Analysis of Factors Influencing Business Performance of Technology Startup Companies: The Case of Addis Ababa

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By

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Declaration

I, Abenezer Workneh, hereby declare that this MBA thesis, titled "Analysis of Factors Influencing Business Performance of Technology Startup Companies: The Case of Addis Ababa" is my original work. All the information and ideas presented in this thesis are the result of my own research and has not been submitted for any degree in any other University.

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Abstract

The study aimed to explain the critical factors influencing business performance in technology startups operating in Addis Ababa, using an explanatory research design. The researcher tried to show the causal relationships between entrepreneurial personality traits, management competence, resource factors, networking and business performance. The study provided valuable insights into the interactions among these variables. The research considered the population of 751 active technology companies in Addis Ababa, as per data from the Addis Ababa Technology Bureau (AATB, 2022). A sample size of 261 was determined and primary data obtained was analyzed. Multiple linear regression was used to assess the collective and individual impacts of the predictors on startup success. Results indicated that personality factors, management competence, resource factors, and networking variables were significant predictors of business performance. The model had a 0.644 R squared valued indicating that the model explained 64.4 percent of the variance. The findings suggest that technology startups should focus on enhancing managerial skills, optimizing resource management, and leveraging extensive networking opportunities. This research adds empirical support to existing theories while offering practical guidelines for stakeholders.

Key words: Technology Startups, Business Performance, Entrepreneurial Personality Traits, Management Competence, Resource Factors, Networking

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Chapter one

1 Introduction

1.1 Background of the study

Technology startup companies are becoming the leaders of the service sector worldwide. They have been contributing to entrepreneurship ventures and innovations that changed the world and served as a backbone of economic growth (Green Tech Africa, 2020). Despite their importance, the success rate of technology startups is very fragile. Globally, only 10 percent of all startups will turn out to be a success story (Bednár & Tarišková, 2017).

In developing countries like Ethiopia, the role that technology startups play is very vital, as they have the capacity to create a lot of job opportunities and innovations that can have a significant effect on the overall economy. Evidently, startup companies are booming in Addis Ababa. A number of enthusiastic youth come to the Addis Ababa Trade and Industry Bureau every day to obtain a trade license (Green Tech Africa, 2020).

The global history of technology startup companies can be traced back to Silicon Valley in the 1970s. After the initial success in the US, technology companies started to emerge throughout the world. Companies like Microsoft, Google, and Amazon have been the pioneers and motivation for the startup companies to come (Douglas, 2012).

In Ethiopia, the government has made significant efforts to catch up and enhance the technology industry. Especially since 1995, the sector was given attention at a ministerial level. The Ministry of Innovation and Technology has been trying to develop qualified manpower and adaptive technology by acting proactively to global and internal events. The ministry set a new development plan, Digital Ethiopia 2025, a strategic plan to transform Ethiopia into a home-grown economy by 2025 (MINT, 2022).

Even though there is a set-out plan as a country, there is no significant change in the emergence and success of the startup companies, which are set to lead the home-grown economy in 2025 (MINT, 2022). Particularly, Addis Ababa, being the hub of Ethiopia’s economy, needs new and successful entrepreneurs who can manage technology startups that create jobs and transform the

home-grown economy. This study aims to fill this gap by examining the key factors that contribute to the success of technology startups in the city.

Recent definitions adopted by researchers Salamzadeh and Kawamorita (2015) define a startup as a small company trying to solve a given problem by identifying business opportunities or finding different/unique solutions in previously identified but not well-understood sectors. What makes a startup company is not merely the fact that the company is opened recently; a newly opened restaurant is not a startup company but rather a newly opened business. In order to qualify for a startup title, a company should engage in a business that has high uncertainty and operates in a rapidly changing environment. A technology company, on the other hand, can be defined as a business that develops and produces technology-based products or services. These companies can engage in hardware or software that can solve customers' needs and fill the market gap. By combining the two definitions, we can say a technology startup company is a small company that engages in technological solutions which are new and thus operates in an uncertain and changing environment (Davila & Foster, 2007).

1.2 Statement of the problem

Technology startups are newly established companies primarily focused on innovative services and products using currently available technological tools, which are characterized by high uncertainties (Limsong et al., 2016). Recently, there has been a growing interest in studying the success factors of technology startup companies, as they are becoming the backbone of major economies (Sevilla B. et al., 2022). Despite the handful of studies conducted, there is a lack of consensus on the critical success factors. According to Green Tech Africa (2020), only 25% of the newly formed startup companies make it to the next year; the data shows previous studies have not contributed significantly to decrease the number of failures, and this calls for a thorough investigation to determine what the success factors are and how they can be utilized to practically decrease the failure percentage.

According to a meta-analysis review made by Pasayat et al. (2020), even though the specific factors differ among studies, the factors can be generally categorized by the field of study which the researcher is trying to explain it from. In order to explain the critical success factors, most studies mainly used theories from three disciplines, which are psychology, human resources, and strategic management. Under these giant fields, personality trait theories are used from

psychology, human capital theories are used from human resources, and resource-based factors are used from strategic management.

According to studies made in the realm of psychology, entrepreneurial personality traits are the deciding factors of success in startup companies (Brandstätter, 2011). A study conducted by Rauch and Frese (2007) attributes success factors to the personality traits of the founders; the study concluded founders who are high in conscientiousness and open to experience were shown to have high entrepreneurial performance. Another study conducted by Miner and Raju (2004) found founders with high risk-taking propensity and achievement motivation are likely to succeed more than founders who are reluctant to take risks and have low achievement motivation. Yet another study by Zhao et al. (2010) found successful entrepreneurial personality is linked to risk-taking propensity and tolerance for ambiguity. Although there are minor differences in the specific factors, other studies attribute the success of startup companies to the personality of founders (Stewart & Roth, 2001; Zhao & Seibert, 2006). These studies clearly give us an insight that understanding the personality factors of the founders can be a substantial factor in determining the fate of startups.

The other discipline that researchers focus on to examine startup success factors is the human capital model (Marvel et al., 2016). According to Estrin et al. (2016), the human capital model states knowledge and abilities of the individuals working in a company is the critical factor for the success of the venture; the theory outlooks the composition and competence of the team as one asset of the company. A study conducted by Dimov (2017) found that startups formed by experienced teams are twice more likely to succeed than the ones formed by novice entrepreneurs. Another study by Baptista et al. (2014) found companies with diverse backgrounds in experience and field of study performed better than the ones with similar skills and education. Additionally, a study conducted by Unger et al. (2011) concluded that human capital, including the number and expertise of the team members, plays a significant role in the success of a startup company. These studies show educational background, experience, and composition of the team play a great role in deciding whether a company can effectively perform or not, and thus it clearly depicts internal factors like human capital tend to play the major role in the success of the startups.

Moving on to resource-based view, according to Lockett et al. (2009), the resource-based view model is derived from strategic management claiming acquiring the right type of resources and the efficiency of utilization is the critical factor that ultimately decides whether a startup is likely to succeed or not. A study by Zahra and George (2002) found a startup with solid resources like finance, social, and intellectual property are most likely to survive than other technology startups who do not have any. The researchers reiterate that these resources can be considered a competitive advantage that cannot be replicated easily by others in the startup sector or other established firms. Furthermore, in a study by Klačmer et al. (2014), which focused on technology startup companies operating in Croatia, the study concluded the type of funding highly contributes to the success of the company. Other studies (Connor, 2002; Runyan et al., 2006; Jaafar & Abdul-Aziz, 2005) found resource factors are imperative for the success of a startup. From these findings, we can infer that no matter how dedicated the founder is and how effective the team members are, the availability of tangible resources still plays a significant role in whether the company can stay functional or not.

Moreover, most of the studies conducted on critical success factors of startups are mainly from a Western perspective (Dabić et al., 2020; Kiss et al., 2012). Even though this is plausible due to the huge base of startups in developed countries, it lacks the specific context factors that will most likely make us overlook some factors that are specific to a nation. Some researchers have tried to study critical success factors of startups in Ethiopia (Getinet, 2004; Taye & Ambasiva, 2018; Belaynesh, 2014; Eleni, 2020). However, they are mainly focused on government-backed manufacturing firms that are aimed to create jobs by the government, not by the entrepreneurs themselves.

Additional indication of a lack of comprehension regarding the key factors contributing to startup success is a study made by Krishna et al. (2016). According to the study, the failure rate of startups starting from the dot-com bubble era, which was at the end of 1990 to early 2000, a period characterized by rapid growth of technology companies and optimism for startup companies; the failure rate was 80% back then and that rate has not decreased significantly throughout the years. If the factors were clearly understood and were implemented before starting a venture, the failure rate would have improved significantly.

As clearly shown from the previous paragraphs, the conclusions from the studies are made from different perspectives. This depicts there has not been a clear understanding of the collective effects these variables have, and this collectively limits our understanding of how different variables jointly contribute to the phenomenon. Hence, the study aims to find a unified framework that can be used to determine the success factors of technology startups operating in Addis Ababa by integrating the different perspectives that can let us view the interplay among personality, team composition, and resource-based factors.

1.3 Research questions

How does entrepreneurial personality trait affect business performance of technology startup companies operating in Addis Ababa?

How does management competence influence business performance of technology startups operating in Addis Ababa?

How does resource factors positively influence business performance of technology startups operating in Addis Ababa?

How does networking positively influence business performance of technology startups operating in Addis Ababa?

1.4 Objectives of the study

1.4.1 General Objective

The main objective of this research is to analyze factors influencing the success of technology startup companies that operate in Addis Ababa.

1.4.2 Specific Objectives

To investigate the relationship between entrepreneurial personality and technology startups business performance on technology startup companies operating in Addis Ababa.

To examine the relation between the management's competence and the business performance of a technology startup companies operating in Addis Ababa.

To investigate how resource factors influence business performance of a technology startups operating in Addis Ababa.

To investigate how networking influence business performance of a technology startups operating in Addis Ababa.

1.5 Hypothesis

Hypothesis 1:

There is a significant positive relationship between entrepreneurial personality traits and business performance of technology startup companies operating in Addis Ababa.

Hypothesis 2:

There is a significant positive relationship between management competence and business performance of technology startup companies operating in Addis Ababa.

Hypothesis 3:

There is a significant positive relationship between resource factors and business performance of technology startup companies operating in Addis Ababa.

Hypothesis 4:

There is a significant positive relationship between networking and business performance of technology startup companies operating in Addis Ababa.

1.6 Significance of the study

The significance of the study lines in its capacity to contribute to the understanding of factors that influence technology startup companies operating in Addis Ababa, the rapidly growing city with an appetite for technology and innovations. The study will give a valuable insight into the unknowns and uncertainties encountered by entrepreneurs. The findings can also be used or can serve as an input to potential investors. There are number of investors that are interested to invest on budding startups that have to potential to grow and impact society but the lack of knowledge on how to identify those who are likely to make it to the ones that are doomed to fail make it hard for them to invest their hard earned money. The other and most important sector which the finding of this study serves as an input is to policy makers; it will let them make informed decisions about the strategies for supporting and nurturing the startup companies.

Even though the study is done in the context of Addis Ababa, it will definitely give some insights to other cities too having similar challenges and opportunities.

1.7 Scope of the study

The study is limited to technology companies operating Addis Ababa and this makes the scope a bit narrower and findings should be interpreted carefully as it does not represent all startup companies in Ethiopia and also other startup companies that engage other than technology industry.

1.8 Limitation of the study

The research design used is an explanatory and this kind of design is used when there is a lack of previous study on that specific topic, even though we will use correlation and regression statistical methods in order to explain how this variables impact the dependent variable, the causality is very limited since it is not and experimental design we can not infer a strong casual relation.

1.9 Organization of thesis

This study is organized into five chapters. Chapter One provides the study's background, problem statement, research questions, research objectives, significance, scope, limitations, and organization. Chapter Two presents a literature review, summarizing existing knowledge in the field with theoretical and empirical review. Chapter Three details the study's methodology, including research design, sample size, sampling method, data sources, data collection, and analysis methods. Chapter Four focuses on data analysis and the discussion of results. Lastly, Chapter Five offers a summary of the key findings, conclusions, recommendations, and further research.

Chapter two

2 Literature Review

While conducting a study, understanding the multifaceted factors that claimed to explain the relationship between the explanatory variables and the dependent variable is critical. This literature review delves into the theoretical and empirical research surrounding key constructs which have been identified as significant predictors of business performance. By examining these constructs, this review aims to provide a comprehensive overview of existing knowledge and identify gaps that this study seeks to address.

2.1 Theoretical literature review

2.1.1 Technology startup companies

According to Drnovšek (2010) startup companies does not have a worldwide definition, but the concept can be summarized as a venture started trying to create new things or new way of doing things. The two main identifiers of a startup are risk and uncertainties. Through the lifecycle of a startup the great majority of them will fail while the viable and scalable ones thrive.

Even though, there are some common challenges faced by newly established companies and startups, every problem is always way debilitating and complex for startups. Formal businesses that are newly opened can share information and can also get advice from previous trends but startups do not have that luxury. Even the business model is not usually set at first it is developed form a continuous trial and error (Brink, 2003).

Technology startup companies are more being dependent on research due to the frequent trial and error; this endeavor is what we call the lean startup model. The model states that before commencing to full-scale production, a minimum viable product should be produced first giving the entrepreneur the time and opportunity for changing and scaling the product. As we stated above uncertainty is the main culprit for the failure of startups, even though the lean startup model cannot avoid uncertainties it will give the opportunity to learn through the process by amending errors and learning the unknowns (Bortolini, 2021).

