Sri Lankan context.

## **2.5 Entrepreneurship Vs Gender**

According to the Department of Census and Statistics (2017), there were around 8 million female workforce in Sri Lanka and female workforce is nearly one million over than male workforce. However, only 25.45% is economically active and we can assume that much of the female workforce engaged in household duties. In addition, unemployment among the female workforce is much higher than the male workforce. It stands at 6% while the male unemployment rate stands at 2.4%. These economically inactive 5.4 million female labour force is a huge burden to the economy and entrepreneurship development is a good strategy to utilize this economically inactive workforce.

Camelo, Dianez, & Ruiz (2016) state women have increased critical advancement in business enterprise and adventure creation during the last three decades. Researches about gender in Entrepreneurship are likewise picking up its phase in the scholarly world. The

Global Entrepreneurship Monitor (GEM) venture measurements demonstrate business claim by men takes a huge segment of the market than business possesses by females. It likewise shows businesses possess by ladies are fundamentally lower than the number of businesses claim by men and that twice the same number of men become business people as do ladies ([www.gemconsortium.org](http://www.gemconsortium.org)).

Among the 48 nations overviewed by The Global Entrepreneurship Monitor Report in 2018, just six nations are having generally equivalent Total Entrepreneurial Activity (TEA) rates among ladies and men. Two nations are from Asia (Indonesia and Thailand), one is in Latin America (Panama) and the other three are from the Middle East and Africa (Qatar, Madagascar and Angola) (Bosma & Kelley, 2019). It is said just 7 ladies entrepreneurs for each 10 men entrepreneurs.

Brindley (2005) states under 10% of every single scholastic examination are concentrating on ladies or that incorporates ladies. There is an expanding pattern in the quantity of females who begin businesses in western nations, yet the extent of female contrasted with male business people is generally low as indicated by Ljunggren & Kolvereid(1996).In past investigates it was discovered that ladies business visionaries will in general begin a business with less productivity and development. This can be connected to the hazard unwilling nature of ladies. Ljunggren & Kolvereid (1996) state there are confirmations female business people begin organizations which are little as far as income and work.

Various research writings demonstrate men will in general make more hazardous decisions than ladies (Brindley, 2005). According to the Ljunggren & Kolvereid (1996), ladies entrepreneurs will in general begin firms inside the administration business and retail exchanges while men begin their organizations on development, assembling and high innovation enterprises. Different examinations show both females and males have comparative attributes required to be a powerful business visionary. Characteristic investigation studies outline more comparability than contrasts in two sex gatherings. Anyway, Saxton & Bowman (1990) contend female entrepreneurs have been exposed to sex-related segregation in each general public (Saxton & Bowman, 1990).In their exploration, they discovered female business people are high on characteristics identified

with Autonomy and Change while low on qualities identified with Energy level and Risk Taking.

Louw, Eeden, & Bosch (2003) discovered in their exploration that specialized information was factually more unrivaled among men than females in South Africa while a human relationship is more created in females than men.

## **2.6 Entrepreneurial Risk**

Hazard is acquired in all undertakings. Beginning a business includes chance and required a hazard taking capacity. As indicated by Brindley (2005) entrepreneurial danger can be characterized as the likelihood of bringing a misfortune. Hazard can be separated into three components. Those are Risk Propensity, Risk Perception and Preparedness to take risks. Hazard discernment is characterized as the capacity of a person to recognize the measure of hazard and hazard affinity is characterized as the measure of hazard an individual arranged to take. Numerous researchers recognize entrepreneurs as daring individuals. There is a solid unbreakable bond among hazards and entrepreneurship. On all occasions business visionaries take a lot of risks and this is the principle separation among business managers and entrepreneurs. MacClelland (1986) proposes that business visionaries are moderate risk-taking individuals. Females are chance loath than men and men appear to be less worried about dangers than ladies Brindley (2005) States. There are two variables impacting hazard recognition and hazard inclination. One is Social and the other is Prudent. Gurol & Nuray (2006) contend that a fundamental factor in separating business visionaries from workers was the vulnerability and hazard taken by business visionaries. Moreover, Ray (1994) states risk was seen by market analysts as one of the components that recognize business visionaries from others in the public eye. He further includes openings and hazard are co-related and openings can't completely comprehend without cautiously thought of hazard (Ray, 1994). Difficulty in coping with risk is a highly influencing factor why Civil engineering graduates prefer salaried jobs rather than become an entrepreneur. End month guaranteed salaried jobs provide ease and comfort employees and it carries no risk at all. Preference for salaried jobs can be negatively affecting the entrepreneurial development of a country.



## 2.7 Entrepreneurial Education

A large portion of the nations around the globe have comprehended the significance of pioneering entrepreneurial education. A good educational program can enhance the creativity and critical thinking hobbies of the students and prepare them for entrepreneurship.

"Employment Youth and Development" which is a report published by UNDP emphasizes to promote entrepreneurship development, as the Government to strengthen entrepreneurship is of fundamental importance to generate interest in economic overflow to the advantages of creating a positive impact on four macroeconomic variables: growth, employment, development and innovation. It further highlights the importance in introducing the entrepreneurship principle to education, access to low cost finance and networking among different business actors (UNDP, 2014). Therefore, one of the 21st century University's missions is through entrepreneurship training and entrepreneurship development to engage their surrounding social development and economic. However, some scholars provide conflicting views about whether entrepreneurship can be taught. Some researchers emphasize the importance of motivation to run a business, and therefore questioned the motivation to make the instruction can be achieved, at the same time, others believe this entrepreneurial motivation in by specific to develop entrepreneurship. European Union has prioritized the integration of entrepreneurship education to primary, secondary and higher education. According to the European Commission report on entrepreneurship on Higher Education they recommend to create a task force or steering group (including the Ministry of Education and other departments: Economy; Employment; Science and Research) to determine how entrepreneurship education can be integrated into the primary, secondary and higher education (European Commission, 2008). Therefore, Asian authorities must give priority to entrepreneurship education at primary, secondary and higher education. In this regard, many researchers stressed the importance of the inclusive process in the 21st century University to become an important engine of economic development and technological development. Lately, number of business enterprise education in colleges has expanded significantly. We can see this pattern in local colleges as well. Anyway, the viability of the entrepreneurship education remains an

inquiry in light of the fact that the entrepreneurship movement in Europe has tumbled to the most minimal when contrasted with North America despite of the fact when the education projects expanded.

Different scholars investigated the effect of education on enterprising aims. Yildirim, et al., (2016) feature the pertinence of experience and education as far as the expanded learning it gives. Some contend that when an individual is increasingly taught he is less inclined to be a business visionary. This thought is in accordance with the earlier century approach that individuals with advanced education would not lean toward going into a enterprise as they ordinarily have a superior offer or better odds of achievement of individual objectives as representatives.

In a country like Sri Lanka, innovative improvement through business training is a key component for monetary development. Business visionaries are solidarity to a nation and they will never be a weight to the economy. Sri Lanka is generally viewed as a nation that doesn't have a compelling enterprise attitude. This can be identified with the colonial mentality Sri Lankans have toward businesses. Now local universities are leading courses related to entrepreneurship. We can identify three levels of education programs in Sri Lankan universities. The first one is the graduate level, the second level is the postgraduate and the final level is the doctoral level. According to Nimalathanan (2014), only two universities offer a doctorate level program in Sri Lanka. Those are Postgraduate Institute of Management (PMI) under the University of Sri Jayawardhenapura and the University of Colombo. As indicated by Nimalathanan (2014), the Sri Lankan government does not have a legitimate strategy to recognize the potential future business visionaries. He further includes that there are no solid or satisfactory innovative preparing programs in Sri Lanka. A fruitful pioneering instruction must create imaginative and inventive understudies and will direct them to be future business people. Nimalathanan (2014) States it is essential to persuade the learners through pioneering education while equipped them with every one of the aptitudes important to maintain a business. Karim & Sufian( 2016) clarify that undergraduates who have fallowed business topics can possibly progress toward becoming business visionaries than others.

