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"Incorporating Sustainability Into The Business Model of Startups Can Influence Funding of New Entrepreneurial Ventures"

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Abstract

The study investigates the impact of incorporating sustainability within the business model on the funding of new entrepreneurial ventures. This study is novel as it incorporated the meditating role of sustainability in the startup funding. The study conducted a survey of 87 startups operating in The Netherlands and Pakistan in various industries. The study finds that sustainability has a significant positive impact on the amount of funding raised by the startups. The study constructed various proxies for perceived sustainability and found that filing of patents, leadership qualities of the CEO and internationalization of startup are significantly related with the amount of funding raised by the startup. Moreover, the study finds that the use of latest technology and differentiation of products do not have any significant impact towards the startup funding. The study is particularly useful for the new startups as it suggests the ways through which the perceived sustainability may be increased, leading towards higher funding.

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CHAPTER I

1. Introduction

1.1. Background of the research

Sustainability can be defined as the approach of a business to create a long-term value by incorporating considerations on how the organization can operate in a social, economic and ecological environment. In simple words, it is about how the businesses can develop strategies that would enable firm's longevity (Shenider, 2015). Sustainability is the art of keeping the company competitive for long term and minimizing long-term and short-term risks. Sustainability is a synonym for long term survival.

Sustainability is referred as to how people manage to maintain variation in homeostasis, in this scenario, the utilization of resources, investments, technological advancement and differentiation go hand in hand without any adverse effects while enhancing present and future human needs and wants. Sustainability consists of three elementary pillars: social, economic and environment (Rohrbeck, 2013).

While sustainability is becoming progressively significant in all kinds of enterprises. Start-ups are prevailing vastly in the globe and specifically within Europe. A startup process is defined as a chain of experiments which lead towards a prosperous product; however, it is mostly seen that the startup founders face difficulty in learning from their own experiences as well as from other such startups (Nguyen-Duc, 2016). While many businesses are able to implement sustainability within their business model, it is of utmost importance for start-ups to be able to adhere to sustainable business practices within their business model in order to grow and to be able to attract potential investors to flourish.

Many start-ups struggle working in terms of sustainability and how it can be implemented to enhance their image while being able to obtain more funds and increased support from the

stakeholders and investors. This research is focused towards using a framework for innovation and sustainability to investigate how these factors can be incorporated within the business model, particularly to identify and explain the impact on funds and support provided by stakeholders (investors).

Sustainability innovations being featured by a systemic nature, requires multiple organizations to function in a collaborative fashion. In order to formulate and identify chances of sustainability innovations new and advanced methods must be introduced (Rohrbeck, 2013). Schneider (2015) argued that firm's stakeholders must participate in sustainability management and accounting in order to effectively deal with the challenges of corporate sustainability, which though practically are found to be impracticable which would in turn increase the risk of misbalancing the separate aspects of sustainability.

Responsible management plays a vital role in a new venture as it is bound to encourage conventional managers to practice sustainability in order to be aligned with the overall goal of the organization: incorporating sustainable business practices within the business model. This would further lead to the main objective of being able to obtain increasing funds and support from investors and stakeholders and impacting the reputation of the start-up in a positive way (Jones, 2007).

A Significant characteristic of sustainable entrepreneurs is their strong focus on the ecological features of their business vision as compared to the conventional entrepreneurial objectives to expand and achieve profits. (Schlange, 2006). Also, the profound operators behind a sustainable entrepreneurial aspiration can be drawn along the ethical and social dimension. In order to establish a business model, a firm must concentrate its attention towards interrogation and potential utilization of the arising opportunities within the firm's environment. Precisely to conduct business model innovation, adopting entrepreneurial approach while renewing a

comprehensive understanding to a firm's initial condition and abilities is of significant importance specifically for the firms that are facing vivacious environments (Schneider, 2013).

A sustainable business organization is the one that portrays its objectives and goals in terms of economic, social, and environmental results. While profits are being considered as ways to acquire sustainable results, but a sustainable organization must earn profit to exist not just exist to earn profit. They adopt sustainability because it is the "right" and the "smart" thing to do. Those organizations that adopt a stakeholder view rather than a shareholder view finds that the organization's prosperity is correlated with the success of the stakeholders, including suppliers, employees, partners, customers, and local communities. For a sustainable business model, stakeholder participation and cooperation are important (Yuen, 2017).

This study has developed various metrics for perceived sustainability to understand their impact on the amount of funding raised by the startups. This study has explored the role of market-oriented technology, filing of patents, internationalization of the startup, leadership of the CEO and differentiation of the product in determining the perceived sustainability in the business model. The study finds a significant role of leadership qualities, patents and internationalization of startup in enhancing the perceived sustainability of the startup. The study also finds that the startups which are perceived as sustainable have been able to raise higher amounts of funding.

1.2.Intuition behind the Study

The research provides insights on how the business model can adapt sustainable strategies and measures leading to increasing funds and support from the stakeholders. The reason behind this would be that being able to incorporate sustainability within the business model of the start-up would increase the funds provided by investors further improving the image of the venture and would attract potential new investors. The information generated by the research

would aid in enhancing the overall mission of the start-up. The information already available gives insight about the current business model of various start-ups and the financial summary before sustainability is adhered within the business model. The research is expected to generate measures and ways in which sustainability will be added to the business model and how it will impact the funds provided by investors and the support provided by the stakeholders (investors).