The dynamic nature of the technology sector is one of the reasons that made technology startups filled with unknown variables; according to Pompa (2013) a certain innovation that was deemed

to be predominant in the next decade might be obsolete within a year due to technology advancements elsewhere. This is where constant research and development become handy, if every product or service is developed having in mind the current trends the process of the business will also be arranged accordingly, hence, leading to a successful venture.

The other problem with every startup is meeting demand, assessing the demand is one of the important steps if not the most important. This is another example where developing the minimum product before commencing the full scale production becomes handy, even if the product is designed well and functioning well, the demand of the product will be known with the adequate sample products. If the demand is not to the expectation this will save the money and time we would have been spent on wrong product and will give the entrepreneur time to address the needs of the customers accordingly (Montani, 2020).

2.1.2 What is success to startup companies?

As startups are becoming the backbones of technological advancements their success is imperative to the community at large, hence, measuring the success in imperative to the startups themselves and to the investors too. Success can be different thing to different companies according to the desired initial objectives. The most common metrics are financial performance, attaining the set goals, business process efficiency, customer satisfaction and having competitive advantage Okrah (2018). The researcher tried to explore and review the different perspectives according to the context.

One of the most widely used metrics of measuring a company success is the financial performance according to Okrah (2018), it is usually the critical aspect of survival since a company losing the financial game can not be saved, and achieving the other goals might not even be useful if the company is not performing well financially. The different metrics like gross margin and net profit will tell if the company is running efficiently. As this metrics can also influence the possibility of getting loans or advances this will also affect the growth and sustainability of the company. Potential investors will also be easily interested if this metrics are optimum. We can say most of the other aspects like market potential and competitive advantage can not also be achieved if the company is struggling finically, the management can not also be as efficient as they should be if there is a problem of financial stability (Davila & Foster, 2007).

Next to attaining financial goals, achieving the initial goal is one of the ways of assessing success; the initial goals will be used to set the strategic plan that will ultimately be used to program the business plan. Assessing the initial goals frequently will keep the startup on the lane that it is supposed to be going. On that note, it is crucial to show progress achieving the goals in their respective frame of time (Bednár & Tarišková, 2017). Allocating the necessary resources like manpower and money to the respective departments should also be aligned with the initial goals. Frequent assessment of goals aligned with the market current dynamics will let company produce innovative and valuable product and services by satisfying the customer needs. The cost of customer acquisition is higher for startup companies compared to the conventional business, if the current market trends are not grasped well and are not on the same page with the companies' goals expedited measures should be taken (Montani, 2020).

The other metrics is efficiency of operation, on the current dynamic era of business making a product or service is not enough by itself the way it is made matters a lot. One of the reasons is due to competitive advantages, the minute something is done a dozens of replicas are produced with the intension of dominating the market if the business process is not efficient it cannot thrive through the current competitive market. Building an efficient team where the business process cannot be replicated easily by other companies can serve as a great competitive advantage and might be the deciding factor for the fate of a company. The second thing is the mindset of customers, stating from the man power used to being eco-friendly company customer what to see their values being reflected on the process. For instance, if there are two products with the same quality but one done with eco-friendly process and the other with high carbon Emission Company, aware customers especially residing in developed cities will use the one with eco-friendly business process (Okrah, 2018).

Indirectly related in some ways to the factors mentioned above having a sustainable competitive advantage can be a great intangible asset a company can have and a way to measure success. Wheatear it is patent right or efficient hard to replicate business process, it is very handy to a technology startup because there are always investors lurking with enough finical and economic power that can scale and improve your product or service before even it reaches to the public. But if a startup has a competitive advantage it means the on only company that can do what it

does efficiently and it ultimately means other compotators cannot push it off the market easily (Yankov, 2014).

Customer satisfaction is also one of the factors that can be used to measure success; ultimately every business venture is trying to satisfy a certain segment of customers, satisfying customers can reduce the cost of new customer acquisition and high customer retention. Having a continued relation with customers is becoming a trend on the current market and it can even be used as a competitive advantage by making customer switching cost higher (Salamzadeh, 2015).

Assessing the success of a startup company needs a comprehensive evaluation of different perspectives including but not limited to financial performance, achievement of initial goals, customer satisfaction, operational process and competitive advantage. By evaluating the multiple criteria's, respective stake holders can get valuable insights on how a startup is doing and on the possibility of long term success and scalability. Comprehending and frequently measuring this metrics is imperative for the survival of a startup company.

2.1.3 Entrepreneurial personality factors

Entrepreneurial personality is different from personality on the context of this study while personality deals with the traits and characteristics the he/ she is built with, Entrepreneurial personality is the characteristics of a person which possess high proclivity to engage in entrepreneurial endeavors. It is a construct that can be indicated by need for achievement, locus of control, willingness to take risk and ease of dealing with ambiguity. Understanding these indicators will give great insights about an individual's success in owning or managing startup companies (Brink, 2003).

We will try to explore the interconnectedness of the indicators in without diminishing their individual inputs, need for achievements a person's burning sensation to achieve certain goal, it is not just competing with others to outperform them it is higher than that, it incorporates a strong desire for growth and self-improvement (Swedberg, 2020). If a person have high need for achievement they will not set easy goals that will be achieved by mere work or set a goal so complicated that it cannot be achieved, they will set attainable goals which are not easy but can be attainted through consistent effort. This shows how determined they are to attain optimum performance in any venture they find themselves in. the distinct nature that set them apart from

other individual is the motivation for achievement is not extrinsic rather it is intrinsic, meaning that the fact that they just achieved something by itself is pleasing or motivating for them without expecting any stimulus from the secondary factors (Davila & Foster, 2007).

Locus of control on the other hand, refers to a person's ability to perceive they have control over the fate of their destiny, they are the firm believers of we cannot control the environment but we can control the way we respond to the phenomena. This is related with the entrepreneurial personality hence, they do not sit and wait around problems in the environment to be solved by others they will try to do what they can and in the management team also they do not externalize and blame problems to other coworkers rather they will follow an introspective approach to alleviate the problem (THOMAS, 2006).

Risk taking is another factor, successful entrepreneurs and managers always take calculated risk. For an entrepreneur a risk is not something that is feared, it is considered as an opportunity to be exploited. Most people would have been entrepreneurs if it was not for the risk, no matter how good the idea and no matter how the business plan is bulletproof there is always a risk associated with new ventures. And here is where entrepreneurs come handy, they will put possible scenarios based on the current factors and decide before the opportunity disappears or be grasped by others (Brockhaus, 1980).

Tolerance for ambiguity is another indicator in describing the entrepreneurial personality, it even encompasses all the mentioned indicators indirectly, all the problems associated with becoming a successful startup, comes with the nature of tolerance with all the uncertainties that comes along (Furnham & Marks, 2013). There are people who have hard time dealing with unstructured assignments and there are people who gets bored with structured and repeated routines. For a person with entrepreneurial personality, dealing with ambiguity is just part of the package. They will strive to clear what is unknown and try their best version of solutions and they will amend it accordingly when new things unfold, this is practically the life of a startup owner summed up (Zenasni, 2008).

All the indicators are examined in detail on the coming subsequent sections, by exploring the underlying theories and empirical evidences from studies conducted previously. Capturing there interplay to ultimately affect the entrepreneurial personality is the main of the review.

2.1.3.1 Need for Achievement

As defined by (Spangler, 1992)need for achievement is the ability to be motivated on the intrinsic nature of success itself, secondary external factors are not need by the person who has a high need for achievement the mere fact of achieving a certain tasks give pleasure to these individuals. They are also known for their spectacular way of setting a goal that is not easy or hard to achieve, just the right intensity hard enough to keep it motivating easy enough to make it achievable.

As competition is usually raised with need for achievement. The type of competition these individuals are in to is different. The competition between two individuals in not motivating enough for them, the task should attaining a certain goal can satisfy them and competition is not mandatory in their case. This will create a fertile environment where they can nurture and grow from the different experience they put themself into (Spangler, 1992).

It should be noted that the need for achievement in not an act that requires a conscious effect, the need for accomplishment is deep in to the subconscious of the individuals, the burning desire for trying difficult and challenging things and overcome the difficulties. This drive will make them relentless in trying challenges and even take calculated risks. If there is a possibility of an endeavor to succeed, they are most likely to going to engage (Limsong, Sambath, Seang, & Hong, 2016).

The other possible explanation for peoples need for achievement is fear of failure, as (Pompa, 2013) put it; the fear of failing is a highly motivating drive for people. Even though it is a bit different from the view (Wolday & Tassew, 2015) forwarded they are interrelated in a way the ultimate goal is achieving the task no matter what. It might be the happiness from the success or the fear from failure the task will be accomplished.

Management team that has high need for achievement will excel on the task they are dealing with. The reason might be fear of failure or intrinsic happiness from achieving the task at hand either way the task is going to be dealt with great passion and commitment. Hence, a founder of a startup company with high level of need for achievement is most likely going to succeed (Brink, 2003).

2.1.3.2 Locus of control

It has been stated on (Hansemark, 2003) locus of control was identified as an indicator of entrepreneurial success, it is believed that having internal locus of control gives a person the right tools for changing the environment they live in and this is one of the most important traits that an entrepreneur could have. One of the basic traits of an entrepreneur is the tendency of looking problems in the environment that he/she could solve, a person with an internal locus of control will try to do everything in their power to solve the problem in hand but the people with external locus of control with attribute to other external factors and will not do much.

Locus of control can also be associated with self-worth, ultimately leading to seeing oneself as a change maker and not just mediocre life style. This will of course will lead to entrepreneurial endeavor since a person with internal locus of control does not want to spend their life to achieve other persons goals by being hired in a company. Even when working for other individuals conflict of interest with management since they just cannot sit and wait around for others making changes (Zhao & Seibert, 2009).

The other significant factor that will impact success of startups in the context of locus of control is the perception of problems (Hansemark, 2003) as possible to solve and impossible to solve. No matter how the problem is hard a person with internal locus of control will perceive it as a predicament that is to be solved in different ways, while external locus of control will perceive it as impossible to achieve since the way they view life is different. This is directly related to the success of the startups management, a founder with internal locus of control will perceive the problem as temporary predicament that is yet to be solved, this will open door to frequent trial and error which will potentially lead to the success formula (Thomas, 2006).

2.1.3.3 Risk taking

Risk taking is one of the crucial characteristics for the success of entrepreneurial goals, it is in fact one of the most important factors that sets a part entrepreneurs from other individuals. It can be subdivided into three factors the general proclivity to take risks, the perceived likelihood of failure and the perceived possible aftermath of the risk taken (Zuckerman & Kuhlman, 2000).

The general proclivity to take risks is seen as how the individual perceives the consequences of the risk taken and the possible reward that comes with it. The perception is important because

risk is all about the probabilities of the outcomes. And this is where the quality of an entrepreneur is manifested, taking every risk at hand is not a wise decision, however, perceiving and interpreting the possible danger and deciding to go through or not is where the wisdom comes in to play (Brockhaus, 1980).

Considering every uncertainty as an opportunity to be exploited is one of the major mistakes novice entrepreneurs make, taking every risk that comes will eventually lead to failure, even though there is no formula to it and no one can know for certain which risks to take and which ones to avoid, every possible information should be collected before trying to make a decision. There is usually a less risky and lower profit possibility if the case is analyzed well (Zuckerman & Kuhlman, 2000).

Risk is usually associated with every business venture and even the conventional business with pervious experiences on the market face a significant risk but the risk associated with startups increase exponentially due to the many uncertainties. But that same risk is where the opportunities come and it is usually unavoidable (Brockhaus, 1980).

Ultimately, risk cannot be avoided in conventional business or startups and hence, a person with a tendency to take calculated risks is highly to succeed on an entrepreneurial path as many studies showed above. It can even be inferred that a person who cannot take risk will have a difficult time managing a startup venture (Zuckerman & Kuhlman, 2000).

2.1.3.4 Tolerances of ambiguity

Tolerance of ambiguity is one of the most important indicators for entrepreneurial journey, all of the indicators listed above have components that will ultimately lead to ambiguity, the nature of startups in general is characterized by its uncertainties and dealing with uncertainties on a daily basis requires a personality tailored with the line of venture chosen (Furnham & Marks, 2013).

The innate nature of entrepreneurs is having low level of risk aversion, they do not run when faced with uncertainties rather they deal with it until the uncertainties is changed to an experience on how that specific task is executed. Locus of control and risk aversion are directly related to ambiguity, the internal locus of control entangled with lower risk aversion personality, entrepreneurs will think they have special abilities to change things and they will take the risk to make it happen (Furnham & Marks, 2013). This is a great combination that will make a great

entrepreneur. To put into context a high tolerance for ambiguity means a person will have the resilience when facing ambiguity situations some of them even found it to be interesting and appealing. They will walk the extra mile to achieve and perform well on the given task.

Tolerance for ambiguity is also linked with entrepreneurial intention; this implies unknowns and varying situations are the incubators of startup ventures. The intension to engage in problem solving actives is not for everyone, there are people who cannot deal with uncertainties at all and there is which looks for it in every corner (Jordan, 2011).

The role of tolerance to ambiguity is negatively correlated to the much desired personality trait which is conscientiousness; even though this trait is desirable for the work force it is not desirable for entrepreneurs since there is no structured format in an entrepreneurial journey. People with high conscientiousness personality are formal, hardworking and dependable but the only problem is lack of dealing with unstructured works (Furnham & Ribchester, 2015).

Collectively tolerance of ambiguity is an important indicator of entrepreneurial personality, which makes the intricate nature of startup interesting to the people with the natural ability and committed enough to put in the work needed.