An innovative mindset should be adaptable. It's anything but a subject that can be thought of in a study hall. Enterprising education needs to comprise with Seminars and talks, mechanical preparing and in particular business recreation exercises. As per Karim & Sufian (2016), a decent business training project should be coordinated with Knowledge, Skills and Experience. Nimalathan (2014), clarifies in Sri Lanka business training projects offered by neighborhood foundations, for example, NIBM, SLIDA are concentrating their subjects more on business managers than entrepreneurs. He has recognized a few issues identified with innovative training that hinder the development of home developed business people. Those issues can be depicted as Absence of enterprising education in different expert and business courses, Lack of appropriate educational plan, Absence of a different innovative improvement foundation, Difficulty in discovering great coaches for business training lastly absence of legitimate connection among neighborhood and abroad establishments which direct pioneering advancement programs (Nimalathan, 2014).

Karim & Sufian (2016) have done exploration of Entrepreneurship education in engineering curriculums in Malaysia. In that examination, they express the need of a decent educational plan to create an enterprising attitudes in students. They state first students need to comprehend entrepreneurship as an elective vocation way. At that point onwards students can take courses, talks and workshops to pick up information. In the third step students need to begin their very own endeavor as a business recreation. Lastly, graduate business visionaries go into business in their own startup (Karim & Sufian, 2016).

In his examination, Nimalathan (2014) shows a few plans should be executed in the Sri Lankan Education framework to inspire the rustic network. He states planning should be done in the provincial zone where joblessness and neediness are high. He further portrays planning must concentrate on little ventures such a Food preparation, Handloom and Dairy.

## **2.8 Entrepreneurial Characteristics & Behavior**

Entrepreneurial behaviors are a thoroughly researched area in this field. There are many looks to discover the character qualities and attributes of the entrepreneurs the world over.

Pioneering conduct can be impacted by three components. Those are Individual, Social and Environment factors. The individual variables are regularly taken as attributes. The social variables can be additionally subdivided into individual background, family background, and phase of vocation, early beneficial experience and development condition. Early beneficial experience in similar kind of business and entrepreneurial family back ground can be identified as a motivational factor to start a new enterprise. Environmental elements can be additionally partitioned into Wealth, Tax decrease, mechanical advantages, timing of changes in the profession advance, the effect of economic situation, social change, steady social and monetary culture according to Gurol & Nuray (2006). Some people are afraid to start a business because of the bad experience of others in business. This negative mentality is preventing young graduates to become entrepreneurs. However when there is a positive experience or association with the same or similar line to start a business it positively impact the potential entrepreneurs.

The Attribute model uses to investigate the qualities of business people. It assumes a critical job in research in this field. In the attribute model, it accepts that business people have special qualities, frames of mind and qualities than non-business visionaries. Different researchers are accepting certain qualities of character as attributes of business people. As an example study by Entrilago, Fernandez, & Vazquez (2000) took locus of control, Need for accomplishment as key determinants while Stewart, Watson, Carland, & Carland (1999) considered risk-taking propensity and preference for innovation as the key determinants that recognize the entrepreneurs from supervisors. Gurol & Nuray (2006) explain six key qualities in his examination as character attributes. Those are Need for achievement, Locus of control, Risk taking penchant, Tolerance for vagueness, creativity and fearlessness.

Berton & Lischeron (1991) portray six schools of business enterprise in his exploration and clarifies the individual attributes as indicated by each school of enterprise. Two of the schools he characterized in his exploration evaluate "Individual Qualities" as the primary factor while three take "Perceive openings " and one takes "Reassessing and adjusting" as the fundamental factor when characterizing the entrepreneurship attributes. The two school which surveying "Individual Qualities" to characterize entrepreneur attributes are The

Extraordinary Person School of business and The Psychological School of school. The three schools which use "Perceive the chances" to characterize business enterprise can be shown as The Classical school, The Management School, The Leadership School, The Intrapreneurship School use "Reassessing and adjusting " as the fundamental factor.

In "Extraordinary Person" School defines business visionaries are brought into the world with a unique acquired quality. They have instinct and their own characteristics are portrayed as lively, Persistent and confident characters. In The Psychological school of business, it accepts that business visionaries have one of a kind qualities and demeanors toward work and life. They distinguish three individual attributes, the initial one is the individual qualities, for example, genuineness, obligation and moral conduct. The second one is hazard taking affinity and the last one is requirement for accomplishment. The Classical school accepts advancement innovative and disclosure is the principle individual attributes that should behave by business people. The Management school accepts business enterprise can be created or prepared and as indicated by them generation arranging, individuals sorting out, capitalization and planning are the most significant abilities that requirement for a business person. The Leadership school portrays business visionaries as pioneers of the individuals as per that school inspiration; coordinating and initiative are the most significant character qualities of a business person. The Entrepreneurship school accepts associations need to adjust to endure and they recognize sharpness to circumstance and augmenting choices are the key components of business visionaries' characteristics (Berton & Lischeron, 1991).

MacClelland (1986) is a very much perceived pioneer in the field of business enterprise and innovative preparing. He has distinguished various distinct qualities of a successful business person. As indicated by him most noticeable attributes can be distinguished as Confidence, Perseverance, Energy, Resourcefulness, Creativity, Foresight, Initiative, Versatility, Intelligence, Perceptiveness (MacClelland, 1986). The ability to bear the mental pressure of a business is a significant component of entrepreneurial behavior. People who are unable to bear mental pressure seek jobs rather than start a new enterprise.

According to literature related to Entrepreneurship, character qualities go under the Trait Approach. In like manner, the Trait Approach endeavors to recognize business visionaries

from non-business visionaries. Louw, Eeden, & Bosch (2003) distinguished a rundown of attributes of business visionaries, for example, restraint, fearlessness, extensive mindfulness, passionate steadiness. Lofstrom, Bates, & Parker (2013) indicate some qualities, such as imaginativeness, self-adequacy, requirement for accomplishment, business the board aptitudes, showcasing aptitudes, locus of control and capacity to corporate as main personality traits). As per MacClelland, (1986) locus of control, requirement for accomplishment and resistance for vagueness are the determinants of the inclination for business. Innovative inclination is aligned with character attributes, for example, hazard taking, activity, natural affectability and fearlessness. Ease and comfort that employees enjoy in end month salaried factor that is barring entrepreneurial intentions. In other words, when the people look for ease and comfort they prefer salaried jobs than to become an entrepreneur. In this paper three significant personality traits will consider. Those are need for Achievement, Risk-Taking Propensity and Locus of Control.

Laguia and Moriani (2019) depict imagination as the primary normal for business people. They likewise include innovativeness is just a need, despite the fact that not adequate, essential for business enterprise. The most astounding innovative aim can be found in Latin America and the Caribbean while the least are in the east and south Asia except for Japan as indicated by Bosma & Kelley, 2019).