1.3.Research Objectives

The major objective of the study is to explore the impact of incorporating sustainability within the business model of startups and its influence on funding for new entrepreneurial ventures in support of its investors.

1.4.Research Questions

The following are the major research questions which are being investigated in this study.

Q1. How can sustainability be integrated in the business model of the start-up?

Q2. What are the major factors that can influence the startups funding?

Q3. How can sustainability within the business model influence the startup funding?

1.5.Academic Significance of the Study

The thesis aims to bridge the gap between sustainable practices, focusing on entrepreneurial ventures and how this woud lead to increase in funds from investors. The academic contribution is rooted in analysing and researching the role sustainable practices play towards an increase in funds. Earlier researches such as [Fernandes et al. 2014, Weblein and Chesbrough, 2015; Shenider, 2015; Dinesh and Sushil, 2019] have not investigated the role of sustainability and

determinants of sustainablity in the startup's success. While othe research such as [Bistrova and Prohovoros, 2018; Canonone and Ughetto, 2014; Ghezzi et al. 2016] have explored the determinants of funding and profitablity of startups. The major research gap that exists is that sustainability of startups are not analyzed in the terms of higher funding. The research is novel because it will support the element that is available regarding sustainable practices, entrepreneurial ventures and fund generation for startups. This study further investigates how entrepreneurs inject sustainable practices within their business model and how it influences funding for their ventures.

1.6.Managerial Significance of the Study

This research is significant because it points out the major factors that should be considered by a startup to create a perception of sustainability in the minds of the investors. When investors perceive a startup as sustainable, the probability of raising funds may go higher. If a startup incorporates the studied factors in their business model, it may receive higher funding as well as the chances of survival in the competitive market may also go high. In this way, this research will help the management of startups to incorporate the factors pertaining to sustainability in their organization. This incorporation may lead towards long term sustainability of the business and higher funding relative to other startups, which are perceived as unsustainable by the investors.

This study is divided into five chapters. Chapter I is the introduction of the study, Chapter II reviews the existing literature on the issue, Chapter III discusses the research methodology adopted in this study, Chapter IV discuss the results of the study and Chapter V concludes the study with recommendations.

CHAPTER II

2. Literature Review

It is essential for a firm to modify its business logic in order achieve sustainability. A business model for sustainability functions with an objective to augment, the status of various stakeholders and of the natural environment (Abdelkafi, 2016). Antikainen (2016) had focused on systemic innovations instead of a single business model innovation. For developed companies with a preexisting business ecosystem, redesigning is often problematic, on the contrary to which newcomers can often disrupt and rearrange the value chains, as seen in the case of the exemplary startups of Airbnb and Uber. Their study favors the current business model tools with an addition of business ecosystem level, along with the analysis of sustainability costs and its advantages and also the repetitive cycles of sustainability and circularity assessment.

Sathaworawong (2018) has stated that in order to increase the fund-raising value, the entrepreneur must be highly experienced and educated and the startup company should have a fully functional management of the executive department and should be substantial in size. Onetti (2015) argued that with similar findings, some noted traits in an entrepreneurial profile which mainly include his experience and education, have a significant affect upon its firm's status and may significantly increase its chances of raising funding.

Startups which were found to manipulate the crowd network had greater chances of being successful in the following two years as compared to the startups that didn't manipulate the crowd or had gained the strategy, crowd product and market education (Di Pietro, 2018). Startups these days are a significant channel of innovation as they introduce latest technologies to develop products and renews the business models. Corporations that follow an open innovation scheme were considering startups as a road to external innovation. The corporate

accelerators provide a powerful approach to flourish innovations that had been created from entrepreneurial speculation (Kohler, 2016).

2.1.Encapsulating Sustainability within the Firm

Several firms have established departments which are responsible for sustainability. In these departments the sustainability manager is responsible for integrating functions that aim to incorporate socio-economic effects in sustainability management. In the organization these managers have a cross functional role while coordinating other unites and departments that should work on sustainable performance. The sustainability managers play the role of a liaison, communicating with the stakeholders (Kohler, 2016). They are also responsible for preparing sustainability reports for stakeholders in order to represent the business practices.

i. Functional managers accountable for sustainability responsibility

   The managers are directly involved with the business processes and not just responsible for communicating with stakeholders. They integrate sustainability within their functions. i.e. production managers taking environmental factors in account during production. Functional managers are responsible for integrating sustainability in specific tasks i.e. Finance and Accounting department handling emissions trading certificates. Functional sustainability managers implement sustainable practices and gather information for central sustainable managers to act on.

ii. Sustainable managers across the firm:

   Sustainability management is challenging to incorporate and implement with a few managers. For effective implementation of sustainable practices, it must be the responsibility of every manager working in the organization. Functional managers must motivate and train conventional managers into sustainability management. The reason

behind this is that many issues relating to sustainability can be resolved by the behavior alone- using resources responsibly (water or gas) or correct waste disposal.

Freeman (1984) defined "stakeholders" as those who can affect the attainment of the firm's goals. A major subject of stakeholder theory is to determine the type of relationship between the stakeholders and the top managers. (Jones, 2007).