2.1.4 Management competence

Team can be defined as group of individuals that are working together towards a collective goal; management is those individuals who are on the managing team dealing with the proper function of the company. One of the most important factors for success of a company is how the company is lead. The management team plays a crucial role. The way a company is run ultimately decides the fate; if the initial objectives are not manifested on how the company is lead it is definitely doomed to fail. Of the important roles management team plays is setting the strategic goals, building a competent team, setting the company structures, solving problems and providing resource (Ağca, Topal, & Kaya, 2012).

In order for a team to be successful there should be a coordinated and synchronized effort toward achieving the desired objectives, the intricate nature of interaction between the teams is what makes the management of startups very complex. One of the best characters a team can have is a self-managing team, building a team that solves problem without necessarily running it to the

chain of commands. It is very important in the conventional business let alone startups with dynamic nature (Rauch, Wiklund, & Lumpkin, 2009).

The role of managers has changed significantly over the years; it is not limited to the conventional management only it deals with building the team from scratch and prepares an atmosphere for that is nurturing so that everyone on the team is competent and part of the sum. When building a startup, they do not usually have the privilege of recurring talented workforce, due to resource and budget constraints; here is where the coaching ability of a manager comes in handy, building a team in a startup is not only among the best candidates available, the modern beauty of management making the individual competent.

The decision quality of a management team is dependent on the availability of quality and accurate information, collecting the desired information needs a conductive environment facilitated by the management, effective communication is the most important asset a manager can have when dealing with collection information that is important for decision making (Gebrewahd, 2020).

In conventional business a management's team are highly structured and composed of many departments, however, startup management team might be composed of one or two individuals who are versatile enough to cover for many responsibilities. There is a tread off between having many members and few individuals leading an organization. When it is lead with one or two individuals decision making is very easy and the versatile nature of the atmosphere will make the management aware of every little detail the company is going through. However, when there are many individuals divided with so many departments, everyone on the respective is most likely going to be professional on their respective field but making decision in a prompt manner is not their strong suit since every decision must go through the hierarchy (Ma & Yang, 2022).

When accessing company's management team, considering the context in very important, a management team which is operating on high uncertainties is way different that we are used to the conventional ones. Understanding the demands, managing the teams, finding adequate resource and dealing with the changing environment is what makes a startup team adequate. It is obvious that management wheatear lead by multiple individuals or founding members they are the ones that can make it or break it if it is not managed well.

2.1.5 Resource factors

As all with all the variables a startups face on the initial phase (Pompa, 2013), the resource availability and distribution on how to use it is also filled with uncertainties. Despite the type of funding, the internal financial performance is going to significantly affect the availability of external funding. It usually starts with a person's or group of individuals personal saving in beginning and as it progresses the initial performance of the company is very important for making potential investors be interested on the venture. As the company grows so does the requirement of resources, choosing the type of funding might be an imperative decision to make at the initial stages of the company.

The first and most commonly used type of financing is equity financing, the startups owner might fund it from personal saving, might ask friends and families or might even sale equity to potential buyers. The cost of capital is by itself a complicated matter and deciding on what type of funding the startup should use requires a great deal of knowledge in financial management. According to the famous pecking order theory the first choice of financing should be owns finance (Salamzadeh & Kawamorita, 2015).

According to Wiklund and Shepherd (2005) capital structure will become an important factor especially as it starts growing, novice entrepreneurs overlook the impact of capital structure, since they are usually struggling to make to company stand on its feet, the source of finance might seem irrelevant compared to the financial struggle. However, the capital structure greatly matters on how the company is managed, a leveraged firm for instance will have a hard time meeting objectives and catering to the customers' needs since it is busy on meeting payments.

The other type of funding available but not commonly used due to the nature of the startups and the debtor itself is debt financing, financial institutions providing debt are usually high in risk since they do not want to lose money by risking on uncertain conditions. Due to that fact they usually ask collateral in case the business where not able to make it, startups do not usually have collateral since they are started with limited resources. The other disadvantage is the interest rate, making it on its own and paying the debt with interest is another headache for startups, dealing with the real world uncertainties plus managing debt is going to strain a novice management team (Davila & Foster, 2007).

Selling equity is one of the ways a startup company secures funding but as most of the things associated with startup are this is also complicated. Although finding an investors by selling stocks has its perks it comes with it is own predicaments, one of the most common problem is finding one, it is very hard for other individual to see what the startup envisioned and it does not make sense to them. The other problem when founding one is they will try to rip of the startup if they think they are likely to succeed. Giving to much at initial stage will ultimately give all the power and profit to the investors leaving the bread crumbs for the founder (Davila & Foster, 2007).

Although not commonly seen in third world countries like Ethiopia, venture capitulates are one source of financing options, this companies are used to funding startups and have the experience of the in and out of entrepreneurship. What makes the venture capitalists from the equity buyers is while both take some portion of equity; venture capitalists are very experienced in the sector and even have their own criteria of deciding which startups make it based on their respective experience. They are also likely to provide support in other aspect of the company other than funding (George, 2001).

The basic nature of venture capital investments are always associated with high risk and for that they tried to develop different models which will let them predict the outcome of the startups. Once they are involved with the startup they usually have teams that follows the progress and operation, here is where they get in to the dilemma of agency problem. They want to have a say on how the company is ran and they cannot ultimately leading to conflict of interest between the two (Klačmer, etal., 2014).

2.1.6 Networking

Business performance is influenced by various forms of networks which can be sub-divided as business networks, social networks, and institutional networks. These networks offer structural, and relational advantages that can enhance a firm's competitive position, which ultimately affect its business performance (Adler & Kwon, 2002)..

2.1.6.1 Business Networks

Business networks are defined as formalized relationships between various firms, suppliers, distributors, and customers that aim to get mutual benefits. The Resource-Based View (RBV)

states that networks serve as a resource, providing access to a rare, valuable resources which can lead to sustainable competitive advantages (Barney, 1991). The Social Capital Theory further adds that business networks include the collective benefits that is enhanced by the structure and quality of these relationships, which can translate into increased business performance (Adler & Kwon, 2002).

2.1.6.2 Social Networks

Social networks consist of informal and often non-contractual relationships that individuals and organizations use to gain information, resources, and support. According to Granovetter's (1973) theory on the strength of social networking, infrequent but diverse contacts can provide new information and opportunities not available through formal channels and relationships that companies usually have through memorandum of understanding or other formal contracts. Similarly, Burt's (1992) concept of structural holes emphasizes that individuals or firms that bridge disconnected groups can capitalize on information asymmetry and broker opportunities yielding enhanced performance. The fact that information acquired through social networking are informal yet primary information amplify the importance.

2.1.6.3 Institutional Networks

Institutional networks are usually within regulatory frameworks, governmental bodies, and industry associations. North's (1990) Institutional Theory suggests that the regulatory and trade unions which usually are the main actors of the industry have rules which are forced by these institutions and it shape the behavior and strategies of firms. Institutional connection as discussed by DiMaggio and Powell (1983), states that firms who exhibited better institutional connection performed better within their institutional networks by improving legitimacy and reducing uncertainty eventually enhancing performance.

2.2 Empirical literature review

This empirical literature review examines studies conducted on technology startup companies; In doing so, the researcher tried to find how the constructs listed on the objective of the study (which are the role of entrepreneurial personality traits, top management competence, and resource factors) influence the success of technology startups. The findings were extracted from a range of studies to provide a comprehensive overview.

There are number of empirical evidence supporting how need for achievement, locus of control risk taking and tolerance for ambiguity affects entrepreneurial personality, at least two studies are presented below for each indictor which is used to describe the construct entrepreneurial personality.

According a classic research conducted by Collins and Moore, 1970 denoted that need for achievement and entrepreneurial success where positively related. The study indicated that entrepreneurs with high need for achievement are likely to be successful in the respective entrepreneurial endeavor and this was due to the intensity of hard work and commitment they put into their dream. Another study by Rauch and Frese, 2007 also found out a relationship between entrepreneurs need for achievement and the metrics of their company success. They attributed the cause to the higher level of creativity and proactiveness for the success they manifested.

On another research that examined locus of control and company performance, Ozdemir etal. (2019) findings exhibited internal locus of control highly impacted entrepreneurs to achieve better than individuals in the control group. A similar but classic study conducted by (Rotter, 1996) examined the relationship between locus of control and entrepreneurial success, the result concluded that a person with an internal locus of control, where likely to engage in entrepreneurial activates.

According to a research make by Biswas and Verma (2021) aiming to find the risk taking propensity and likely to engaged in entrepreneurial ventures, found out entrepreneurs with higher risk taking proclivity showed great deal of innovative performance. Similarly, Ağca etal. (2012) found a positive relation between risk taking behavior and market success

A study conducted by Furnham and Ribchester (2015) entitled “Tolerance for Ambiguity, Creativity and Entrepreneurial behavior” made a study on how tolerance for ambiguity and

entrepreneurial success is related, the results from the study showed entrepreneurs with higher tolerance for ambiguity were found to perform well on innovative and entrepreneurial endeavors. Another study by Ardichvili etal. (2003) replicated the results by concluding entrepreneurs with higher tolerance of ambiguity were more likely to be successful in the entrepreneurial activities.

A study made on the effect of top management competence and entrepreneurial success by Rauch, Wiklund, & Lumpkin (2009) tried to investigate the relationship and found out top management team characteristics that showed competence were likely to exhibit higher level of entrepreneurial intension and that ultimately will positively impact the success of the company. The results outlined competent management team plays the most important role on a company success. Replicated by Ma and Yang, (2022)"competence of top management team and new venture performance" showed the same results.

Studies made by (George, 2001) on the relationship between resource factors and the performance of a startup company showed the capability and use of capital resources such as financial capital, human capital and technological capabilities greatly impacted the success and performance of the startup company. Another exploratory research done (Wiklund & Shepherd, 2005) studied entrepreneurial resourcefulness and its impact on success of startup companies. The findings evidently showed that resourcefulness governed the ability of a firm to perform well and ultimately succeed.

After reviewing studies that links specific findings that links the constructs we will review studies with conceptual frameworks that closely relates to our objectives, according to a meta analytic review by Senivongse etal. (2019) "startup success lies in technological surveillance , knowledge absorptive capacity, knowledge absorptive capacity, perceived performance of a product/service, knowledge dynamic capability, knowledge absorptive capacity, innovative and perceived performance"

When we review all the factors and the theories they are rooted to it takes us to the three variables which are personality of the owner/founder, management competence and resource factors.

The personality of the owner, showed through a commitment to organized and continual technological surveillance. This involves the systematic gathering of external information on

science and technology, indicative of an owner's proactive and inquisitive nature. Ko and An (2019) and Roa et al. (2018) emphasize that this trait reflects the owner's deep understanding of the evolving technological landscape, demonstrating strategic thinking.

The entrepreneurial team's ability to collect, format, analyze and interpret information and knowledge collected shows effectiveness of a management team. This is rooted to Absorptive Capacity Theory, a framework which explains how knowledge should be extracted and be used to the advantage of the firm from the external business environment (Senivongse et al., 2019). This factor elucidates how team's competence can be a crucial factor and eclectic in nature. Even though the team leader plays a significant role, the whole process mandates an effective team which can work harmoniously due to the complex nature of dynamic stirrup environment. It also underscores the importance of cohesion of team showing that even if all the team members are excellent in their work of line the cohesion and the aligning of their goal towards a collective objective is mandated.

The other factor stated on the study is perceived performance which is approved by the respective customer (Al-Fraihat et al., 2020). This factor is also rooted with the personality of the owner and the team he/she created. The owners commitment to the vision and the management team which executes the plan should be on the same page in order to improve the perceived performance. This is all attributed to Expectation Confirmation Theory, which states the satisfaction of the customer is dependent on the expectation of the customer, the standards set by the founder/ CEO should be well executed by the managing team which will ultimately be implemented by the respective customer service officer (Arefin et al., 2019).

The characteristics of the product is the other variable which is related to direct customer satisfaction which requires adequate resource making the resource factor and important variable (Luna-Perejon et al., 2019). Not matter how great the vision is and no matter how the team effectively performs there should be the necessary resources to implement the vision in mind to give the product or service the desired characteristics which are important to the customer. This characteristics are mainly attributed to De lone and McLean IS Success Model, which has important key dimensions like system quality, information quality and service quality.

In each of these factors, the personality of the owner emerges as a guiding force. The owner's proactive nature in technological surveillance, commitment to knowledge absorption, pursuit of high-quality offerings, and dedication to customer satisfaction collectively shape the path of the startup.

Moving to the factors that relates to resource factors, according to Honorine and Emmanuelle (2019) strategic development of financing instruments is one of the factors that is important for the survival of the firm and it is entirely related to resource factors. Financial instrument are important throughout the life cycles of the startups. And this does not just mean the availability of funds the strategic allocation and effective utilization of the finance is crucial to the startups journey.

Active involvement of business stakeholders which is also related with the resource factors wheatear it is incubators or venture capitalist the proper training and support is considers as a resource for the startup company in order for it to have a sustainable growth. Murray (2019) indicated this external stakeholders provide the companies the invaluable resources which cannot be measured in monetary terms but vital for the growth and sustainability of technology startups.

Empirical studies have demonstrated significant links between these networks and business performance across various contexts and industries. Studies have corroborated the theoretical claims regarding business networks. For instance, Gulati (1998) examined strategic alliances and found that firms engaged in more extensive and complex networks exhibit superior performance due to enhanced resource acquisition, market knowledge, and innovation capabilities. Similarly, Hite and Hesterly (2001) showed that entrepreneurial firms embedded in dense networks can accelerate their growth and market reach through effective utilization of information and resource.

Research by Uzzi (1996) highlighted how firms embedded in cohesive social networks enjoy better economic outcomes due to the trustful relationships that support inter-firm and intra-firm cooperation and reduce transactional costs. Furthermore, Baum et al. (2000) illustrated that start-ups with richer social networks were more likely to survive and thrive by accessing critical resources and market information.