Tiftik and Zinciakiran (2014) portray business enterprise as a mindset. They further clarify that business visionary's advantages from the imaginativeness or advancements to go into the present market, contend, change the market question or make another market. There are bunches of inquires have done in the region of innovative propensities. As per scientists, enterprising propensities change because of numerous elements. Mainly those inclinations are relying upon variables, for example, training, family, culture, social condition, Technological condition. Yildirim, et al., (2016) recognize significant parts of the business as close to home quality and shortcomings, showing proactive conduct, being interested and inventive, get hazard, reacting emphatically and attitude to indicate commencement. Entrepreneurs need time to do both impressive arranging and a high level of subjective handling.

Inspiration assumes a key job in business. Dimitratos, Buck, Fletcher and Li (2015) state "since inspiration has a significant influence in the making of a new association, hypotheses of association creation that neglect to address this thought are inadequate. Entrepreneurs should be persuaded alongside representatives particularly in little endeavors. Market openings, Access arrange assets seek after information and learning, get to back and decrease hazard are a portion of the inspirational elements business visionaries look from global markets as indicated by Dimitratos, et al., (2015).

Three main characteristics are further explained in the following subchapters

### **2.8.1 Need for Achievement (nAch)**

There are numerous definitions for need for achievement. MacClelland, (1986) portrayed that, if an individual has a higher requirement for accomplishment, the person has the tendency to progress. As indicated by Ray (1994), need for achievement is a drive to do incredibly well. Some different researchers delineate the idea as the longing to perform something better or complete errands that are intricate and hard (Yurtkura, KabadayKascu, & Dogany, 2014). MacClelland (1986) characterized the requirement for accomplishment as a propensity to choose and proceed with exercises that have a moderate shot of being effective or a most extreme chance of individual accomplishment fulfillment without the exorbitant danger of disappointment. Further, he inferred that the requirement for accomplishment can be utilized as an indicator of business and the idea depends on the impacts of youth, grown-up preparing and encounters of the specific individual. Many scholars describe that high Need for Achievement as a key innovative trademark. As indicated by MacClelland (1986), three significant conduct qualities can be recognized in connection to high Need for Achievement.

- Desires to exceed expectations at something
- Assumes moral obligation
- Desire prompt, solid input

As per MacClelland (1986), Need for Achievement isn't organically decided. He clarifies that it tends to be learned by outside variables, for example, culture. He contended that the

purpose behind certain countries to have more business visionaries while others have less is the distinctions in socialization procedures of two societies. He attested that a few societies advance high need for Achievement. In this way, such societies process more business people because of individuals with high Need for achievement having a higher likelihood of including in innovative exercises. Achieving more exposure and more career advancement is a top motivational factor to start new enterprises. Most of the jobs in the market are repetitive type jobs and the employees easily get bored with those type of jobs and have few opportunities to explore. Therefore innovative workers are looking for chances to navigate through more career advancement and more exposure by starting a new startup.

### **2.8.2 Risk Taking Propensity (RTP)**

Hazard bearing or hazard taking conduct is a noteworthy component in the business world. Every new endeavor comes with an inherited risk and there is an undeniable bond between risk and entrepreneurship. Risk-taking propensity is characterized in different methods in business writings and in like manner a couple of such definitions have been expounded in this investigation. Entrepreneurs are not gamblers but moderate risk-takers Brindley (2005) explains. Further MacClelland (1986) describes that successful entrepreneurs are moderate risk takers. Social factors and financial factors are highly influencing factors on risk-taking propensity. Brindley( 2005) characterized the Risk-taking Propensity is an inclination of a person to acknowledge the dangers easily. MacClelland (1986) Characterized Risk-Taking Propensity as 'making an intense move by wandering into obscure, acquiring vigorously or potentially submitting huge assets to adventures in unsure conditions'. Fear of Failure needs to be overcome to be an entrepreneur. People prefer salaried jobs when they are risk-averse individuals and this mentality needs to be changed to develop entrepreneurship among young graduates.

### **2.8.3 Locus of Control (LC)**

Locus of control is another character quality that influences entrepreneurship. It is about an individual's conviction with respect to what controls their life. A person named Rotter first suggested the idea and expressed that there are two inverse angles that exist according to



Laguia & Moriani (2019). They are an inward locus of control and an outer locus of control (Laguia & Moriani, 2019). Individuals who are having the inner locus of control trust in themselves. Scholars clarified that individuals who are having an interior locus of control accept that they control the occasions and results which influence their lives and that they themselves are the deciders of their own destiny paying little mind to outer variables. Since the advancement, the idea of Locus of Control has been examined by a few scientists Analysts have discovered that business people have an inner locus of control. Hence, they accept that they can control the achievement or disappointment of their endeavor. Researchers have affirmed that the inward Locus of Control is higher among business people when contrasted with the non-business people according to the Yurtkura, KabadayKascu, & Dogany (2014). Further, they have discovered that inward Locus of Control has a critical association with entrepreneurial intention (MacClelland, 1986) while some different researchers have presumed that there is no positive connection between the two factors (Gregorio & Shane, 2003).

## **Chapter 3 – Methodology & Findings**

### **3.1 Research Design**

This research was designed to find out several factors that hinder the entrepreneurship among civil engineering graduates. In addition, this research will identify whether the education which was received in university during the undergraduate period is enough to uplift the entrepreneurial soft skills according to the research participants. Various research articles were taken into account to develop the questionnaire for this research. Some assumptions were made to develop the questionnaire. As an example, it was assumed that Civil Engineering Graduated prefer salaried jobs rather than entrepreneurship.

### **3.2 Steps in the Research Process**

The steps on this research are based on, Identify explore issue, Define the recognized issue, Establish investigate goals, Decide research structure, Identify data types and sources; Following steps were taken in the research process.

- Identify the areas need to be included in the questionnaire survey
- Develop the questionnaire survey according to the identified areas
- Carry out the pilot survey to check the efficiency and accuracy of the developed survey
- Distribution of questionnaire among civil engineering graduates
- Gather responses and analysis of the data

### **3.3 Research Approach**

The reasoning is the action of constructing theories into a valid argument. A valid argument is comprehensive on the foundation of logic or act. There are two kinds of reasoning strategies that are regularly utilized in research work. They are Inductive thinking and Deductive thinking. In this study, the Deductive thinking strategy has been utilized. Deductive thinking begins with a general hypothesis and afterward applies it to a particular case. Both deductive and inductive thinking can be utilized in both quantitative and subjective investigations.

The greater part of the investigations directed on a quantitative methodology. In quantitative methodology, it gives a wide scope of circumstances monetarily at a quick rate and the strategies associated with quantitative methodology utilize an exact estimation of factors and information is gathered under institutionalized conditions. (Jilcha, 2019)

### **3.4 Areas under Research**

**Economically active labor Force age group** - There are certain age groups according to the sociologist. The most active age groups in the labor force are Gen x and Millennial. Gen x group includes people who were born from 1965-1980. The youngest Gen X is 39 years old at the time of this study and the oldest is 54 years old. Millennials are people who were born during 1981-2000. The youngest millennial is 19 years old and the eldest millennial is 38 years old at the time of this study. Other age groups are not significant in this study.

**Gender** - Gender plays a significant role in entrepreneurship. There is a gender gap in the number of entrepreneurs according to the researches. It is said only 7 women entrepreneurs are for every 10 men entrepreneurs.

**Influence of Family and social background** - Family support is a key motivational factor for entrepreneurs. In the literature review, it was mentioned supportive family is more important than born in an Entrepreneurial family.

**Job preferences** - Educated people seek jobs rather than self employment. Most of the time salaried jobs are considered a good career path than entrepreneurship in Sri Lanka.