Ruggiero (2014) found that stakeholders can affect community renewable energy (CRE) at three significant levels; intracommunity, intercommunity and macro, also the stakeholder can facilitate or disrupt the development of a project based on their perception of the outcomes of the project which may aid or distress them. A multi-dimensional conceptualization of the entrepreneurial inclination may be fundamental in fulfilling multiple stakeholders' stipulations. Also, different stakeholders may reinforce entrepreneurial behaviors in various distinctive and unpredictable ways, and the entrepreneurial managers must perform in order to gain confidence of various stakeholder markets (Polonsky, 2005).

A company's stakeholder attitude, pressure and behavioral control are found to indirectly control business presentation and directly impact the assumption of sustainable work execution (Yuen, 2017). Also, stakeholder pressure can directly impact business performance, attitude and behavioral control. Sustainability revelation and good corporate administration can be seen as a corresponding mechanism of authority that companies may use to argument with stakeholders. In order to elaborate the impact of board composition upon sustainability revelation, direct focus should be upon the distinctive characteristics of each director rather than the conventional dissimilarity between independent directors and insiders (Michelon, 2012).

Stakeholder engagement, fact-finding or shared learning, participation, or collaboration; all these words have become buzz words. Also, it is hard to find any modelling effort or

environmental assessment nowadays that could be introduced without any sort of reference to stakeholders in addition to their involvement in a procedure. However, it is commonly believed that when decisions are driven by stakeholders, they can be implemented properly while having less conflict and more success (Voinov & Bousquet, 2010).

Nearly all startups face various challenges in the beginning such as management issues, financial crisis, risks owing to lack of experience and threatening competition from powerful competitors, due to which many of them fail within a short span (Schneide, 2015). However, its practical implementation comes with some associated risks such as misbalancing the various aspects of sustainability as a whole. Also, there would be control of market logic at the cost of a detailed understanding of corporate sustainability that validates a comparable status of ecological, economic, and social intellection at organizational level. This predominance would be featured generally of market logic. Briefly as a result of this mild shift in the relationship of corporate sustainability, sustainable development might take place. Ideally referring, the ecological, economic, and social performance of a firm would add to the sustainable development. However, in this scenario, the superiority of market logic switches the social and economic performance into a road for achieving the goals of financial performance.

Stakeholders contain those groups, individuals together with organisations who have got their interest in actions of an organization as well as who have the capability to affect it. The stakeholder's perspective systematically integrates executive concerns regarding public relations, human resource management, social responsibility and organisational politics. This perspective presumes that an effective organisation strategy calls for consensus from a large number of key stakeholders regarding how things should be going as well as how they are done so far, for the organization (Savage et al., 1991).

Bourne (2011) said that considerable alteration should be made in the way of thinking of the team and staff members regarding their perspective to acquire as well as to maintain the assistance of their managers. Moreover, number of benefits are present for organizations by successfully implementing Enterprise Resource Planning (ERP) system. Contrarily, in case of project failure, both the ERP vendor and the business can have multiple negative implications. Hence, by taking in account all the factors that may affect the success of project are taken as priority for all parties involved (Tarhini et al., 2015).

Transparency is considered as a quality of the corporate social responsibility communication that holds enough potential to enhance a relationship between an organisation and an investor. Pressure of various stakeholders (clients, consumers, environment as well as employees) have been seen playing a role in order to improve the quality of report's transparency; transparency can be influenced by the ownership as well as the size together with the global region (Fernandez-Feijoo, 2014).

2.2.Factors Influencing Sustainability in a Startup

A sustainable organization clearly or elusively accepts constitution as a stakeholder. Reusable or man-made resources are used rather than non-reusable resources. Until and unless sustainability is institutionalized within the organizations and the perspective of the stakeholders, the "visionary CEOs" will continue to force the sustainability ideology through organization and stakeholder channels (Stubbs, 2008).

The internal potential of an organization may contribute towards acquiring sustainability within an organization, but in the end any organization can only be sustainable when its entire infrastructure is stable and sustainable (Jennings, 1995). According to Stubbs (2008), in order to enhance system-level and firm-level sustainability, modification of the socioeconomic

system, both in terms of structure (i.e. resetting transportation and taxation systems) and culture (i.e. economic prosperity and wellbeing, behavior to consumption) is needed.

Evan's (2017) stated that business model innovation has been a recent breakthrough in the world of business practice and academic research and has been noted as a characteristic approach to comprehend innovations for sustainability. However successful implementation of sustainable business models (SBMs) is not much known.

Baldassarre (2017) discussed that sustainable business model innovation should be integrated with user-driven innovation in order to label the problems of sustainable development through the plot of sustainable value hypothesis that would merge the environmental and economic goals. Pressure to function sustainably in a business setup is increasing notably, which demands the companies to embrace a systemic perspective that would combine the three significant dimensions of sustainability- economic, social and environmental in a fashion that creates distributed value creation for all stakeholders including the environment and social. For stimulating business model innovation, a value mapping tool has been introduced by the authors and the possible applications to trigger sustainable business thinking by the help of this tool includes:

- Education
- Evaluation and screening
- Ideation for startups and developed firms
- Collaboration
- Systems intelligence
- Product, process design and lifecycle rationale

The tool was easy to use and was visually appealing. The integration of systemic approach towards both the negative and the positive results of commencing business and multi-stakeholders had given a bracing plot for sustainable business thinking. A significant benefit of the tool in the process, plotting and expanding systems thinking. This is the ability to note the unintentional effect on external stakeholders and providing elective solutions which would coordinate the stakeholder's interests to a greater extent. Few restrictions with the use of value mapping tool includes: firstly the tool might be more potent if used together with a specific strategy or business modifying tools, secondly the tool is mainly qualitative and isn't suitable for an elaborate quantitative analysis and lastly the tools efficacy has been found to be dependent on its users and facilitators (Bocken, 2015).