Institutional Networks Studies on institutional networks have focused on how compliance and interactions within regulatory frameworks influence business outcomes. Peng (2003) demonstrated that firms in transition economies benefiting from strong ties with government officials could navigate through regulatory obstacles more effectively, thus outperforming competitors lacking such connections. Moreover, already established firms often benefit from legitimacy and trust which their competitors and new entrants does not have (Oliver, 1997).

As we saw above empirical evidence strongly support the claim that business, social, and institutional networks significantly impact business performance. By taking advantage of the connection within these networks, companies can gain competitive advantages, improve their market position, and ultimately increase business performance.

2.3 Hypothesis formation

Hypothesis 1

There is a significant positive relationship between entrepreneurial personality traits and business performance of technology startup companies operating in Addis Ababa.

A range of empirical studies have highlighted how specific entrepreneurial personality traits such as need for achievement, locus of control, risk-taking propensity, and tolerance for ambiguity positively impact entrepreneurial success. Collins and Moore (1970), Rauch and Frese (2007), Ozdemir et al. (2019), Rotter (1996), Biswas and Verma (2021), Ağca et al. (2012), Furnham and Ribchester (2015), and Ardichvili et al. (2003) collectively show that these traits lead to higher levels of creativity, commitment, innovation, and overall business performance.

Hypothesis 2

There is a significant positive relationship between management competence and business performance of technology startup companies operating in Addis Ababa.

Empirical evidence from Rauch, Wiklund, & Lumpkin (2009) and Ma and Yang (2022) suggests that the competence of a top management team is critical to new venture performance. The Absorptive Capacity Theory also supports this by explaining how effective management teams harness and leverage knowledge resources, thereby improving business performance.

Hypothesis 3

There is a significant positive relationship between resource factors and business performance of technology startup companies operating in Addis Ababa.

Research by George (2001) and Wiklund & Shepherd (2005) shows that access to financial, human, and technological resources significantly influences startup success. Further supported by the DeLone and McLean IS Success Model and studies by Honorine and Emmanuelle (2019), these findings assert that the strategic development and utilization of resources are crucial to the survival and growth of startups.

Hypothesis 4

There is a significant positive relationship between networking and business performance of technology startup companies operating in Addis Ababa.

Multiple studies, including Gulati (1998), Hite and Hesterly (2001), Uzzi (1996), Peng (2003), and Oliver (1997), demonstrate that extensive business, social, and institutional networks provide critical advantages such as resource acquisition, market intelligence, innovation capabilities, trustful relationships, and regulatory navigation. These advantages collectively enhance business performance.

Each hypothesis is therefore formed based on the consistent empirical evidence linking entrepreneurial personality traits, management competence, resource factors, and networking to the performance outcomes of technology startups.

Despite the wealth of empirical studies exploring various factors influencing the success of technology startups, there remains a fragmented understanding of how these factors affect business performance comprehensively. Existing research has predominantly focused on isolated variables such as entrepreneurial personality traits, management competence, resource factors, and networking. However, these studies often lack a unified framework that comprehensively integrates these elements to provide a holistic view of business performance.

The primary research gap lies in the absence of a comprehensive framework that synthesizes the findings from these separate areas into an integrated model. Such a framework would provide a

more robust understanding of how entrepreneurial personality traits, management competence, resource factors, and networking interact to influence the success of technology startups, particularly within the context of Addis Ababa.

2.3 Conceptual framework

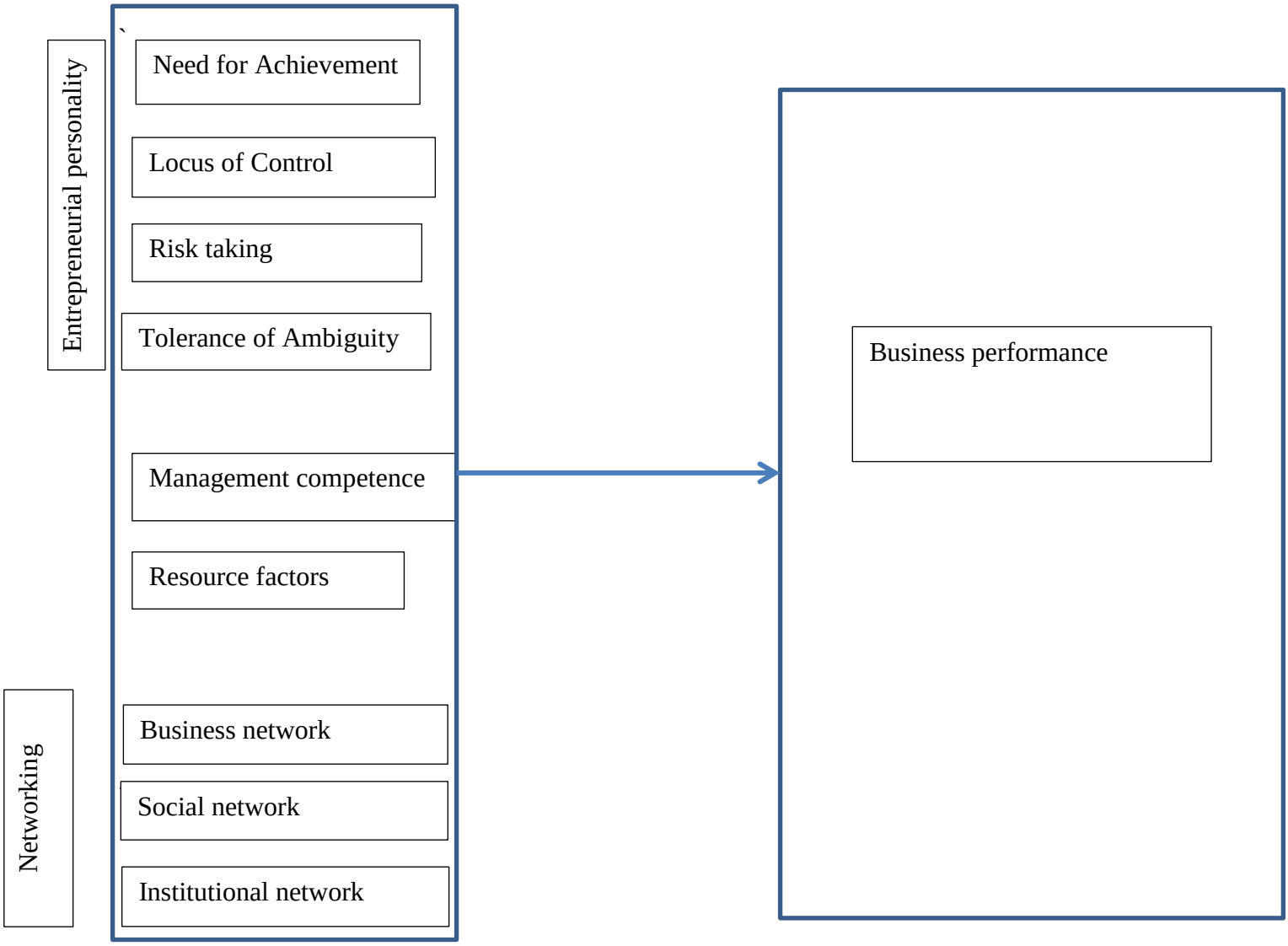


Figure 2.3 conceptual framework

Source: adopted from Lee and Tsang (2001)

Chapter three

3 Research Methodology and Design

This chapter provides a comprehensive overview of the research design and methodology to clarify the processes and techniques utilized in conducting the study. The research design outlines the overall strategy for addressing the research questions. It details how sample respondents were selected from the population, including the number of respondents and the selection criteria. Additionally, this chapter describes the data collection instruments, the data analysis methods, and the measures implemented to ensure the study's validity and reliability.

3.1 Research design

This study employs an explanatory research design, which is suitable for understanding the causal relationships between variables in a natural setting (Swedberg, 2020). Unlike pure experimental designs, where strong causal relationships can be firmly established due to control over variables, explanatory research provides significant insights into how different variables impact the dependent variable and interact with each other. This design is particularly appropriate for the current study, which aims to explore factors influencing the success of technology startups in Addis Ababa.

3.2 Research Method

3.2.1 Type and source of data

The study relies on both primary and secondary data. Primary data was collected directly from respondents using structured questionnaires. Secondary data, such as figures used to estimate the sample size, were obtained from relevant authoritative bodies.

3.2.2 Population and sampling

The target population for this study consists of all technology startup companies operating in the information technology sector in Addis Ababa. According to AATB (2022), there are 751 active technology companies in Addis Ababa. For the purposes of this study, technology companies are defined as those possessing a certificate of competence from the Ministry of Innovation, primarily engaged in software development and ICT services.

To ensure a representative sample, a random sampling technique was employed. After determining the adequate sample size, visiting each company in person to collect the data is expensive and time-consuming since technology companies are scattered all over Addis. Data was collected electronically. Google Forms were used to disseminate questionnaires. After obtaining the contacts of the startups from the Ministry of Innovation, which oversees these companies, the questionnaire was sent by randomly selecting 261 companies. However, the response rate was not adequate; hence, additional companies were randomly selected and contacted until an adequate sample size was achieved.

3.2.3 Sample size determination

The sample size must be sufficiently large to ensure representativeness and allow for meaningful conclusions to be drawn from the study. To determine the appropriate sample size, the widely accepted formula proposed by Yamane (1973) was employed, which takes into account the finite population size (N), permissible error (e), and desired optimal sample size (n).

$$n = \frac{(N)}{(1 + N * e^2)}$$

$$= \frac{(751)}{(1 + 340 *. 05^2)}$$

n=261

3.2.4 Data collection

After obtaining the adequate sample size, random participants were selected using their phone number as an id, the questionnaire was sent as a questionnaire bot on telegram or as a Google form via email depending on their respective requests.

3.2.5 Pilot Test

Before the main data collection, a pilot test was conducted to refine the questionnaire. Eleven questionnaires were distributed, and feedback was gathered to make necessary modifications. This process helped ensure the effectiveness and reliability of the questionnaire. The reliability was assessed using Cronbach's alpha coefficient, which confirmed the internal consistency of the questionnaire items.

3.2.6 Data Analysis Method

After collecting primary data from our samples, SPSS 20 software was used to analyze the data. In order to answer the research questions, after properly encoding the data on SPSS, each scale was assessed for standard deviation and mean score to interpret what each scale shows.

Upon encoding the data into SPSS, descriptive statistics such as mean scores and standard deviations were computed for each scale. These measures provided insights into the central tendencies and variability within the data.

To assess the collective impacts of entrepreneurial personality, management competence, and resource factors on startup success, a multiple linear regression analysis was employed. The analysis was used to identify the overall impact of these variables collectively.

The regression model was used to show how each variable contributes to the success of startup companies individually and in combination. Additionally, the analysis aimed to determine the percentage of variance in startup success explained by the model.

By employing these analytical techniques the researcher aimed to comprehensively explore the relationships between the variables and provide valuable insights into the factors influencing the success of technology startups.

Model specification

$$Y= \beta0+\beta1X1+\beta2X2+ \beta3X3 + \beta4X4+ \beta5X5 + \beta6X6+ \beta7X7+ \beta8X8+ \beta9X+e$$

Where, Y= Business performance

B=coefficient

X1=Need for achievement

X2= Locus of control

X3=Tolerance to ambiguity

X4=Risk taking

X5= Management team competency

X6= Resource factors

X7=Business network

X8=Social network

X9=Institutional network

e=error term

3.3 Operationalization of Variables

The operationalization of these variables ensures that abstract concepts are translated into measurable factors. By using standardized scales summarized below, the study reliably assessed the influence of each independent variable on business performance.

No	Variable	Question items	Name of the tool	Measurement
1	Business performance	5	Business performance scale	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)
2	Need for achievement	5	The Thematic Apperception Test (TAT)	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)
3	Locus of control	5	Rotter's Internal-External Locus of Control Scale	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)
4	Risk taking propensity	6	Domain-Specific Risk-Taking Scale	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)

			(DOSPERT)	
5	Tolerance of Ambiguity	5	Tolerance of Ambiguity scale	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)
6	Management competency	5	Management competency scale	Five-point Likert scale (1=Strongly disagree, 5= Strongly disagree)
7	Resource factors	5	Resource factors scale	-point Likert scale (1=Strongly disagree, 5= Strongly disagree)

3.4 Reliability and validity tests

3.4.1 Reliability test

The reliability of each scale used in this study was assessed using Cronbach's Alpha, a measure of internal consistency. The values range from 0 to 1, with higher values indicating greater reliability. Generally, a Cronbach's Alpha value of 0.70 or higher is considered acceptable, while values above 0.80 are considered good, and values above 0.90 are considered excellent (Cronbach & Shavelson, 2004).

The reliability test results indicate that all scales used in the study exhibited adequate internal consistency with Cronbach's Alpha values ranging from 0.80 to 0.91. This suggests that the measurement instruments for all the dependent variable and independent variables are reliable. Each scale's high alpha value demonstrates that the items within each scale consistently measure the intended constructs ensuring the reliability of the data collected.

Table 3.1 Reliability test

Name of the scale	No of items	Cronbach Alpha value
Need for achievement	6	0.84
Locus of control	5	0.80
Risk taking propensity	5	0.80
Tolerance of Ambiguity	5	0.80
Management team competency	5	0.88
Resource factors	5	0.83
Business performance	5	0.84
Social network	9	0.91
Business network	6	0.90
Institutional network	5	0.9

Source own pilot survey test

3.4.2 Validity test

Before the main data collection, on the pilot test conducted validity tests were made to make necessary modifications if items were not valid. To check the construct validity, factor loadings and average variance extracted (AVE) were used to check the construct validity of the scale.