**Motivation**-Motivation is a keyword in entrepreneurship. Without motivation factors, graduates do not risk their jobs to be entrepreneurs. In this research, it will discuss what the motivation factors so become entrepreneurs are.

### 3.5 Research Model

This segment talks about the applied system and the operationalization of variables. There are several independent variables can be identified in this research field. Those are Knowledge, Experience, Social Factors, Financial Factors, Government Policies, Gender. Those variables were considered when developing the section II of the questionnaire. This research is consists of both Qualitative and Quantitative models. Questionnaire section I and III is mainly developed to capture the quantitative output of this research.

#### 3.5.1 Conceptual Framework

The reasonable structure determined how the exploration could be encouraged to close a belief system which will look at the truth contrasted with the philosophy created. This has uncovered the connection between three predecessors of EI. This appears in the accompanying figure 3.1

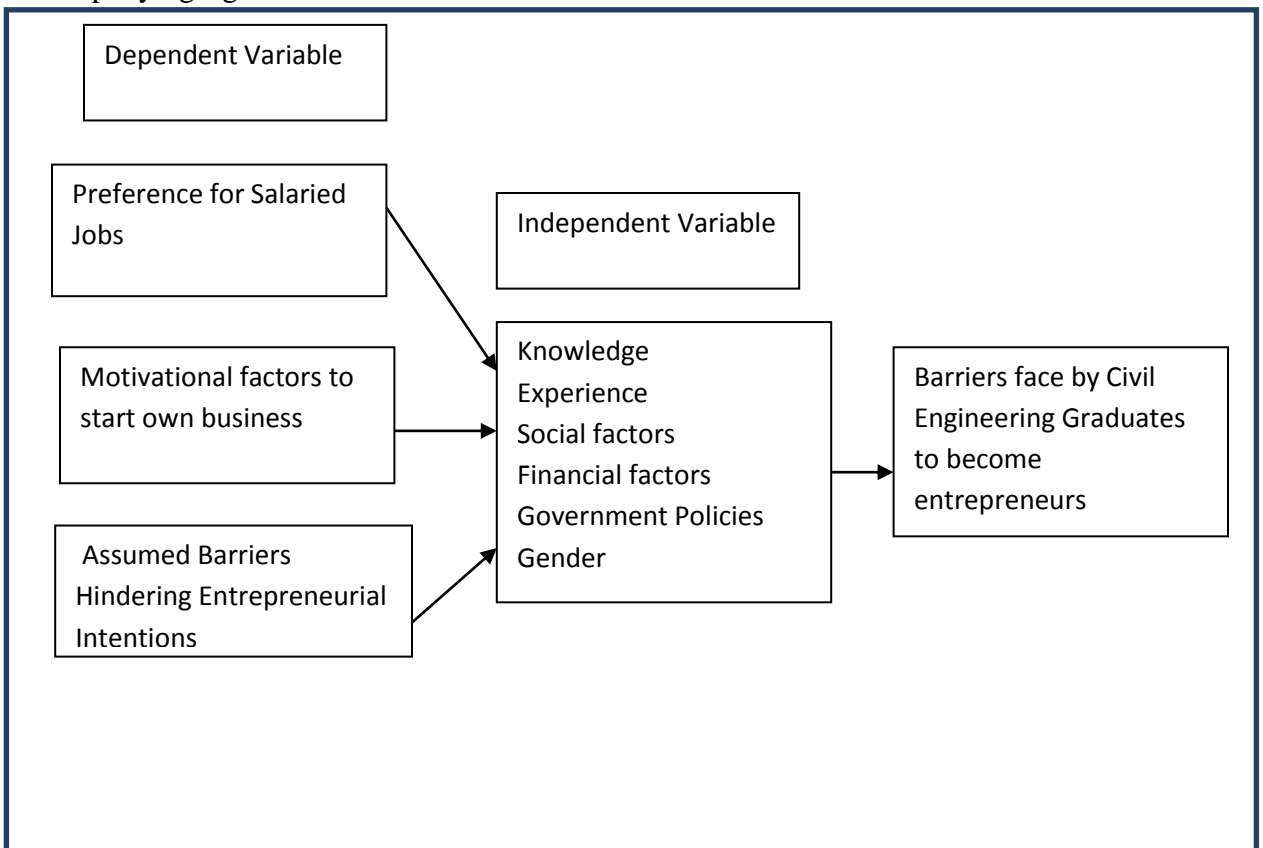


Figure 1: Conceptual Frameworks

### 3.5.2 Operationalization of Variables , Indicators & Measure

Table 1: Operationalization of Variables, Indicators & Measure for Preference for salaried jobs

<b>Variable</b>	<b>Indicator</b>	<b>Relevant Literature</b>	<b>Measure</b>
Preference for salaried jobs	Bad experience of others in a business	(Gurol & Nuray, 2006)	Number(1-10)
	Difficulty in coping with risk	(Ray, 1994)	Number(1-10)
	Ease and comfort	(Ray, 1994)	Number(1-10)
	Economic problems to start a business	(Nimalathan & Achchuthan, 2012)	Number(1-10)
	Family resistance to start a business	(Laguia & Moriani, 2019)	Number(1-10)
	Fear of Failure in business	(MacClelland, 1986)	Number(1-10)
	Inability to bear mental pressure of	(MacClelland, 1986)	Number(1-10)
	No risk taking ability	(Ray, 1994)	Number(1-10)
	Own bad experience about a	(Louw, Eeden, & Bosch, 2003)	Number(1-10)
	To earn Social status	(Bosma & Kelley, 2019)	Number(1-10)

Table 2: Operationalization of Variables, Indicators & Measure for Motivational Factors for startups

<b>Variable</b>	<b>Indicator</b>	<b>Relevant Literature</b>	<b>Measure</b>
Motivational Factors for startups	Desire to earn more money	(Louw, Eeden, & Bosch, 2003)	Number (1-12)
	Dissatisfaction with job or occupation	(Barkhatov, Pletnev, & Campa, 2016)	Number (1-12)
	Fear of Unemployment	(Barkhatov, Pletnev, & Campa, 2016)	Number (1-12)
	Government Policies and Schemes	(Kwapisz, 2019)	Number (1-12)
	Influence and encouragement by family members, friends and relatives	(Laguia & Moriani, 2019)	Number (1-12)
	More career advancement	(MacClelland, 1986)	Number (1-12)
	More exposure	(MacClelland, 1986)	Number (1-12)
	Previous experience or association with same or similar line of	(Gurol & Nuray, 2006)	Number (1-12)
	To gain social prestige	(Bosma & Kelley, 2019)	Number (1-12)
	to implement own business idea	(Nimalathan & Achchuthan, 2013)	Number (1-12)
	To put own's idle funds in entrepreneurship	(Nimalathan & Achchuthan, 2013)	Number (1-12)
	to use technical or professional knowledge and skills	(Louw, Eeden, & Bosch, 2003)	Number (1-12)

Table 3: Operationalization of Variables, Indicators & Measure for Barriers influencing to become entrepreneurs

<b>Variable</b>	<b>Indicator</b>	<b>Relevant Literature</b>	<b>Measure</b>
Barriers influencing to become entrepreneurs	Availability of Capital	(Camelo, Diane, & Ruiz, 2016)	Number (1-5)
	Availability of Labour	(Camelo, Diane, & Ruiz, 2016)	Number (1-5)
	Family back ground	(Laguia & Moriani,	Number (1-5)
	Fear of failure	(MacClelland, 1986)	Number (1-5)
	Government	(Kwapisz, 2019)	Number (1-5)
	Cultural Barriers	(Brancu, Munteanu, & Gligor, 2012)	Number (1-5)

### **3.6 Questionnaire**

A survey is the exploration instrument that does the examination in a logical and orderly way to meet the exploration questions and goals. Although that the survey intrinsically has inconveniences, the poll of this examination was developed to diminish the impacts of restrictions. Further, the survey was made dependent on the writings of this report. There are four different ways to direct the surveys to be specific, a self-finish, eye to eye interviews; phone meetings and PC regulated polls. In the wake of thinking about an assortment of elements, self-finishing survey with close finished inquiries was chosen as the examination instrument.