Mazdeh (2011) had conducted a survey on strategic planning of startups, for which a model was established similar to the strategic planning model for small businesses. The distinguishing feature of this model was the methodology used for external and internal analysis and the parameters taken in account. The results of the study concluded that the success of a startup depends on two factors which are "competitive advantages and entrepreneurial attributes" and "entrepreneurial opportunities". Bocken (2014) suggested that sustainable business models integrate a triple bottom line method and includes a vast spectrum of stakeholder interests combing both society and the environment. These are significant in carrying and establishing corporate innovation for sustainability and can facilitate in merging sustainability into business goal and method along with functioning as a carrier of determined advantage.

Eccles (2012) found that the high sustainability startups predominantly outperform their equivalents over an extended period of time both in terms of accounting routine and stock market. This outshining performance is notably dominant in sectors comprising of individual

customers rather than companies, companies race in terms of brands and fame, whereas products are mainly based on the quantity of natural resources.

It can be observed in various literatures that the shared leadership stands above the vertical leadership, in terms of explanatory value. It proposes that high profile cases of prodigal entrepreneurs, where they have got fame and fortune by their individual creativity and charisma, are least realistic and are more myth based. It is believed that the leadership of principal founder is merely a part of the whole story behind successful startups. If one wants to establish and grow a new startup business, he/she needs to have leadership of an assembly of extremely talented participants. It lay emphasis on the importance of need to select and develop top management team for ensuring the success of venture business, rather than a need for an attracting CEO. It is the time to stop believing in the old misconception of considering the heroic businessman as the only leader of an organisation (Ensley et al., 2006).

Mazzarol et al., (1999) highlighted the significance of three demographical variables: gender, recent redundancy and prior government employment were considered as strong negative influencers of small business origination. Vliamos & Tzeremes (2012) discussed number of factors which are believed to place strong impact on entrepreneurial methods. First and foremost factor is regarding entrepreneurial-education, skills along with past experience, while the second factor is about issues regarding a wish for independence plus locus of control. Lastly, the third factor that has an influence on entrepreneurial pursuit, is regarding the approach of capital to social facets along with regions' institutional environment.

Similarly, software startups are growing and expanding in numbers vastly over the period of time and are functioning under utmost uncertainty battling new challenges. Lean principles and agile development practices were found to augment the success rate of a startup, as they both focus on short feedback cycles and a closer customer collaboration aiming to deliver direct

customer value. Bosch (2013) had determined these challenges by conducting an in-depth interview study within the software startup domain from various industry professionals. Only a few practitioners were implementing Lean Startup methods because they were indefinite to be implemented in practice and provided limited operational support.

Owing to above reasons, an 'Early Stage Software Startup Development Model' (ESSSDM) was recommended specifically focusing upon these challenges. It was found to provide operational support at the beginner stage of software startups. It comprises of four unique parts, firstly having a backlog written in a comparable fashion comprising of the product ideas, second being an enlisted backlog prioritizing criterion, third being the validation of ideas through a funnel and lastly an attempt to pivot or preserve by discarding ideas.

Tanev (2017) stated that, the arrival of a lean startup methodology provides a rationale for the promotion of lean phase along with technology based global startup practice and research. The analysis is expected to be advantageous for both practitioners and researches in international plus technology entrepreneurship, also in global innovation management. Adopting the global instantiation of a lean startup business prototype while conveying the real context of advanced technology-based organizations, which are committed to operate in a global circumstance can be a great deal for international entrepreneurship research.

Furthermore, in terms of networking it has been observed that bulk of startups provide solutions regarding social networking to incumbents along with applications for social media management. These findings lay emphasis on the importance of latest emerging approaches with respect to open innovation along with value generation from social media related to and driven by the startups (Ghezzi et al., 2016).

Social-oriented, technological-oriented plus organizational-oriented value formation by ecological startups demand for contrasting alignments with respect to sustainability strategy

employed, the environmental issues addressed, and the sustainability ambition aspired (Kuckertz et al., 2019).

2.3.Sustainability and Startups Funding

Estimation process for the startups follow a criteria containing several factors i.e. the current business cost, conditions and variability to exit the business, proposed rate of return, target faced by the product service, risk level and the prospect for its minimization, sustainable growth of the industry (market) and lastly, the final cost to compensate the period of investor's withdrawal from business. It has been seen that valuation done by corporate valuation model can result in provision of irrelevant information regarding the value of assets. Considerable extent of subjectivity has been found in a private equity or venture capital business. Valuation process in business is about negotiation of assets value between owners and investors, while the parties are in an effort to agree on one point about their share in the private equity or venture capital and rate of return. Under such circumstances, if one has to perform valuation model for evaluation of future cash flow plus cost and variability of startups, discounted cash flow model of valuation is the best available choice. While performing these models for evaluation of cash flow, one must keep in mind the specifics of venture capital business (Kotova, 2014).