3.4.2.1 Convergent Validity

In testing the validity of research instruments, factor loadings play a crucial role. Factor loadings, derived from factor analysis, indicate the degree to which each item correlates with the underlying construct it is intended to measure. High factor loadings which are above 0.5 suggest that the items are strong indicators of the construct, thereby confirming the construct validity of the scale (Tavakol M & A., 2020).

Indicators with factor loadings below 0.5 were dropped since they do not correlate well with the underlying factors they were intended to capture. For the eigenvalue, constructs with values greater than one were used, as an eigenvalue of 1 and above indicates validity by capturing a substantial amount of the variance in the data. The detailed summaries for each indicators and constructs are summarized on the appendix c.

3.4.2.1 Discriminant Validity

The Fornell-Larcker criterion is a widely used method for assessing discriminant validity in research involving latent variables measured through multiple indicators. This method involves calculating the Average Variance Extracted (AVE) for each construct, which represents the amount of variance in the indicators explained by the construct itself rather than by measurement error. The square root of the AVE for each construct is then compared with the correlations between that construct and all other constructs in the model. Discriminant validity is established if the square root of the AVE for a construct is greater than its highest correlation with any other construct, indicating that the construct captures more variance from its own indicators than from any other construct (Fornell & Larcker, 1981).

Based on the comparisons, all AVE values are greater than the squared Pearson correlations with other variables in the model, indicating that discriminant validity is supported for all variables. This means each construct is sufficiently distinct from the others in the model, affirming the validity of the measurement model used in your analysis. AVE values for each constructs are included on appendix c.

3.5 Ethical Considerations

All ethical considerations was kept during the study of the research, all the participants was given detailed information about the research and its objectives, and they were also be given a written notice on the questionnaire that by continuing to participate on the research they are consenting to participate on the research. The issue of confidentially was also be followed strictly, indicating information like name of the company will be changed to a serial number. The information collected for this purpose will not be used other than this research, keeping the integrity of the agreement made with the participants.

Chapter four

4 Results and Discussion

Understanding the demographic characteristics of the startup representatives and the organizations who participated on the research is essential for gaining insights into the composition and dynamics of the entrepreneurial ecosystem in which the study is conducted.

4.1 Descriptive Analysis of socio demographic factors

We will examine various demographic factors such as gender, age, educational status, paid-up capital, and physical location of the startups.

4.1.1 Response rate of the participants

The response rate for the study was 34 percent, which is higher than the typical electronic data collection response rate of below 30 percent according to Nulty (2008). This improved response rate can be attributed to the integration of a Telegram bot with the Google Form, which streamlined the survey process and encouraged participation. Furthermore, the Google Form was configured to require all fields to be completed before submission, ensuring that all responses received were complete and usable for analysis, as the system did not accept incomplete submissions.

4.1.2 Age of the respondents

The majority of respondents which is approximately 86% fall within the age range of 18-34 years old, indicating that young adults are predominantly leading the startups which aligns with a typical entrepreneurial environment. However, surprisingly, it is worth noting that there is also representation from older age groups, even though it is no significant it shows diversity in age among individuals involved in startup ventures.

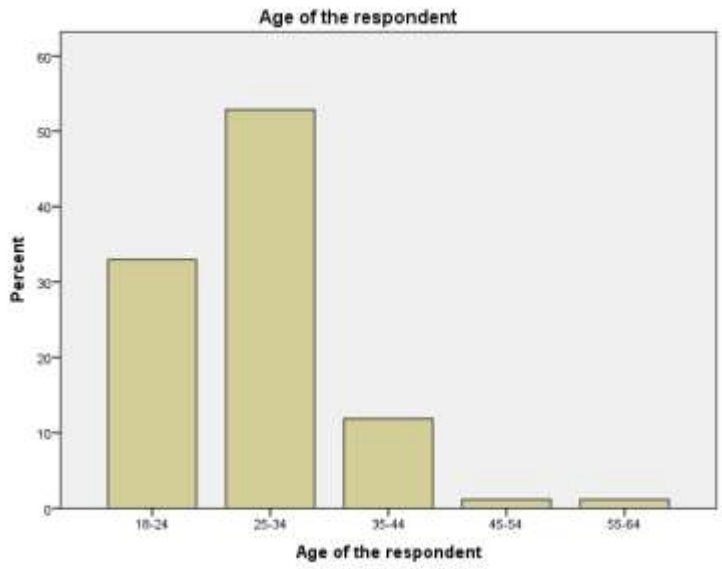


Figure 4.1 Age of respondents

4.1.3 Gender

The number of male participants is significantly predominant which is over 90%, even though the difference is very significant it is consistent with the broader trend in technology startups, where men have had historically higher representation compared to women. It also highlights the challenges related to gender diversity in the technology startups particularly in 3rd world countries like Ethiopia.

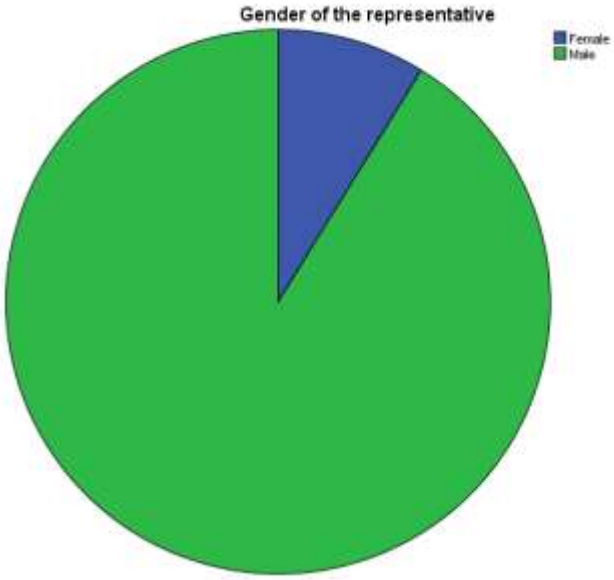


Figure 4.2 Gender of respondents

4.1.4 Educational status

A significant proportion of respondents which is 82.4% hold a bachelor's degree, indicating a high level of educational status among startups. This aligns with the perception that higher education is often associated with entrepreneurship and innovation. Additionally, a noteworthy percentage of respondents have pursued postgraduate education, mainly Master's degrees. This implies representatives with specialized knowledge and skills are well represented in the startup ecosystem.

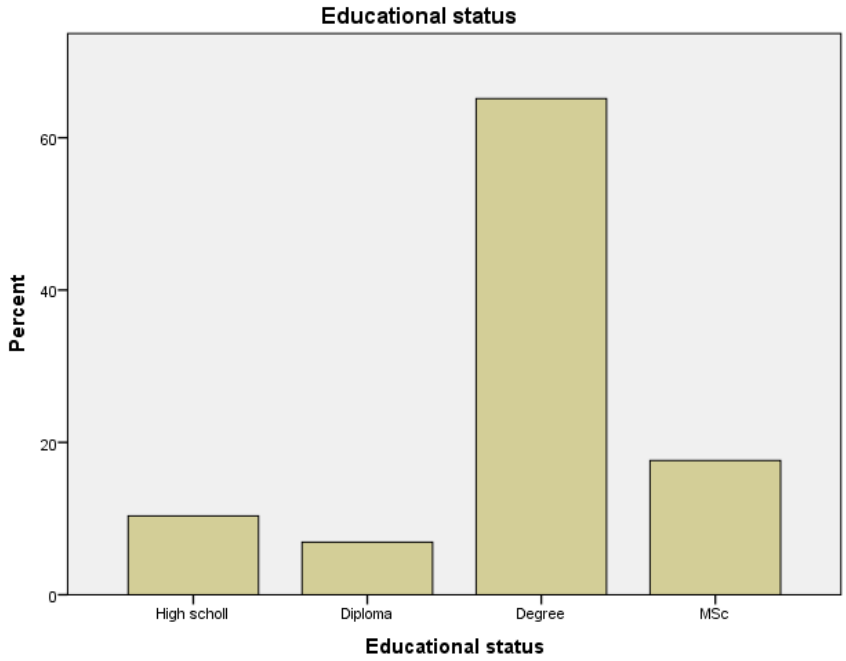


Figure 4. 3 Educational status of respondents

4.1.5 Type of corporation

The majority of startups represented in the sample are categorized as sole proprietorships which is more than half of the participants. Sole proprietorships are often characterized by a single owner who bears full responsibility for the business, reflecting the prevalence of small scale technological entrepreneurial ventures. PLCs and share companies constitute smaller proportions of the sample.

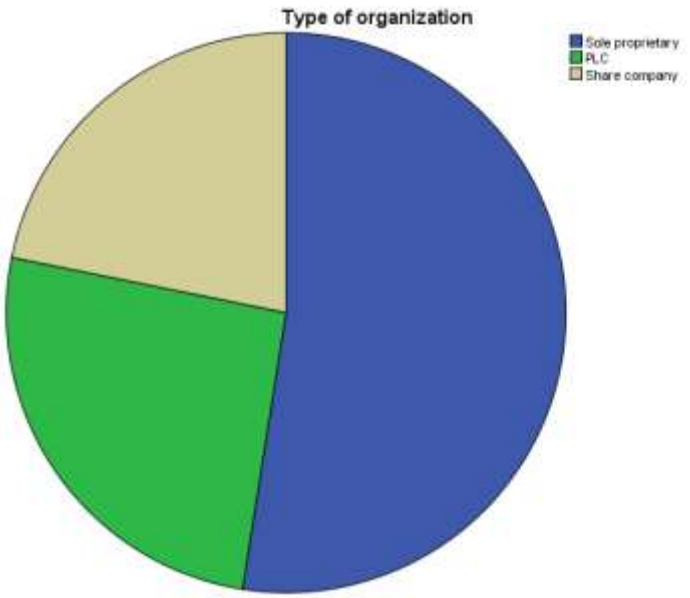


Figure 4.4 type of orginization

4.1.6 Physical location of the startups

While technology startups are present in various locations, there appears to be some concentration in certain areas. For example, Bole, Kirkos, and Yeka have relatively higher frequencies compared to other locations, with percentages ranging from 12.3% to 23.4%. This concentration may indicate factors such as favorable business environments. On the other hand, some locations have relatively lower frequencies. overall, a fair distribution is seen indicating a more even distribution of startups across Addis Ababa suggesting that technology startup ventures are not limited to specific areas.

Table 4.1 startup's physical location

Startup's physical location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Addis Ketema	16	6.1	6.1	6.1
	AkakyKaliti	13	5.0	5.0	11.1
	Arada	18	6.9	6.9	18.0
	Bole	61	23.4	23.4	41.4
	Gullele	15	5.7	5.7	47.1

	Kirkos	32	12.3	12.3	59.4
	KolfeKeranio	19	7.3	7.3	66.7
	Lideta	20	7.7	7.7	74.3
	Nifas Silk-Lafto	17	6.5	6.5	80.8
	Yeka	33	12.6	12.6	93.5
	Lemi Kura	17	6.5	6.5	100.0
	Total	261	100.0	100.0	

4.1.7 Paid-up capital

The data on paid-up capital reveal a diverse financial landscape within the startup ecosystem, showing a varying levels of initial investment among participating startups. The majority of startups possess relatively a small capital, with 41.8% having paid-up capital ranging from 0 to 50,000 ETB, indicating a prevalence of early-stage ventures with limited resources. And this definitely lines up with the fact that most of them are sole proprietaries with smaller proportions of companies having higher capital investments.

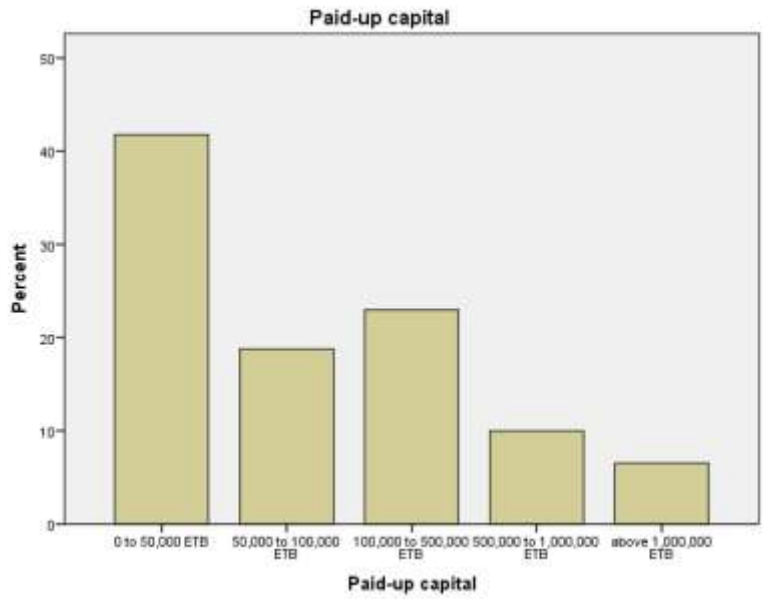


Figure 4.5 paid-up capital of the startup companies

4.2 Descriptive statistics of key variables

The mean value of business performance is 2.31 The standard deviation of 0.66 indicates moderate variability around the mean, suggesting that while most startups have similar performance levels there are some differences in performance among respondents.

The mean value for the need for achievement is 2.09, indicating that on average entrepreneurs perceive their need for achievement to be relatively low to moderate. The standard deviation of 0.61 shows moderate variability among respondents.

The mean value for locus of control is 2.27, suggesting that entrepreneurs tend to believe they have moderate control over their business outcomes. The standard deviation of 0.57 indicates relatively low variability, meaning most respondents have similar perceptions regarding locus of control.