#### **3.6.1 Substance of the Questionnaire**

A research questionnaire was developed to assess the identified variables and controls. As the faster and cheaper instrument questionnaire was used as a primary tool for collecting data. In this research, the survey questionnaire was consisting of three main sections. The survey was developed as inquiries and understandings to make it easy to use. The second section of the survey use the Liker scale. The decision of the appropriate response masterminded in five point Liker scale 5-speaks to "emphatically concur", 4-speaks to "concur", 3-speaks to "impartial", 2-speaks to "dissent", and 1 - speaks to "unequivocally oppose this idea". At the point when the inquiries are in the negative structure, 1 speaks to "firmly concur" and 5 speaks to "unequivocally oppose this idea".

In the questionnaire survey questions were added to get an in-depth understanding of the variables plus general and educational information from the respondents together with their risk propensity and risk perception.

The survey contains three areas. The first section is questions 1-6. It gathered general data relevant to the respondent's age, experience, gender and involvement with the businesses. Question 7,8,9 and sub-questions in second section mainly related to variables identified previously. Section three which consists of questions 10-12 is intended for gathering data relevant for entrepreneurial education. (See Annexure - II)



A standard survey was utilized as the exploration instrument in gathering essential information which was utilized to break down and understanding the built-up connections. In light of the writing audit, standard inquiries that were tried in earlier investigations were utilized in building up the exploration instruments.

### **3.6.2 Analysis of Questionnaire Data**

The feedback from respondents had been analyzed using Microsoft Excel application. Relative Index analysis was selected in this research to rank the importance.

Following formula is used

$$RII = \Sigma W / (A * N)$$

where **W** is the weighting as assigned by each respondent on a scale of one to five with one implying the least and five the highest. **A** is the highest weight and **N** is the total number of the sample

## CHAPTER 04 - DATA PRESENTATION AND ANALYSIS

### 4.1 Introduction

The purpose of this research is to find the factors that are important to promote entrepreneurship among Sri Lankan Civil Engineering Graduates. Out of the 250 emailed questionnaires 51 responses were received after one month period. 50 responses were selected for data analysis

### 4.2 Data Presentation and Analysis

#### 4.2.1 Data Presentation for section I

##### Question 1

Please indicate the Generation you belong to?

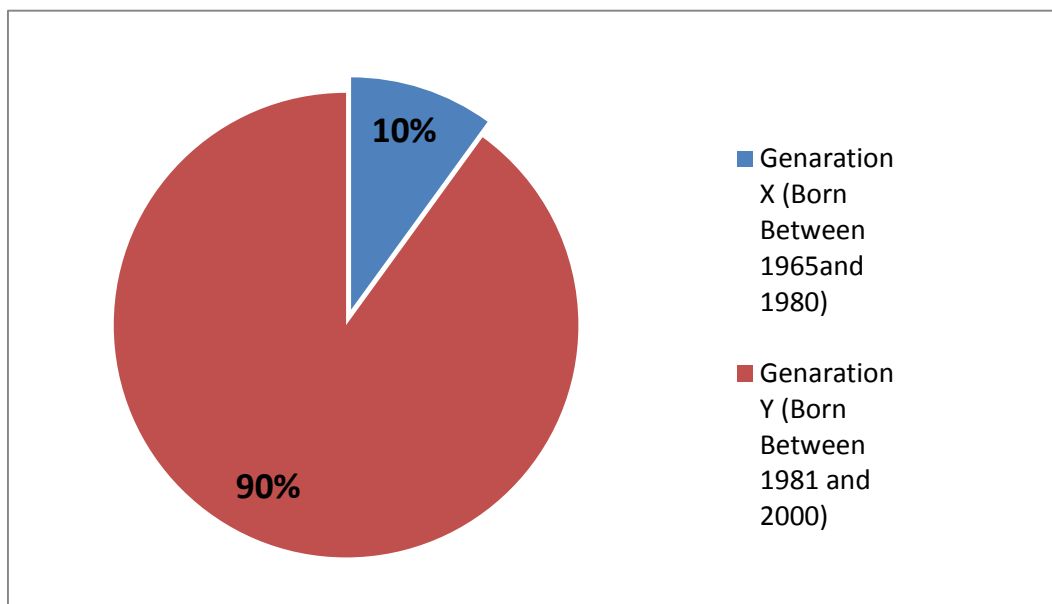


Figure 2: Belong generation of the respondents

Question 2

Please indicate your gender

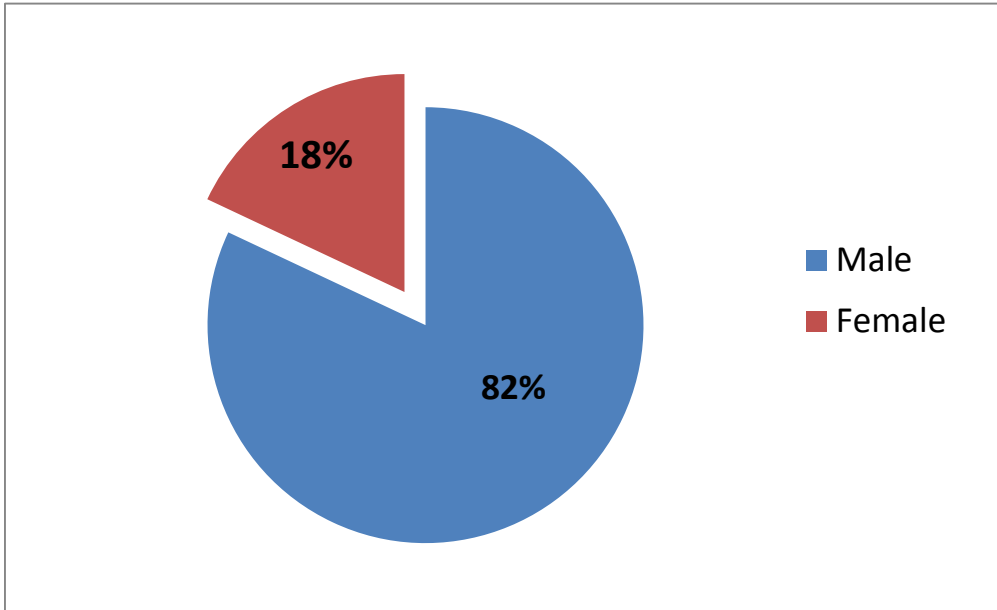


Figure 3: Gender of the respondents

Question 4

Please indicate your years of experience after graduation.