Startup businesses can be financed via multiple ways, some of them are listed as: self-finance (founder's own investment), loan taken from any source or any bank, support from government in the form of stipends/grants and entrepreneurial programs, angel investors along with multiple venture capital (VC) investors. It has been quite a task to access venture capital or angel funding, specifically for an early stage fund raising. Various other funding models such as startups accelerators, collective and crowd funding could be proved more helpful for assisting newly initiated businesses or firms via mentorship, education plus financing. This model (seed accelerator) is kind of a fixed term, cohort-type program that further helps in order

to prepare entrepreneurs for upcoming stages of funding. Talking of opportunities available for investment, startups and investors can both gain benefit from new available approaches besides large-sum transactions. (Kousari, 2011).

It is noted that startups have an edge in comparison with large corporations, whereas it has been seen that large corporations usually sit on strong resources which startups are usually deprived of. While the mix of corporate ability with entrepreneurial activity presents an excellent match, yet it is less likely to attain (Weiblen & Chesbrough, 2015).

For inter-organisational learning, engaging in entrepreneurial activities and harvesting innovation; it is suggested to invest in startups through corporate venturing, as it is considered as a sufficient tool. Lately, a new model regarding open innovation collaboration between startups and incumbents have become publicly known in terms of practice. Moschner & Herstatt (2017) stated that incumbents have been using corporate accelerator program in order to source explorative information or knowledge. Even though the corporate accelerator has a brief history, also most of the programs comply with a trial and error approach with respect to the structure of a program, established firms are less likely in a favor to promote collaborative usage of complementary assets along with the startups. It is like a symbolic act that is about utilization of an open-innovation collaboration as a market tool to let the innovation activity of incumbents' flourish even more. Hence, it is concluded that the established organisations have been observed practicing entrepreneurial washing along with corporate accelerators, which is just like practicing green-washing in the domain of corporate social responsibility.

Entrepreneurial performance can be boosted up to a significant extent through specific investments in social and human capital. It holds true for all three differentiated measures of performance: profits, survivals and generated employment (Bosma, Van Praag & Thurik,

2004). Estimated fraction of employment during the time period from 1980 to 2005 for private equity business startups by U.S is about 3 percent each year (Haltiwanger et al., 2009).

Dumas (2018) argued that in order to be more innovative, large scale companies can take benefit from external startups via corporate incubator and seed accelerator. Study proposes that the venturing process should be partitioned into three main stages: identification of an appropriate structure for venture and the right startup, follow-up of an integrated startup of corporate venture structure and lastly the exit strategy. LCSs should keep this thing in check that they evolve as a part of a complex venturing ecosystem. Also, that each tool should accept and collaborate with multitude of all the existing structures, rather than being isolated.

Koellner et al., (2005) stated that, sustainability rating commonly permits funds accompanied by positive sustainable performance that is to be recognized, therefore, favoring better-informed decisions regarding investment. Moreover, the investment in portfolio may be tracked down along with the period of time with regard to changes in the sustainability related performance. Objective rating has been seen somewhat helpful in defending those decisions which are subjected to compliance. The sustainability rating also has the potential to start the discussion or debate on the quality of the sustainable investments amongst the fund manager and public. Adopting a holistic approach helps in an in-depth comprehension of the impact of sustainability on property investment landscape (De Francesco & Levy, 2008).

Radzeviciute (2017) stated that sustainability-oriented startups meet various unique challenges which are not only regarding to the emergence of any new venture, but also sustainability-related hurdles that create the demand of additional support for such ventures. Seed accelerators are known to be among the most important support structures for new innovative ventures which includes sustainability-oriented startups. Conventional startup accelerators have the potential to have a considerable influence on establishment of sustainability-oriented startups.

However, as the definition of sustainability-oriented startups is quite broad and also their characteristics are extremely different, the startup teams would have to identify a few of the key metrics while choosing an accelerator. While a mismatch of those key metrics might lead to a stagnation or setback in the establishment of sustainability-oriented startups instead of a positive impact for its establishment.

Startups are expected to convey their "true" values to their investors along with their customers. Although, for investors it is being expected from them to adjust the strength of sustainability 30 aspect, while laying stronger or weaker focus on conveying an impact they are exhibiting that in turn depends on who they are approaching (Flint, 2019).