The mean value for risk-taking is 2.09, suggesting a low to moderate propensity for taking risks among the entrepreneurs. The standard deviation of 0.63 reflects moderate variability in risk-taking behavior.

The mean value for tolerance to ambiguity is 2.28, suggesting a moderate level of comfort with ambiguity among entrepreneurs. The standard deviation of 0.62 shows moderate variability among respondents.

The mean value for management's competence is 2.17, indicating that respondents rate their management competence as low to moderate. The standard deviation of 0.69 suggests a moderate degree of variability in perceptions of management competence.

The mean value for resource factors is 2.37, suggesting that access to resources is perceived to be moderate. The standard deviation of 0.71 indicates moderate variability in perceptions regarding resource availability.

The mean value for the social network is 2.36, indicating moderate engagement in social networking. The standard deviation of 0.75 reflects considerable variability, suggesting differences in the extent of social networking among respondents.

The mean value for institutional networks is 2.53, which is relatively higher compared to other variables, indicating a moderate to high level of engagement with institutional networks. The standard deviation of 0.94 suggests substantial variability, indicating a wide range of engagement levels with institutional networks among the respondents.

The mean value for business networks is 2.37, indicating moderate involvement in business networks. The standard deviation of 0.78 shows considerable variability, suggesting differing levels of business network involvement among the startups.

Table 4.2 Descriptive statistics of key variables

	Mean	Std. Deviation	N
Business performance	2.3188	.66644	261
Need for achievement	2.0913	.61902	261
Locus of control	2.27	.576	261
Risk taking	2.0973	.63333	261
Tolerance to Ambiguity	2.2874	.62735	261
Management's Competence	2.1747	.69491	261
Resource Factors	2.3701	.71696	261
Social network	2.3640	.75357	261
Business network	2.3716	.78257	261
Institutional network	2.5356	.94698	261

4.3 Correlation analysis

4.3.1 Business Performance Correlations

Locus of Control: There is a moderately low positive correlation with business performance ($r=0.41$) ($p <.01$) indicating that as the locus of control increases, business performance tends to increase.

Risk Taking: This variable also shows a moderately low positive correlation ($r=0.39$) ($p <.05$) with business performance, suggesting as risk-taking increases so as business performance.

Tolerance to Ambiguity: Shows a moderately low positive correlation (r=0.44) (p <.05) indicating that higher tolerance to ambiguity is associated with higher business performance.

Management's Competence: This variable has a moderate positive correlation with business performance (r=0.58) (p <.05) highlighting the increase of management's competence will also increase business performance.

Resource Factors: Exhibits a moderate positive correlation (r=0.65) (p <.05) suggesting that the increase in access to resources will also increase business performance.

Social Network: The strongest correlation among the variables is seen between social network and business performance, which is (r=0.68) (p <.05) showing as social networks increases business performance will also increase.

Business Network: Shows a moderate positive correlation (r=0.65) (p <.05) indicating that as business network increases business performance will also increase.

Institutional Network: Has a moderate positive correlation (r=0.56) (p <.05) suggesting that as institutional networks increases business performance will also increase.

4.3.2 Interrelationships among predictors

Locus of Control and Risk Taking: There is a strong positive correlation (r=0.56) (p <.05) indicating that individuals with a high locus of control are also likely to engage in risk-taking behavior.

Risk Taking and Tolerance to Ambiguity: These variables are correlated (r=0.58) (p <.05) suggesting that individuals who are more willing to take risks are also more tolerant of ambiguity.

Management's Competence and Resource Factors: There is a strong positive correlation (r=0.56) (p <.05) indicating that competent management is often associated with better access to resources.

Social Network and Business Network: These variables have the highest inter-correlation (r=0.75) (p <.05) suggesting that strong social networks often coincide with robust business networks.

Business Network and Institutional Network: Also show a very strong positive correlation (r=0.79) (p <.05) indicating that business networks are closely linked with institutional networks.

Table 2.3 Pearson correlation test

variable	Business performance	Locusofcontrol	Risk taking	Tolerance to Ambiguity	Management's Competence	Resource Factors	Social network	Business network	Institutional network
Business	1.00	.409*	.387*	.435*	.577*	.648*	.674*	.646*	.560*
Locusof	.409*	1.00	.555*	.417*	.378*	.285*	.270*	.341*	.234*
Risk takin	.387*	.555*	1.00	.575*	.477*	.316*	.317*	.328*	.195*
Toleranc	.435*	.417*	.575*	1.00	.435*	.438*	.461*	.441*	.327*
Manageme	.577*	.378*	.477*	.435*	1.00	.555*	.463*	.466*	.333*
Resourc	.648*	.285*	.316*	.438*	.555*	1.00	.576*	.542*	.586*
Social	.674*	.270*	.317*	.461*	.463*	.576*	1.00	.748*	.574*
Business	.646*	.341*	.328*	.441*	.466*	.542*	.748*	1.00	.784*
Institutional	.560*	.234*	.195*	.327*	.333*	.586*	.574*	.784*	1.00

* Correlation is significant at the 0.01 level (1-tailed).

4.4 Regression Analysis

Before running the regression analysis we should ensure the analysis is reliable and valid, the five assumptions must be verified to confirm that the data aligns with these prerequisites.

4.4.1 Ordinary Least Square (OLS) Assumptions Result

This process is crucial for accurately explaining the relationships between dependent and independent variables. Therefore, five assumption tests of the Classical Linear Regression Model (CLRM) linearity, homoscedasticity, autocorrelation, multicollinearity, and normality were conducted and found to be reasonably satisfied.

4.4.1.1 Linearity test

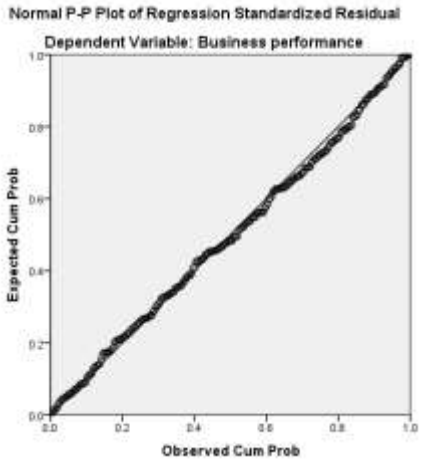


Figure 6 linearity test

The above Figure shows the plot of standards regression output of the study indicating linearity of the relationship between variables. we can infer that the relationship between the independent and the dependent could be modeled by a straight line suggesting that the relationship between these variables is linear.

4.4.1.2 Normality test

Table 4.4 normality test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Studentized Residual	.041	261	.200*	.992	261	.143

To test the normality we will have the following hypothesis

Ho Errors on the data follows normal distribution

H1 Errors on the data does not follow normal distribution

With significance level of 0.05

For the Kolmogorov-Smirnov test, the significance level is 0.200, which is greater than 0.05. Thus, we fail to reject the null hypothesis.

With significance level of 0.05

For the Shapiro-Wilk test, the significance level is 0.145, also greater than 0.05. Again, we fail to reject the null hypothesis.

Therefore, based on both tests, we can conclude the data follows a normal distribution.

4.4.1.3 Multi collinearity test

Table 4.5 multicollinearity diagnosis

	Tolerance	VIF
(Constant)		
need for Achievement	.795	1.257
Locusofcontrol	.631	1.584
Risk taking	.528	1.895
Tolerance to Ambiguity	.561	1.784
Management's Competence	.553	1.809
Resource Factors	.459	2.179
Social network	.369	2.710
Business network	.232	4.301
Institutional network	.320	3.123

To assess multicollinearity in regression analysis, Tolerance and Variance Inflation Factor (VIF) are used

All VIF values are less than 10 and there all tolerance values greater than 0.1 indicating there is no multicolinearity between the independent variables.

4.4.1.4 Outlier test

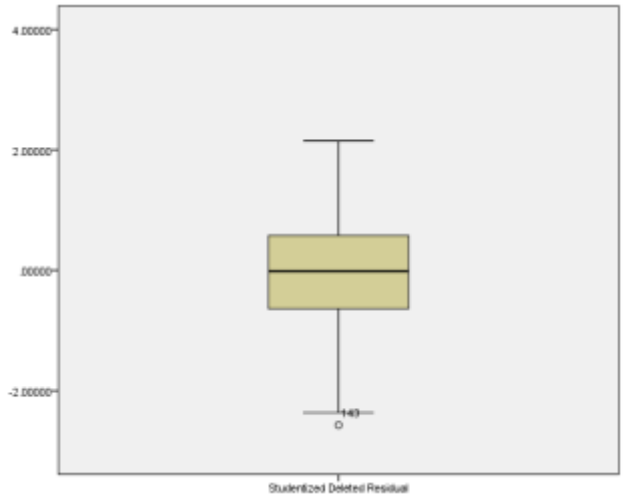


Figure 7 outlier test

Since there are no circles or plots on either side of the box plot it is an indication that there are no outliers on the data.

4.4.1.5 Hetroscedasticity

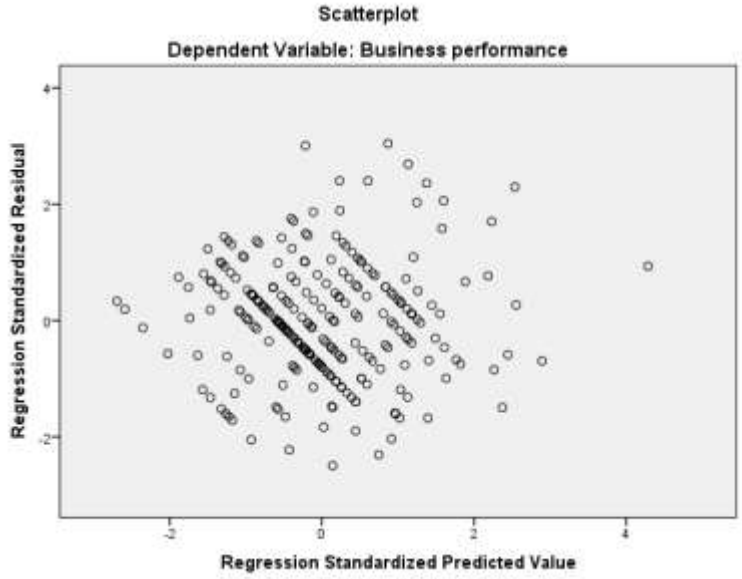


Figure 8 hetroscedasticity test

Based on the scatter plot, the spots are diffused and do not form a specific pattern, therefore we can conclude the regression model do not have hetroscedasticity problem.

4.4.2 Regression Model analysis

The researcher used multiple regression analysis for the data analysis, multiple regression analysis was run aiming to understanding the combined influence of the different variables on the dependent variable. The factors considered in the model include institutional network, risk-taking, need for achievement, management's competence, locus of control, tolerance to ambiguity, social network, resource factors, and business network. The dependent variable is business performance.

The value of R Square is 0.653, implying that 65.3% of the variance in business performance is explained by the model. This indicates a strong model fit, as a significant portion of the variability in business performance is explained by the predictors. However the R Square might not give an accurate value as the explanatory variables increases, hence, we will use adjusted R square to account for that factor. The adjusted R Square is 0.641, it takes into account the number of predictors in the model and adjusts for the sample size. This value is slightly lower than R Square since it decreases the effect of the multiple variables but still, it indicates a good fit explaining 64.1 % of the variance.

Table 4.6 model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.808[a]	.653	.641	.39941	2.060

a. Predictors: (Constant), Institutional network, Risk taking, need for Achievement, Management's Competence, Locusofcontrol, Tolerance to Ambiguity, Social network, Resource Factors, Business network

b. Dependent Variable: Business performance

ANOVA

Table 4.7 ANOVA Table

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.437	9	8.382	52.542	.000[b]
	Residual	40.041	251	.160		
	Total	115.478	260			

a. Dependent Variable: Business performance

b. Predictors: (Constant), Institutional network, Risk taking, need for Achievement, Management's Competence, Locus of control, Tolerance to Ambiguity, Social network, Resource Factors, Business network

Our analysis of variance revealed a statistically significant model, $F(9, 251) = 52.542$, $p < .000$. This result indicates that the model which incorporates factors such as institutional network, risk-taking, need for achievement, management's competence, locus of control, tolerance to ambiguity, social network and resource factors, explains a significant portion of the variation in business performance. In other words, we can say there is a very low probability which is 0.001% chance that the observed relationships between these variables and business performance are due to chance

The ANOVA table primarily focuses on the combined effect and does not directly assess the significance of individual predictors. While the significant Fstatistic indicates that the included variables are important when combined, we need to analyze the individual regression coefficients and their corresponding p-values to determine which specific factors have a statistically significant influence on business performance.

Table 4.8 Regression coefficient

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.174	.136		-1.279	.202
	need for Achievement	.173	.037	.198	4.752	.000
	Locusofcontrol	.118	.054	.102	2.183	.030
	Risk taking	.011	.054	.011	.206	.837
	Tolerance to Ambiguity	-.012	.053	-.011	-.227	.821

	Management's Competence	.159	.048	.166	3.324	.001
	Resource Factors	.229	.051	.246	4.481	.000
	Social network	.216	.054	.244	3.995	.000
	Business network	.088	.066	.103	1.336	.183
	Institutional network	.039	.046	.055	.842	.400

a. Dependent Variable: Business performance

4.4.3 Regression equation

Based on the regression coefficient the regression equation model can be written as below

$$Y=0.174+0.173X1+0.118X2+0.011X3-0.012X4+0.159X5+0.229X6+0.216X7+0.088X8+0.039X9+e$$

Where, Y= Business performance

X1=Need for achievement

X2= Locus of control

X3=Tolerance to ambiguity

X4=Risk taking

X5= Management team competency

X6= Resource factors

X7=Business network

X8=Social network

X9=Institutional network

e=error term

Hypothesis testing

Hypothesis 1

H1: There is a positive and significant relationship between entrepreneurial personality traits and technology startup's business performance.