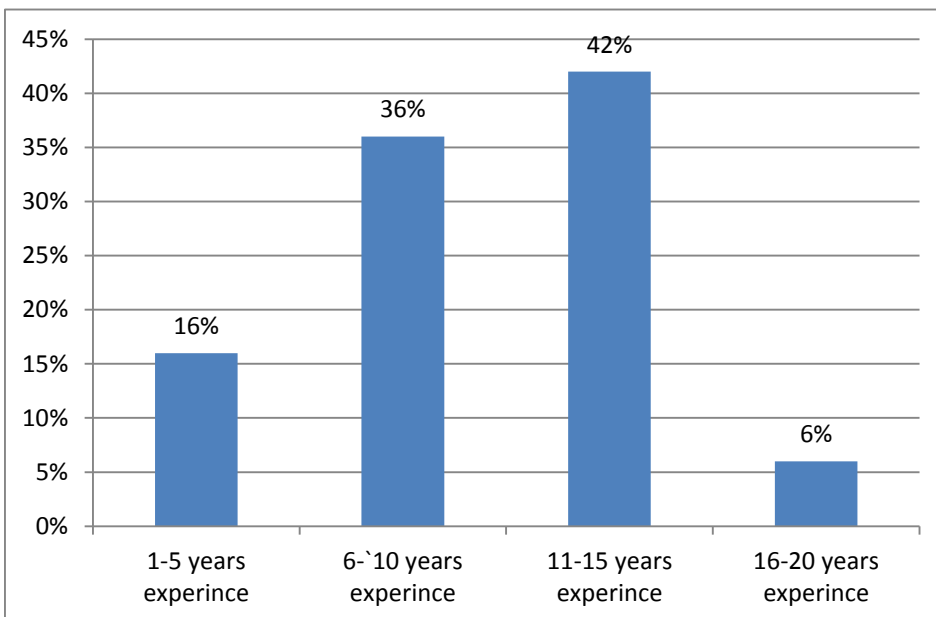


Figure 4: years of experience of the respondents

Question 5

Do you or your family member have any Business Background?

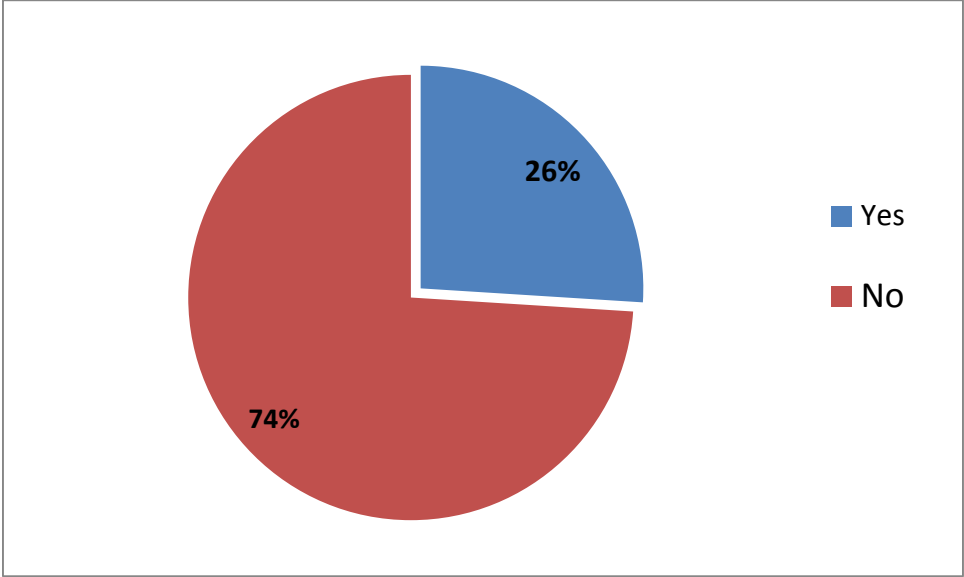


Figure 5: Business background of the respondents

Question 6

Do you involve with any part time or full time business

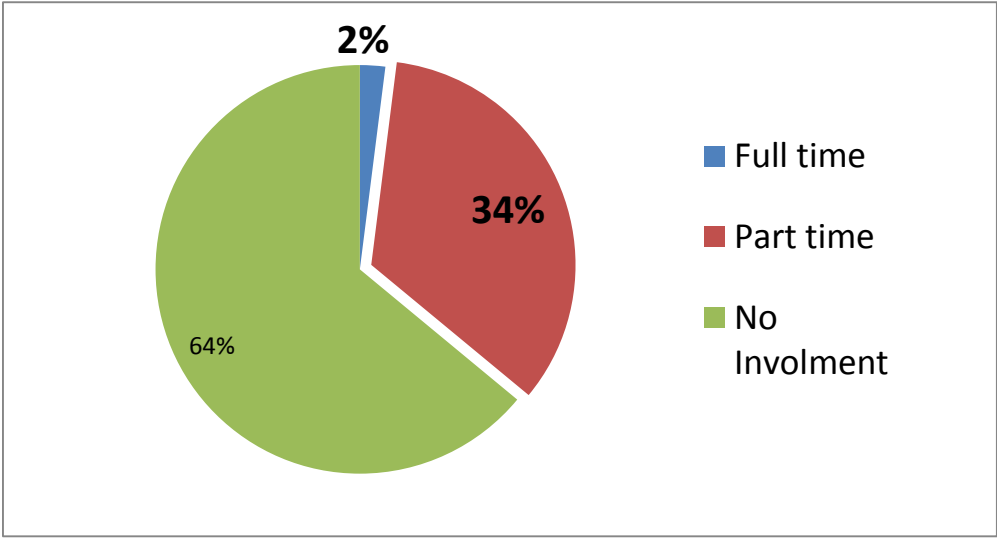


Figure 6: Involvement of part time or fulltime business

4.2.2 Section II data presentation is in Annex II

4.2.3 Section III data presentation

Question 10

Did you receive any formal education related to entrepreneurship in your undergraduate study period?

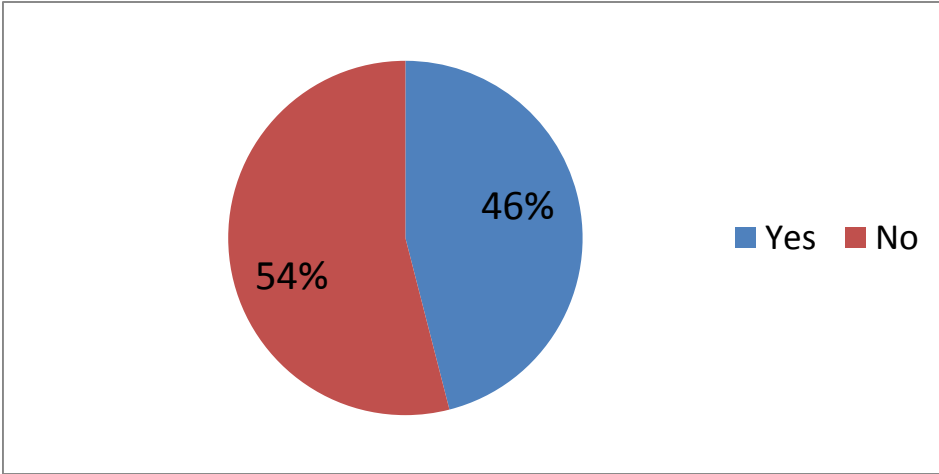


Figure 7: Formal education related to entrepreneurship in undergraduate study period

Question 11

If yes for the question no 10, Do you agree that the received education is substantial/