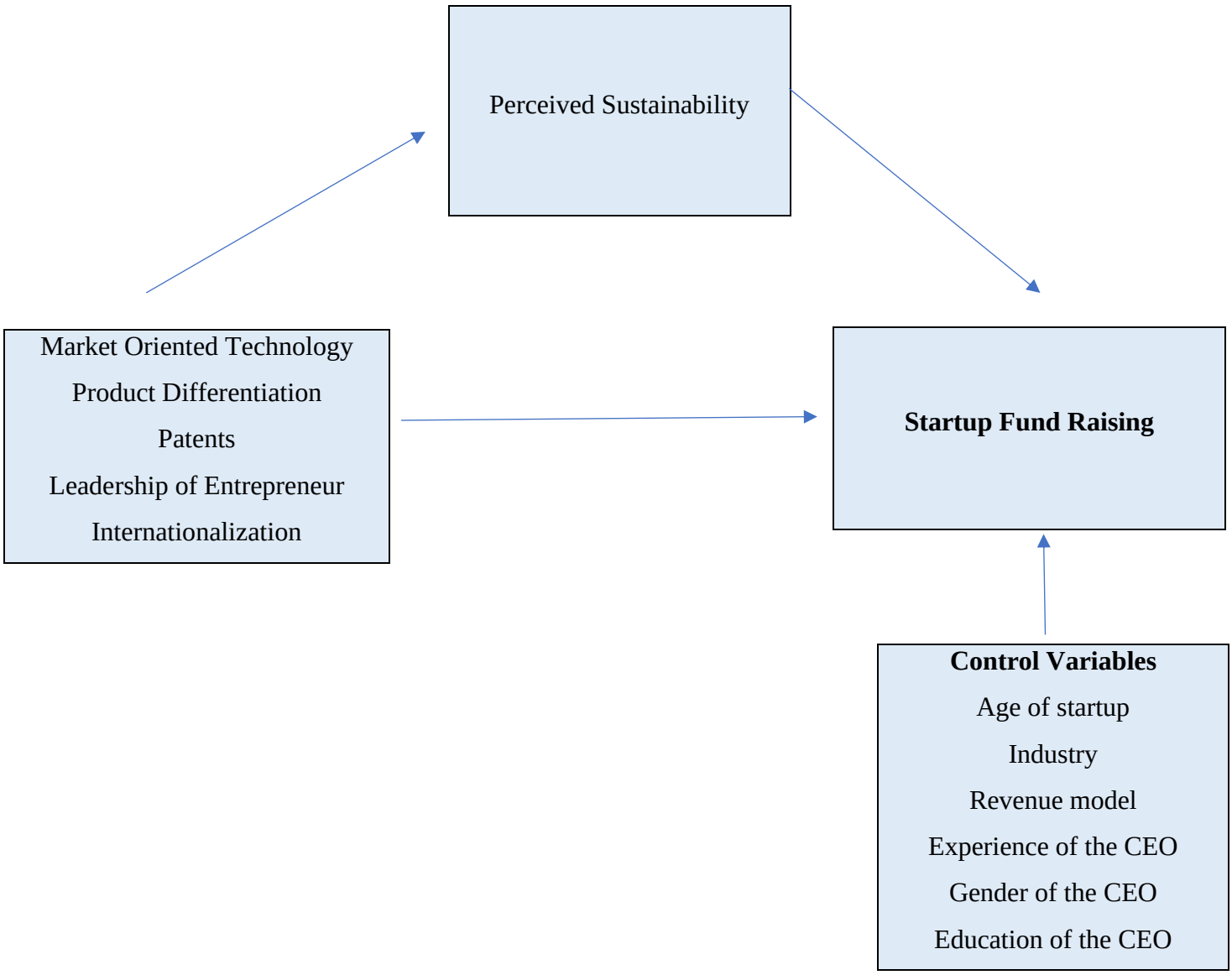
Korityak & Fichtel (2012) discussed that the special environment represented by a business incubator is an important tool that can be used to enhance the creation of a new venture system and therefore, in incentivizing an economic development. Precisely stated, they found that the contacts networking, the consultations and training provided by the incubator's advisors are taken as an essential constituent in financing process by startups. Prohorovs et al. (2019) said that a small percentage of startups are seen to be successful in attracting capital from the investors of venture capital.

Conclusively, sustainability is viewed as a broad concept and there are several stakeholders in sustainability. To make sure that engagement of stakeholders would be effective for a certain process, it is pivotal that all stakeholders who are related to the process are identified early in that process. In order to implement particularly sustainability strategies, managers are required to be aware of both the implications regarding the decisions they take along with their actions in order to generate better performance. It demands for vigilant evaluation of the key drivers of performance along with quantification of both linkages plus drivers between them. This also demands an in-depth understanding of a wide range of effects that are believed to be caused by

corporate activities, as well as to comprehend their effects on a wide-ranging platform of stakeholders.

CHAPTER III

3. Theoretical Model



3.1.Market Oriented Technology

To attain sustainability in the technological movement, a business model should incorporate modern and market-oriented technology. Startups may go beyond the use of simple and low-grade technologies and should be able to use high grade technologies. Such technologies may be able to address the need of local communities and can create additional demand in the

market. Tanev (2012) argues that incorporation of market-oriented technology lead towards higher sustainability in the startup due to the fact that such technology is a signal that the company can remain competitive in the market for a longer time. Nosifinger and Wang (2011) commented that innovative startups are those which introduce new technology that enables them to produce a better-quality product than their competitors.

The incorporation of market oriented latest technology is a factor that is found to have strong association with funding. Hellman (2000) in his research on Silicon Valley high-tech startups, found that venture capitalists are more interested in funding innovator firms rather than imitator firms.

This leads towards designing the following hypotheses;

H1A: Startups who adopt market-oriented technology are more likely to be perceived as sustainable by the investors

H1B: Startups who adopt market-oriented technology have more chances of receiving higher funding

3.2.Differentiated Products

The product of a company is always of important nature to the investors. The startup should launch a product that is differentiated from other available products and can reach wide markets. Nofsinger and Wang (2011) stated that the investors mostly screen the companies on the basis of the global potential of the product. Hence, startups differentiated products are more likely to secure funding.

Moreover, investors tend to perceive those companies more sustainable which employ new technology to create innovate and differentiated products. This is because such companies

create their own market demand and do not face the risk of shutting down quickly. Companies which produce homogenous products may not be able to capture the market share from the existing market leaders. (Van et al. 2015).

This leads towards designing the following hypotheses;

H2A: Startups who offer differentiated products are more likely to be perceived as sustainable by the investors.