This study hypothesizes that entrepreneurial personality traits, represented by Need for achievement, Locus of control, Tolerance to ambiguity and Need for achievement, have a positive and significant impact on technology startup's business performance.

Based on the regression analysis results presented in the provided table, both Locus of control (B = 0.118, P = 0.030) and need for achievement (B = 0.173, P. = 0.000) were found to have statistically significant coefficients. This suggests that both predictors contribute positively to technology startup's business performance.

Therefore, we reject the null hypothesis and accept that entrepreneurial personality traits, as measured by Locus of control and need for achievement, have a significant positive relationship with technology startup's business performance.

Hypothesis 2

H2: There is a positive and significant relationship between management competence and technology startup's business performance.

This study hypothesizes that management competence, indicated by Management's Competence, positively influences technology startup's business performance.

The regression analysis results revealed that Management's Competence (B = 0.159, P = 0.001) has a statistically significant coefficient. This indicates that management competence is positively associated with technology startup's business performance.

Therefore, we reject the null hypothesis and accept that management competence has a significant positive relationship with technology startup's business performance.

Hypothesis 3

H3: There is a positive and significant relationship between resource factors and technology startup's business performance.

This research hypothesizes that resource factors positively impact technology startup's business performance.

From the regression analysis, it is evident that Resource Factors (B = 0.229, P = 0.000) showed a statistically significant coefficient. This implies that resource factors have a positive influence on technology startup's business performance.

Therefore, we reject the null hypothesis and accept that resource factors significantly and positively relate to technology startup's business performance.

Hypothesis 4

H4: There is a positive and significant relationship between networking and technology startup's business performance.

This study hypothesizes that networking, as indicated by Social network and Business network, positively affects technology startup's business performance.

The regression coefficients demonstrate that Social network (B = 0.216, Sig. = 0.000) possess statistically significant coefficient. This suggests that networking has a positive impact on technology startup's business performance.

Therefore, we reject the null hypothesis and accept that networking significantly and positively relates to technology startup's business performance.

4.5 Discussion

The study aimed to investigate the relationship between several critical predictors such as institutional network, need for achievement, tolerance to ambiguity, management's competence, locus of control, risk-taking, social network, resource factors, and business network and the business performance of technology startups in Addis Ababa. By employing a regression analysis approach, the research aimed to provide empirical insights into how these variables contribute to the success of technology startups.

The first hypothesis posited that entrepreneurial personality traits represented by locus of control and need for achievement positively affect business performance. The regression analysis confirmed this hypothesis, showing significant and positive coefficients for locus of control (B = 0.118, P = 0.030) and need for achievement (B = 0.173, P = 0.000). These results align with existing literature that underscores the importance of these traits in driving entrepreneurial success (Leone & Burns, 2000). A strong locus of control implies that entrepreneurs believe they can influence outcomes through their actions, thereby fostering proactive behaviors that enhance business performance. Similarly, a high need for achievement drives entrepreneurs to set challenging goals and persistently pursue them leading to better performance outcomes.

Moving on, impact of management competence on business performance, with a particular focus on management's competence. The analysis revealed a significant positive relationship (B = 0.159, P = 0.001), highlighting that management's competence is crucial for startup success. This finding is consistent with Baum and Locke's (2004) research, which emphasizes the importance of managerial skills and expertise in navigating the complexities of running a startup. Effective management involves strategic decision making, efficient resource allocation, and the ability to inspire and lead teams all of which are vital for achieving superior business performance.

The third hypothesis examined the role of resource factors in business performance. The regression results showed a significant positive coefficient for resource factors (B = 0.229, P = 0.000), supporting the resource-based view (RBV) of the firm (Barney, 2019). According to the RBV, the ability to acquire, control, and utilize valuable resources is a key determinant of competitive advantage and business success. In the context of technology startups, access to financial, human, and technological resources enables firms to innovate, scale operations, and respond effectively to market opportunities, thereby enhancing performance.

The last hypothesis assessed the impact of networking on business performance, differentiating between social and business networks. The regression findings indicated that business networks (B = 0.216, P = 0.000) significantly positively impact business performance, while social networks (B = 0.088, P = 0.183) did not show a significant effect. These results align with social capital theory (Burt, 2011), which states that business networks provide access to critical resources, information, and support. The significant impact of business networks suggests that relational ties and interactions are more influential in driving startup success than informal social networks, potentially due to the trust and collaboration they have.

From the model summary with the adjusted R square value of 0.641, it can be concluded 64.1 percent of changes in business performance can be attributed to the combined effects of the explanatory variables. However, 35.9 percent of variance is explained by other factors not included on this study.

The findings from this research substantially contribute to both entrepreneurial theory and practical applications, the study reinforces the theoretical frameworks of resource-based theory, social capital theory, and personality trait theories by empirically validating the role of management's competence, resource factors, and networking in startup performance. This adds depth to existing literature by explaining these relationships within technology startups and gave a comprehensive model to explain the variables.

The results emphasize the need for startups to focus on enhancing managerial skills, efficiently managing resources, and leveraging social and business networks. These insights can guide entrepreneurial training programs and policy making to enhance startup ecosystems.

Chapter Five

5 Summary of findings, Conclusions and Recommendations

5.1 Summary of findings

The study provided a valuable insight into what the critical determinants of business performance are in technology startups operating in Addis Ababa. Through a careful evaluation of various predictors, the research highlighted the significance of entrepreneurial personality, management's competence, resource factors, social network, and business network. These elements proved to be the crucial contributors to business performance, reflecting both their individual and collective influence on the success of technology startups.

The findings from the study showed the multidimensional nature of entrepreneurial success, which depends on a combination of internal competencies and external connections. Management's competence, as a representative of team skill and expertise was shown to be a critical determinant of success, emphasizing the necessity of strong leadership and strategic decision making within startups.

Moreover, entrepreneurial personality mainly manifested by the locus of control, risk taking and tolerance to ambiguity underscores the importance of entrepreneurial mentality and attitude, illustrating that individuals who believe in their control over outcomes are more likely to lead their ventures towards the success they intended to.

Resource factors, including financial, human, and technical resources, were also found to be crucial. This affirms resource based theory's claim that effective resource acquisition and management are essential for gaining competitive advantage which ultimately lead to the success of the business.

Additionally, social and business networks showed to be vital, providing startups with the support, information, and opportunities needed to grow in a competitive landscape. The research not only solidifies theoretical understandings but also extends practical guidance for those in the entrepreneurial ecosystem, from policymakers to startup founders. By focusing on enhancing management's competence, having a proactive entrepreneurial attitude, optimizing resource

utilization, and expanding networking opportunities, stakeholders can significantly improve the odds of startup success.

5.2 Conclusions

This study showed the critical determinants of business performance in technology startups operating in Addis Ababa, identifying entrepreneurial personality, management competence, resource factors, social networks and business networks as key contributors to success. The findings highlighted the multifaceted nature of entrepreneurial success, underscoring the importance of both internal and external factors. The entrepreneurial personality traits, particularly locus of control and need for achievement were shown to significantly influence startup success. Individuals with a proactive entrepreneurial attitude, who believe in their control over outcomes, are more likely to lead their companies toward success. Management competence was also shown to be a pivotal factor, emphasizing the necessity for strong leadership and strategic decision making within startups. Resource factors, including financial, human, and technical resources, were confirmed as essential for gaining a competitive advantage conforming with resource based theory. Effective management of resources are crucial for business success. Furthermore, business networks were found to be vital in providing the support, information, and opportunities necessary for growth in the competitive environment. These findings not only reinforce theoretical frameworks but also offer practical guidance for stakeholders in the entrepreneurial ecosystem. By focusing on enhancing management competence, creating a nurturing environment which promotes entrepreneurial mindset, optimizing resource utilization, and expanding networking opportunities, the chance of startup success can be significantly improved. Overall, this research contributes valuable insights into the determinants of business performance in technology startups, providing a comprehensive understanding that can guide future research, policy making and entrepreneurial practices.

5.3 Recommendations

Based on the findings of the study, several practical recommendations can be proposed:

First, enhance entrepreneurial management education and training, entrepreneurship programs should place a strong emphasis on developing management capabilities and encouragement among aspiring entrepreneurs because management competence was found to be a significant factor influencing business performance. The training programs should focus on enhancing

management skills, including strategic planning, leadership and decision making. By improving these skills, entrepreneurs will have better chance of surviving the challenges.

Second, facilitate access to resources, this can be done by governmental or financial institutions, they should try to create a clear path for startups to access necessary resources that are important to the startups. Since resource factors were found to be a significant predictor of entrepreneurial success on this study offering grants, subsidies and affordable financing can alleviate financial constraints on the startups enabling then to invest in essential resources such as technology, infrastructure and human resource.

Third, giving support for mentorship programs, establish mentorship programs for linking inexperienced entrepreneurs with seasoned and successful business owners. Since locus of control and need for achievement were to be found significant predictors of business performance. Such programs especially the ones tailored to give them a paradigm shift on internal locus of control and the need to thrive for achievement, can offer invaluable guidance, knowledge transfer and moral support, helping startups navigate the complexities of the business environment.

Fourth, promote networking opportunities, according to this study networking was one of the significant factors which positively influenced business performance. Hence, policymakers and industry leaders should promote environments that are conducive to networking. This can be achieved through organizing industry events, startup incubators and accelerators that encourage the exchange of ideas and collaboration. Online platforms and forums can also play a crucial role in growing business connections.

5.4 Further research

This study found that risk taking and tolerance for ambiguity did not significantly impact business performance. These traits are noteworthy personality traits and future research should explore alternative measures of these traits to better capture their influence. Developing and validating new scales or instruments to measure risk taking and tolerance for ambiguity might let use uncover their impacts on entrepreneurial personality.

Furthermore, according to this study, business network was found to be significant predictor but institutional network did not show a significant impact in this study but it remains an important

area for exploration. The role of governmental and other institutional supports in fostering startup growth should be explored further and comparative studies could highlight best practices and areas for policy improvement.

Additionally, since this study was made on technology startups operating in Addis Ababa, sector specific analysis expanding the research to other industries beyond technology startups could validate the generalizability of the findings and uncover industry specific factors influencing business performance.

Finally, cross cultural comparisons examining how these relationships hold in different cultural or geographical contexts could reveal the influence of cultural factors on entrepreneurial success. By addressing these areas, future research can offer more comprehensive frameworks for understanding and enhancing the success of technology startups nationally in Ethiopia and even globally. This continuous exploration and knowledge enhancement will be vital in fostering entrepreneurial ecosystems that are resilient and adaptive to the ever evolving challenges of technology startups.

Appendix A Questionnaire used

Informed consent

Dear Participant,

Hello, I am a graduate student in the MBA program at Addis Ababa University. I am currently conducting research on the factors that influence the success of technology startup companies operating in Addis Ababa. I would appreciate your help in completing the attached questionnaire, which is an essential tool for achieving the research objective.

This research is academic, and all responses will be kept confidential.

Before you proceed with the questionnaire, it should be duly noted participation in this study is voluntary, and your responses will be treated with strict confidentiality. Please read each question carefully and indicate your agreement or disagreement using a 5-point Likert scale, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree". By proceeding with the questionnaire, you are giving your informed consent to participate in this research study.

Thank you for your time and contribution to this study, if you have any questions or comments please call 0987404189 immediately.

Sincerely,

Abenezer Workneh

Part A Demographic details

1 Name of the startup represented_____

2 Current position of the representative_____

3 Age _____

4. Gender: a) Male____ b) Female:____

5. Educational background:_____

a. high school completed, b. College diploma c. Degree d. MSc e. Other (please indicate)

6. Sub-city of the startup's physical location_____

7. Formation of the organization Sole proprietary ( ) Share company ( ) PLC ( )

8. Paid-up capital of the startup_____

Part B

1 need for Achievement

No.	Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1.	Setting challenging goals and achieving them is important to me.	1	2	3	4	5
2.	I often set ambitious targets for myself and strive to reach them.	1	2	3	4	5
3.	I feel a sense of accomplishment when I achieve my goals.	1	2	3	4	5
4.	I actively seek out opportunities to test my skills and abilities.	1	2	3	4	5
5.	I enjoy taking on tasks that require effort and persistence.	1	2	3	4	5
6.	Surpassing my previous achievements motivates me.	1	2	3	4	5

2 Locus of Control

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	I believe that my actions have a significant impact on the outcomes in my life.	1	2	3	4	5
2	I feel that external circumstances largely determine what happens to me.	1	2	3	4	5
3	I believe that I have control over the direction my life takes.	1	2	3	4	5
4	I often feel that luck or fate plays a major role in determining my success or failure.	1	2	3	4	5
5	I am confident that I can influence the outcomes of my decisions and actions.	1	2	3	4	5

3 Risk-Taking

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	I am willing to take risks to achieve my goals.	1	2	3	4	5
2	I enjoy trying new and unfamiliar experiences, even if they involve some level of uncertainty.	1	2	3	4	5
3	I believe that taking calculated risks is necessary for personal growth and success.	1	2	3	4	5
4	I feel comfortable making decisions that have the potential for both positive and negative outcomes.	1	2	3	4	5
5	I am open to exploring opportunities that involve a degree of uncertainty or ambiguity.	1	2	3	4	5

4: Tolerance to Ambiguity

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	I feel comfortable when faced with uncertain or ambiguous situations.	1	2	3	4	5
2	I am open to exploring new and unfamiliar ideas, even if they lack clear solutions.	1	2	3	4	5
3	I can handle situations where there is no clear-cut answer or direction.	1	2	3	4	5
4	I find it exciting to navigate through complex and uncertain circumstances.	1	2	3	4	5
5	I am able to tolerate the discomfort	1	2	3	4	5

	that comes with not knowing all the answers.					