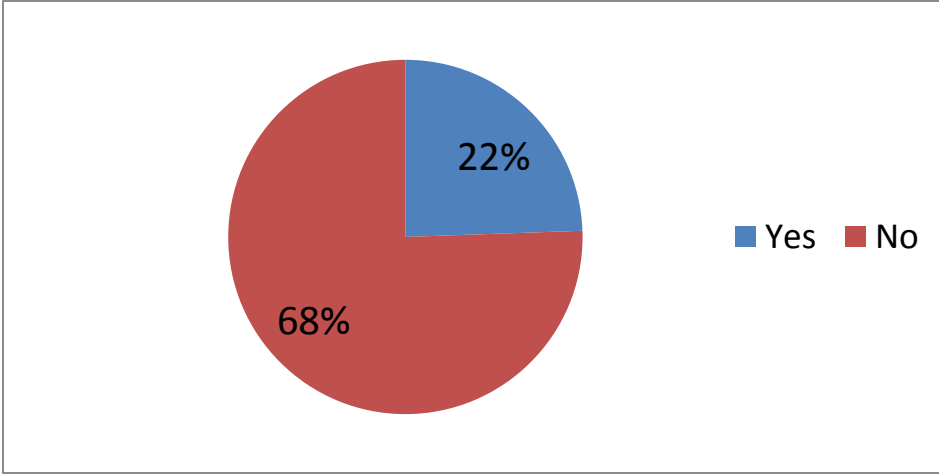


Figure 8: Received education is substantial or not

## Question 12

If yes for the question 10. Do you believe that the received education has developed your entrepreneurial skills

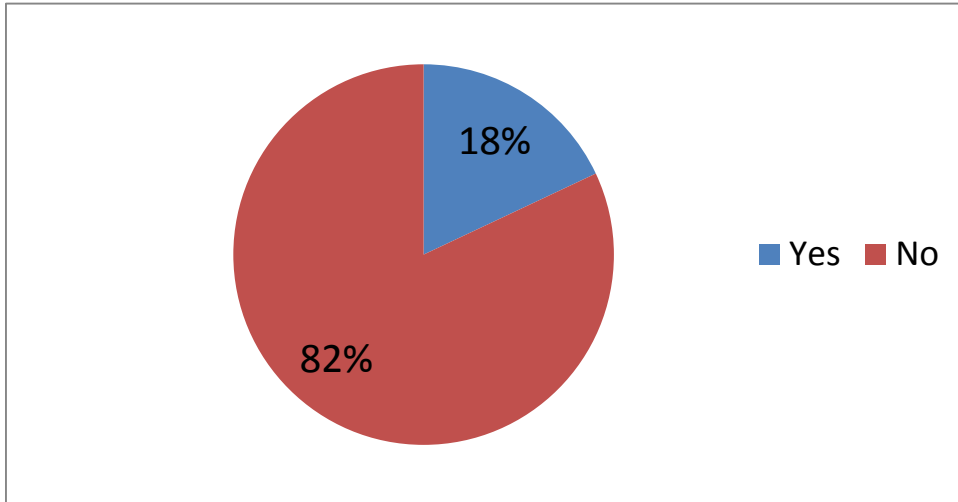


Figure 9: Received education has developed entrepreneurial skills or not

### 4.3 Data Analysis Summary

#### 4.3.1 Section 1 and Section 3

Analysis of the first section of the questionnaire gives general details of the survey. It can be viewed out of all the respondents 90% are from the Millennial age group while only 10% are from Gen X. The male -female percentage who responded to the questionnaire shows a similar pattern of the gender gap in the Engineering field. 82% of the respondents are male while remaining 18% is female. Most of the respondents are experienced engineers which have 11-15 years of experience in the field. 74% of respondents answered that they do not have any family background in business and 64% of the respondents do not have any involvement in the business. Section three of the questionnaire was developed to find out the entrepreneurial education background of the Civil Engineering graduates. Out of 50 respondents, 54% have not received any type of entrepreneurial education in their life. 68% of the respondents believe the education they received is not

substantial and 82% of the respondents stated that the education they received has not developed their necessary entrepreneurial skills

Analysis of the second section of the questionnaire is in following tables

#### 4.3.2 Analysis of Preference for Salaried jobs

It was assumed that civil engineers prefer salaried jobs than entrepreneurship. According to that assumption questions were developed to find what the reasons are for this preference. Question 7 was developed to analyze why Civil Engineering graduates prefer salaried jobs rather than entrepreneurship. It was found the main factor that influence this is Ease and Comfort of the Salaried Jobs. The second is Economical problems to start a business and the third one is Fear for Failure. The least influencing factors are Own bad experience about business, bad experience of others in a business and family resistance to start a business.

Table 4: Overall rating for preference for salaried jobs

No	Preference for salaried jobs	Percentage %					IRI	RANK
		1	2	3	4	5		
4.1	Bad experience of others in a business	3	21	17	7	2	0.536	7
4.2	Difficulty in coping with risk	1	9	14	22	3	0.656	4
4.3	Ease and comfort	1	9	9	26	5	0.700	1
4.4	Economic problems to start a business	0	12	8	26	4	0.688	2
4.5	Family resistance to start a business	0	30	9	6	5	0.544	8
4.6	Fear of Failure in business	1	15	9	18	7	0.660	3
4.7	Inability to bear mental pressure of business	1	24	7	15	3	0.580	6
4.8	No risk taking ability	2	26	9	11	2	0.540	9
4.9	Own bad experience about a business	2	29	12	7	0	0.496	10
4.10	To earn Social status	1	16	15	17	1	0.604	5

### 4.3.3 Analysis for Motivational Factors for New Startups

Question 8 is developed to find out motivational factors to start new ventures. It can be summarized that the main influencing factor to start a business is the desire to earn money. The second important factor is to implement their own business idea while the third is to get more exposure. The least influencing factors are fear of unemployment, to gain social prestige and encouragement by family members, friends and relatives

Table 5: Overall rating for Motivational Factors for Start-Ups

No	Motivational factors for Start-Up	Percentage %					IRI	RANK
		1	2	3	4	5		
5.1	Desire to earn more money	0	0	3	29	18	0.860	1
5.2	Dissatisfaction with job or occupation	1	14	5	25	5	0.676	4
5.3	Fear of Unemployment	2	20	12	13	2	0.571	11
5.4	Government Policies and Schemes	1	14	19	14	2	0.608	8
5.5	Influence and encouragement by family members, Friends and relatives	3	17	13	16	1	0.580	9
5.6	More career advancement	2	10	9	26	2	0.665	7
5.7	More exposure	2	9	3	30	5	0.710	3
5.8	Previous experience or association with same or similar line of business activity	2	11	10	24	4	0.667	6
5.9	To gain social prestige	1	15	16	15	3	0.616	10
5.10	to implement own business idea	1	2	5	34	8	0.784	2
5.11	To put owns idle funds in entrepreneurship	1	8	14	24	2	0.673	5
5.12	to use technical or professional knowledge and skills	2	3	3	31	11	0.784	2



#### 4.3.4 Analysis of Barriers influencing to become Entrepreneurs

Question 9 was developed to find out the Barriers influencing to become entrepreneurs.

The availability of Capital is the main barrier that is hindering entrepreneurship intentions of the Civil Engineering Graduates. The second most important barrier is the availability of labour. The least important factors are cultural barriers and fear for failure according to the analysis

Table 6: Overall rating for Barriers influencing to become entrepreneurs

No	Barriers influencing to become Entrepreneurs	Percentage %					IRI	RANK
		1	2	3	4	5		
6.1	Availability of Capital	0	2	7	23	18	0.828	1
6.2	Availability of Labour	1	11	6	20	12	0.724	2
6.3	Family back ground	1	10	14	16	9	0.688	4
6.4	Fear of failure	1	11	10	22	6	0.684	5
6.5	Government policies/Support	1	6	12	24	7	0.720	3
6.6	Cultural Barriers	8	12	20	9	1	0.532	6

## CHAPTER 5 - RECOMMENDATIONS AND CONCLUSION

### 5.1 Conclusion

The final target of the investigation is to forward proposals to improve entrepreneurship among the Civil Engineering Graduates in Sri Lanka. Since the engineers are the forthcoming business visionaries, approach producers and experts in the nation, their perspective on the enterprise is especially significant in encouraging business in the nation in the future.