H2B: Startups who offer differentiated products have more chances of receiving higher funding

3.3.Patents

Prior research suggests patents integrating technology streams that were different from the technologies of focal-patents' grants contributed more towards sustainable profits (Harrigon, 2016). Feldman (2014) has indicated that investment and patents have a positive association. Investors in USA are more likely to care about patents than the investors in Netherlands (Van et al. 2015). Patents act as a signal for investments rather than a determinant (Feldman, 2014).

Startup firms with patent assets are hard to imitate by the competitors, hence increasing the duration of competitive advantage of the startup (Mcgrath, 2013). This way, it can be assumed that firms who file patents are likely to be more sustainable.

Further, firms with patented inventions are found to incorporate a wider range of technological knowledge. The use of latest wider range of technology enables them to attract higher funding from the investors (Nosifinger and Wang, 2011).

This leads towards designing the following hypotheses;

H3A: Startups who have patented inventions are more likely to be perceived as sustainable by the investors.

H3B: Startups who have patented inventions are more likely to receiving higher funding.

3.4.Leadership of Entrepreneurs

Leadership for sustainability is a relatively new idea that represents "a radically expanded understanding of leadership that includes an enlarged base of everyday leaders in all walks of life who take up power and engage in actions with others to make a sustainable difference in organizations and communities" (Ferdig, 2007). Leaders also find ways to eliminate the unsustainability in the organization.

Authors examined the role of entrepreneur on the businesses and startups. Most of the studies have concluded that proven record of leadership of the entrepreneur has a positive role in attracting funding for the venture (Rosenbusch et al. 2013, Nofsingar and Wan, 2011). Entrepreneurs are particularly assessed by the investors on their abilities and leadership qualities. (Rosenbusch et al. 2013). Madil et al. (2015) found that startups are not only validated by the market demand but also by accreditation from the investors. Hence, Entrepreneurs who have proven record of leadership are more likely to be chosen by the investors for funding

This leads towards designing the following hypotheses;

H4A: Entrepreneurs with better perceived leadership qualities are more likely to be perceived as sustainable by the investors.

H4B: Entrepreneurs with better perceived leadership qualities are more likely to receive higher funding from the investors.

3.5.Internationalization

Startups that chose to internationalize and open offices in various countries have higher chances of capturing the market share. Due to the ability to capture various markets, such startups can survive economic downturns in one single economy. If a recession strikes in one market, the startup could survive from the sales of the office in another market. Diversification of markets enable the startup to remain sustainable compared to those startups which are based in one country only (Dib et al. 2010). Thus, internationalization enables the startups to become sustainable

Further, the products which are designed for international market have higher chances of receiving funding. It is because the investors perceive that there exists plethora of demand for the product or service introduced by the startup company. Otherwise, the startup would not be venturing in the foreign countries. As internationalization is perceived as validation of the business, studies have found that startups are more likely to get funding than those startups which are non-internationalized (Dib et al. 2010). This leads towards designing the following hypotheses;

H5A: Startups having an office in a foreign country are more likely to be perceived as sustainable by the investors

H5B: Startups having an office in a foreign country are more likely to receive higher amounts of funding.

3.6.Control variables

The control variables include the age of the startup, the revenue model it uses and the industry it operates in.

The revenue model of a startup provides an indication about the level of customer engagement in the model. There are three broad types of revenue models used i.e. subscription-based model, freemium model and commission-based model.

Subscription based model is seen to attract lower amount of funding from the investors while commission-based models are found to be challenging and hence attract higher funding. On the other hand, freemium is a new approach in which customers are allowed to use the basic services for free and are charged for additional features. According to Kumar (2014), monthly subscriptions are being seen as more sustainable source of income compared with other prevalent advertising models. Freemium is even more sustainable than free trials or limited time offers, as customers find free access to be more compelling than the cumbersome cancellation processes.

Freemium model is applied by Skype and Spotify, both startups emerging from Sweden. Freemium model is found to attract a very significant amount of funding such as in the case of Spotify and Skype (Cannon and Ughetto, 2014).

The type of industry in which the startup operates is also important. The two major targeted industries by the investors in Europe are Fintech and analytics. Fintech refers to financial technology companies while analytical firms are the one belonging to big data. Both of the industries are growing exponentially. The total investments in Fintech industry in Europe has reached USD44 billion in the third quarter of 2019. The funding of FinTech companies grew by 215 percent between 2014 and 2015 in the Europe, while Nordics and The Netherlands were important sources of funding. (Accenture, 2015).

Whereas, analytical industry is growing exponentially and recorded 260 percent growth during 2011 to 2015 period. Moreover, it is expected to have a market size of over USD100 billion by 2023.It is expected that startups who are operating in these two industries are expected to

receive higher findings as compared to other industries such as media, real estate or software houses etc.

CHAPTER IV

4. Methodology

4.1. Research design

This study is a primary and a quantitative research. The research design of this study is descriptive research. A descriptive research is conclusive in nature, as opposed to exploratory. Conclusive research relies on structured research process, representative sample and quantitative analysis of data. A descriptive research relies on the quantifiable information that is useful for estimating statistical inferences on the targeted population. Due to this reason, this research opts for closed-ended questions, as it limits the ability of the respondent to provide unique answers. (Malhotra and Birks, 2007).

Some of the advantages of the survey include ease of administration and consistent form of measurement, which eliminates variability of answers that could be caused by differences in interviewers (Malhotra and Birks, 2007). However, one of the limitations of using a survey could be the unwillingness or the incapability of the respondents to provide the asked information. This survey consists of structured questions formulated in English, as the questionnaire is aimed at young entrepreneurs from Pakistan and Netherlands.