5 Management's Competence

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	The management team effectively develops and communicates the organization's strategic goals and objectives.	1	2	3	4	5
2	The management team demonstrates strong decision-making skills in handling complex and critical issues.	1	2	3	4	5
3	The management team effectively leads and motivates employees to achieve high levels of performance.	1	2	3	4	5
4	The management team demonstrates sound financial management skills in budgeting and resource allocation.	1	2	3	4	5
5	The management team fosters a collaborative and cohesive work environment among employees.	1	2	3	4	5

6 Resource Factors

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Our startup has sufficient financial resources to support its operations and growth.	1	2	3	4	5
2	Our startup has access to adequate funding and capital to meet its needs.	1	2	3	4	5
3	Our startup has a skilled and talented team with the necessary expertise to drive success.	1	2	3	4	5
4	Our startup possesses the physical resources necessary for its operations, such as equipment and facilities.	1	2	3	4	5
5	Our startup has valuable intellectual property assets that provide a competitive advantage.	1	2	3	4	5

7. S**ocial network**

No	Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)

1	I get all necessary support and encouragement for my job and business from family and relatives	1	2	3	4	5
2	I get all necessary support and encouragement for my job and business from friends	1	2	3	4	5
3	I get all necessary support and encouragement for my job and business from personal contacts	1	2	3	4	5
4	I get all necessary support and encouragement for my job and business from other acquaintances	1	2	3	4	5
5	I get all necessary support and encouragement for my job and business from former classmates or neighbors	1	2	3	4	5
6	I get all necessary support and encouragement for my job and business from colleagues in previous jobs	1	2	3	4	5
7	I get all necessary support and encouragement for my job and business from employees in my organization	1	2	3	4	5

8. Business network

No	Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1	I get all necessary support and encouragement for my job and business from business partners	1	2	3	4	5
2	I get all necessary support and encouragement for my job and business from suppliers	1	2	3	4	5
3	I get all necessary support and encouragement for my job and business from producers	1	2	3	4	5
4	I get all necessary support and encouragement for my job and business from competitors	1	2	3	4	5
5	I get all necessary support and encouragement for my job and business from customers	1	2	3	4	5
6	I get all necessary support and encouragement for	1	2	3	4	5

	my job and business from other stakeholders					

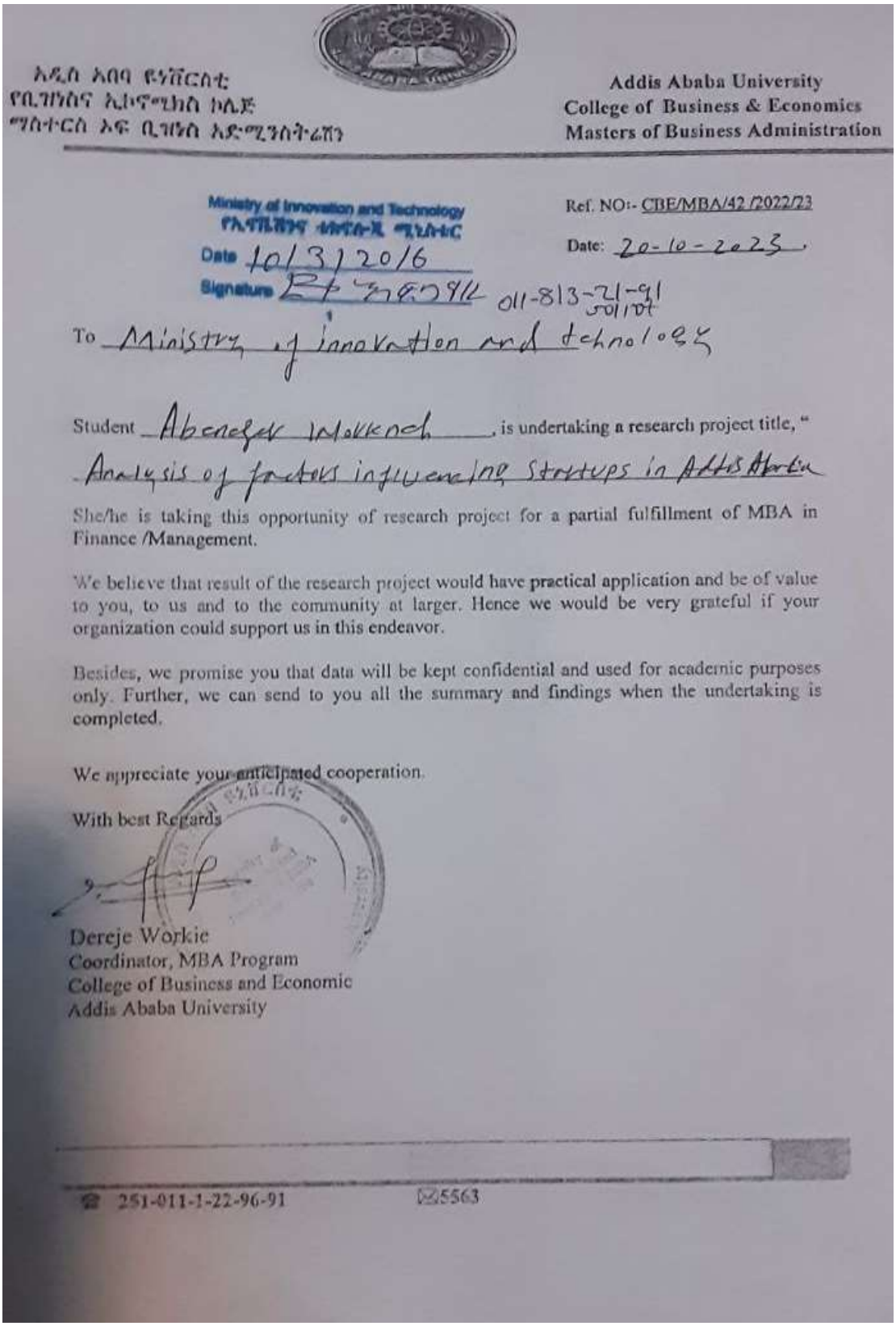
9. Institutional network

No	Statement	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1	I get all necessary support and encouragement for my job and business from government agencies	1	2	3	4	5
2	I get all necessary support and encouragement for my job and business from business incubators (firms that provide services such as management training, office space, financial and technical support)	1	2	3	4	5
3	I get all necessary support and encouragement for my job and business from financial institutions	1	2	3	4	5
4	I get all necessary support and encouragement for my job and business from research institutions	1	2	3	4	5
5	I get all necessary support and encouragement for my job and business from chamber of commerce	1	2	3	4	5

10 Business performance

No.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Relative to competing products, those of our business have been more successful in terms of sales	1	2	3	4	5
2	Relative to competing products, those of our business have been more successful in terms of achieving and establishing market share	1	2	3	4	5
3	We have been able to attract totally new customers in recent years	1	2	3	4	5
4	We have been able to expand our existing customer base in recent years	1	2	3	4	5
5	We have succeeded in sustaining our customer base and achieving repeat orders	1	2	3	4	5

Appendix B Data Request to ministry of innovation



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Addis Ababa University
College of Business & Economics
Masters of Business Administration

Ministry of Innovation and Technology
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Date 10/3/2016
Signature

Ref. NO:- CBE/MBA/42 /2022/23
Date: 20-10-2023

011-813-21-91

To Ministry of innovation and technology

Student Abenezer Mokkonen, is undertaking a research project title, "
Analysis of factors influencing Startups in Addis Ababa"

She/he is taking this opportunity of research project for a partial fulfillment of MBA in Finance /Management.

We believe that result of the research project would have practical application and be of value to you, to us and to the community at larger. Hence we would be very grateful if your organization could support us in this endeavor.

Besides, we promise you that data will be kept confidential and used for academic purposes only. Further, we can send to you all the summary and findings when the undertaking is completed.

We appreciate your anticipated cooperation.

With best Regards

Dereje Workie
Coordinator, MBA Program
College of Business and Economic
Addis Ababa University

☎ 251-011-1-22-96-91 ✉5563

Appendix C Factor Loadings

Independent variable 1 need for Achievement

	Alpha value = 0.87 , AVE=0.55	
No.	**Items**	**Factor loadings**
1.	Setting challenging goals and achieving them is important to me.	0.714
2.	I often set ambitious targets for myself and strive to reach them.	0.724
3.	I feel a sense of accomplishment when I achieve my goals.	0.745
4.	I actively seek out opportunities to test my skills and abilities.	0.789
5.	I enjoy taking on tasks that require effort and persistence.	.0796
6.	Surpassing my previous achievements motivates me.	0.659

Independent variable 2 Locus of Control

	Alpha value =0.83 , AVE=0.55	
No.	**Items**	**Factor loadings**
1.	I believe that my actions have a significant impact on the outcomes in my life..	0.690
2.	I feel that external circumstances largely determine what happens to me.	0.740
3.	I believe that I have control over the direction my life takes.	0.766
4.	I often feel that luck or fate plays a major role in determining my success or failure.	*0.337
5.	I am confident that I can influence the outcomes of my decisions and actions.	0.773

***Item 4 was dropped**

Independent variable 3 Risk-Taking

	Alpha value =0.85 , AVE=0.546	
No.	**Items**	**Factor loadings**
1.	I am willing to take risks to achieve my goals.	0.690
2.	I enjoy trying new and unfamiliar experiences, even if they involve some level of uncertainty.	0.740
3.	I believe that taking calculated risks is necessary for personal growth and success.	0.766
4.	I feel comfortable making decisions that have the potential for both positive and negative outcomes.	0.765
5.	I am open to exploring opportunities that involve a degree of uncertainty or ambiguity.	0.732

Independent variable 4 Tolerance to Ambiguity

	Alpha value =0.91 , AVE=0.668	
No.	**Items**	**Factor loadings**
1.	I feel comfortable when faced with uncertain or ambiguous situations.	0.671
2.	I am open to exploring new and unfamiliar ideas, even if they lack clear solutions.	0.799
3.	I can handle situations where there is no clear-cut answer or direction.	0.763
4.	I find it exciting to navigate through complex and uncertain circumstances.	0.742
5.	I am able to tolerate the discomfort that comes with not knowing all the answers.	0.723

Independent variable 5 Management's Competence

	Alpha value = 0.90, AVE=0.668	
No.	**Items**	**Factor loadings**
1.	The management team effectively develops and communicates the organization's strategic goals and objectives.	0.817
2.	The management team demonstrates strong decision-making skills in handling complex and critical issues.	0.820
3.	The management team effectively leads and motivates employees to achieve high levels of performance.	0.831
4.	The management team demonstrates sound financial management skills in budgeting and resource allocation.	0.824
5.	The management team fosters a collaborative and cohesive work environment among employees.	0.795

Independent variable 6 Resource Factors

	Alpha value =0.87 , AVE=0.592	
No.	**Items**	**Factor loadings**
1.	Our startup has sufficient financial resources to support its operations and growth.	0.748
2.	Our startup has access to adequate funding and capital to meet its needs.	0.749
3.	Our startup has a skilled and talented team with the necessary expertise to drive success.	0.729
4.	Our startup possesses the physical resources necessary for its operations, such as equipment and facilities.	0.830
5.	Our startup has valuable intellectual property assets that provide a competitive advantage.	0.789

Independent variable 7 Social network

	Alpha value =0.92 , AVE=0.635	
No.	**Items**	**Factor loadings**
1.	I get all necessary support and encouragement for my job and business from family and relatives	0.779
2.	I get all necessary support and encouragement for my job and business from friends	0.811
3.	I get all necessary support and encouragement for my job and business from personal contacts	0.753
4.	I get all necessary support and encouragement for my job and business from other acquaintances	0.780
5.	I get all necessary support and encouragement for my job and business from former classmates or neighbors	0.804
6	I get all necessary support and encouragement for my job and business from colleagues in previous jobs	0.852
7	I get all necessary support and encouragement for my job and business from employees in my organization	0.804

Independent variable 8 Business network

	Alpha value =0.91 , AVE=0.65	
No.	**Items**	**Factor loadings**
1.	I get all necessary support and encouragement for my job and business from business partners	0.827
2.	I get all necessary support and encouragement for my job and	0.851

	business from suppliers	
3.	I get all necessary support and encouragement for my job and business from producers	0.828
4.	I get all necessary support and encouragement for my job and business from competitors	0.789
5.	I get all necessary support and encouragement for my job and business from customers	0.768
6	I get all necessary support and encouragement for my job and business from other stakeholders	0.796

Independent variable 9 Institutional network

	Alpha value =0.93 , Eigen value=0.74	
No.	**Items**	**Factor loadings**
1.	I get all necessary support and encouragement for my job and business from government agencies	0.855
2.	I get all necessary support and encouragement for my job and business from business incubators (firms that provide services such as management training, office space, financial and technical support)	0.869
3.	I get all necessary support and encouragement for my job and business from financial institutions	0.859
4.	I get all necessary support and encouragement for my job and business from research institutions	0.904
5.	I get all necessary support and encouragement for my job and business from chamber of commerce	0.842

Dependent variable Business performance

	Alpha value =0.88 , Eigen value=3.03	
No.	**Items**	**Factor loadings**

1.	Relative to competing products, those of our business have been more successful in terms of sales	0.742
2.	Relative to competing products, those of our business have been more successful in terms of achieving and establishing market share	0.793
3.	We have been able to attract totally new customers in recent years	0.785
4.	We have been able to expand our existing customer base in recent years	0.802
5.	We have succeeded in sustaining our customer base and achieving repeat orders	0.769

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