The gender gap in the engineering profession is evident in the data analysis. This gender gap also can be identified among the entrepreneurs according to the literature survey. The analyzed data further shows a low level of entrepreneurial activity in the sample group. However, this is in line with the country statistics. The Total Entrepreneurial Activity in Sri Lanka is around 2.8% (Department of Census and Statistics, 2017) while our neighboring country India has a TEA of 14 % and Thailand has a 27.5% TEA rate. It has been identified that Sri Lanka needs at least fivefold increase of entrepreneurs to fuel economic growth

The data analysis shows most of the respondents (74%) do not have a family background in business. We can argue that this can be attributed to the fact that most of the engineering graduates come from low and middle-class families where their parents are salaried employees. A family plays a vital role in an entrepreneur's life. A business background in a family will motivate people to do business. To promote entrepreneurship in future generations there need to be a solid present generation to back them in the future. Some researchers additionally recommended that when people are arranged into the business enterprises from their initial age, it ends up simpler for them to create fruitful business endeavors. It will assist them with grabbing more top to bottom ideas in business at the undergrad level too as they are prepared on tended towards the enterprise.

Civil Engineering graduates prefer salaried jobs because of the ease and comfort it provides to them. End month salaried jobs are in high demand among any field of grandaunt, especially government jobs. To promote entrepreneurship first, instructive projects can be structured and executed to reform the mentalities, frames of mind and aims

of graduates of the individuals who have not considered business enterprise a suitable vocation. When doing this, gratefulness and affirmation of effective job pioneering models and imparting their experience to the students will cultivate enterprise as a reasonable vocation choice in person's brains. In Sri Lankan setting, not many effective good examples can be seen. In this way, it is important to incorporate the life stories of progress good examples in the reading material which are created for to-be entrepreneurs. It might cultivate positive personalities towards business. Broad communications in the nation likewise can assume a crucial job in such a manner. They can feature the need of the business for a nation and make the overall population mindful with respect to the enterprise. Researchers uncovered that the media had been a noteworthy effect on officially settled business people to go into business.

The development of the construction industry after the 2001 Tsunami created ample job opportunities. The fear of unemployment is a negligible factor in motivation to be an entrepreneur according to the analysis. Some cultures consider Entrepreneurship is a path to social prestige. As we discussed in the literature review North Americans and Europeans consider entrepreneurship hold a high social status. However, in Sri Lankan context salaried jobs hold a high social status than entrepreneurs. This can be evident in the data analysis. This mindset can be linked to the colonial period and it is important to direct this mindset to the direction of European and North American mindset of entrepreneurship.

Subsequently, the Government needs to introduce a scheme to provide economical support for future entrepreneurs. This important factor is needed to address by a superior government body. Economical factors are hindering the intentions of future business visionaries substantially. Nonavailability of capital is the main reason that keeps future entrepreneurs on the back foot. According to the analysis, our Civil Engineering graduates are not totally risk-averse individuals. The fear of failure is not a crucial factor for our graduates. They intend to taste risk when other factors are ripe enough to address the entrepreneurial requirements. However, our findings contradict the views of prominent educationist Professor Gunapala Nanayakkara. He states that the child-rearing practice in Sri Lanka has created dependence syndrome which curtails independent, risk taking and challenging behavior.

Creativity and innovation are the key elements that distinguishing the entrepreneur from others. I believe our Civil engineering Graduates carry these precious traits with them. Implementing an own business idea is the second most important motivational factor according to the analysis. Good brainstorming can unleash the potential hidden in our graduates and through this can generate a new bunch of young entrepreneurs. To carry out that continuous mediation is necessary from a government institute. As indicated by Nimalathasan (2014), Sri Lankan government does not have a legitimate strategy to recognize the potential future business visionaries’.

According to the analysis majority of respondents didn't receive any education related to entrepreneurship. Until recently there were no subjects to cover the entrepreneurship in all three engineering faculties in Sri Lanka. However, now engineering undergraduates are fortunate enough to have subjects in entrepreneurship in their curriculum. The quality and effectiveness of the entrepreneurial education are in doubt because 68% of the respondents stated the education they received is not substantial and it did not enhance the entrepreneurial skills for them.

## **5.2 Recommendations**

Sri Lanka needs at least five fold increases of entrepreneurs to fuel economic growth. First Sri Lankan Government needs to create a more favorable positive image for entrepreneurs. As discussed in conclusion we need a paradigm shift toward the European mindset about entrepreneurship. State media need to broadcast motivational stories of local entrepreneurs and also need to promote a positive image of entrepreneurs.

Education plays a vital role in creating entrepreneurs. Every education institute has a responsibility to produce entrepreneurs rather than producing job seekers. Education curriculums need to address more on subjects in entrepreneurship. Moreover, extracurricular activities to promote innovative thinking, risk taking ability need to be adopted. Current local University Civil engineering curriculums provide very few subjects with regards to entrepreneurship. As an example, Civil Engineering curriculum in the University of Moratuwa has only one compulsory module related to Entrepreneurship. That module namely Business Economics & Financial Accounting is a 3 credit subject. In other words, compulsory modules related to entrepreneurship have 3 credits from a 137 credit civil engineering curriculum. We can highlight that only 2% of the curriculum is consists of subjects related to Entrepreneurship. Further, there are three elective modules in the whole curriculum which related to entrepreneurship and all three modules collectively have only 12 Non-GPA credits. Similarly, there is only one compulsory module namely marketing and Finance in Peradeniya University Civil Engineering curriculum which related to entrepreneurship. However, they offer seven elective modules related to Entrepreneurship in their curriculum.

Graduate curriculum reform to prepare students for the business environment is a necessary condition. Startups Lanka Report states that 86% of the entrepreneurs in Sri Lanka are at least Bachelors's degree holders. So the key to generating successful entrepreneurs is with state universities. Their curriculums need to be reformed extensively to address the aspects of entrepreneurship. Generally, government needs to introduce a system to financially back the to-be entrepreneurs. This was initiated by the Sri Lankan government recently by the Enterprise Sri Lanka initiative. Sri Lanka needs to create a strong state institute to promote entrepreneurship. The current National Enterprise

Development Authority which is under the Ministry of Industries and Commerce does not have a proper program to identify future successful entrepreneurs. Those identified people need to be guided and financially backed by the government until they are financially strong enough to venture on their own.

### **5.3 Suggestions for Further Research**

Entrepreneurship is a field that is a less researched field in Sri Lankan context. Dr. Nimalathasan Balasundaram has done admirable contributions to fulfill the research void in this field. As a country with a low Total Entrepreneurial Activity Index there are significant areas that need to be addressed in different researches.

Firstly, researches need to be carried out to develop entrepreneurial education in local universities then researches need to look into developing a good curriculum for secondary level education in Entrepreneurship. More researches need to be carried out to address the quality of the course content in existing entrepreneurial subjects. Further, effectiveness of entrepreneurial education must be addressed in future research. Those researches will be able to fulfill the knowledge gap in Entrepreneurial education.

Secondly, researches need to be done to promote entrepreneurship rural areas. As a developing country, we have real potential in food processing and handicrafts. Entrepreneurship in those areas needs to be addressed in future research.

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# **APPENDIX**

**Annex I: Questionnaire Survey**