To guarantee higher response rate and valid answers, the survey needs be clear and understandable for the respondents. This survey has been designed in a way that it is easily understandable for the respondents. This survey is administered through Internet, as it allows for an easy distribution and the reach of high number of respondents.

To avoid the non-response bias, the survey is designed to be completed between 5 to 7 minutes. The questions are short and to the point. Further, two reminders were sent to the respondents following the distribution of the questionnaire. Moreover, telephonic calls were placed to maximum respondents before sending the questionnaire, to ensure that friendly relations are

established. Lastly, the respondents were taken into confidence that their responses will remain confidential and will not be shared with any organization or individual.

The questionnaires were closed ended and were based on 5 Likert scale i.e. strongly disagree was coded as 1 and strongly agree was coded as 5. They survey is based on 17 unidimensional instruments.

4.2.Sample and Sample Size

The study aims at a sample size of 150 startups, operating in Pakistan and The Netherlands. The technique used for collecting responses is convenience sampling as sampling units are easy to reach, measure and cooperative (Malhotra and Birks, 2007). Nevertheless, a limitation of the convenience sampling is lack of generalizability.

A major issue generally found in primary descriptive research is the common method bias. A common method bias arises when the respondents do not have motivation or ability to respond accurately to the answers. To overcome this bias, Podsakoff et al., (2012) proposes that there should be minimum ambiguity in the questions. Hence, we have kept the questionnaire simple and specific. This way, the bias that respondents may fail to understand and chose a wrong answer is minimized.

4.3.Data Analysis

This study has conducted the following statistical analysis to generate robust results.

4.3.1. Reliability Analysis

Reliability analysis helps to determine and confirm the firmness of the data. In order to assure the internal reliability of all the elements used in the scale, Cronbach Alpha is formulated. In 1951, Lee Cronbach had designed Cronbach Alpha (Cronbach, 1951). In a social scientific

research when the value of Cronbach Alpha is greater than 0.7 it is marked as “good”. The value of Cronbach Alpha are high when the elements on the scale are correlated to each other.

4.3.2. Pearson’s Correlation:

Pearson’s Correlation being one of the most distinctive statistical apparatus is used to determine the strength of relationship between the two specific variables that are being used. It is labeled by “r” and its value ranges from -1 to +1. When the value of “r” for the two variables lies between 0 and +1, it is said to have a positive relationship. On the other hand if the value of “r” falls between -1 and 0, there is said to be a negative correlation between the two variables. The higher the value of “r” the stronger positive correlation there is between the two variables, this correlation is found to have a standardized slope.

4.3.3. Regression Analysis:

When there is more than one variable (predictor) involved in the statistics, as in this study, the participation of each of the predictor cannot be determined by just computing and linking the correlation coefficients. Beta Regression (B) helps the investigators to measure the potential strength of each variable compared to the standard variable. It depicts the degree up to which the dependent variable is being affected by the independent variable. It also helps in determining the direction of relationship, when multiple regression analyses are present.

A negative relationship between the dependent and the independent variables marks a negative beta coefficient, contrary to which a positive relationship between the two marks a positive beta coefficient. If there is no relationship between the dependent and the independent variable the beta coefficient will be zero. Beta is determined in perspective of standard deviation. As in our study different types of scales have been used, so we will be using standardized Beta whose values will be in standard deviation.

In order to equate the null hypothesis with the sample mean, the T-test is being used which merges the entire sample in a single value. When the t-value is zero, this relates that the findings from the sample population are almost parallel to the null hypothesis. The value of the t-test increases as the difference between the sample data and null hypothesis increases. This test is very crucial is measuring whether the null hypothesis will be rejected or accepted.

Goodness of fit which is denoted by R, and is measured by a square of correlation. The values of R fall between 0 and 1. Regression is used to determine the relative significance of every dependent and independent variable that is involved in the statistics. When the value of R is nearer to 1, there is an acceptable fit between the dependent and the independent variables. However if its value is nearer to 0, there is no significant relationship between the dependent and the independent variables.

4.3.4. Dependent and Independent Variables

Eq (1) shows the model in which we test that whether higher funding for a startup is a function of perception of sustainability in the mind of investors. In this model, funding received by the startup is the dependent variable and the perception of sustainability is the independent variable.

Next, Eq (2) finds out the factors which determine the perception of sustainability in the mind of investors. In this model, we test sustainability as the dependent variable with five independent variables along with a set of control variables. The set of control variables in Eq (1) and Eq (2) include gender of the CEO, years of experience of the CEO, country in which startup is operating, the number of years since the establishment of the startup and the total number of workforce.

$$Funding = \beta 0 + \beta 1*[Sustainability) + \beta 2*[Control\ Variables)\ \varepsilon \ldots.\ (1)$$

$$Sustainability = \beta 0 + \beta 1*[Technology] + \beta 2*[Differentiation] + \beta 3*[Leadership] + \beta 4*[Internationalization] + \beta 5*[Patents\} + \beta 6*[Control\ Variables) + \varepsilon \ldots.\ (2)$$

CHAPTER V

5. Results and Discussion

5.1.Demographic Analysis

The demographic analysis covers the various social and demographic characteristics of the respondents. Table 1 shows that out of 87 valid responses, 82.7 percent of the startups were based in Pakistan while 17.3 percent were based in Netherlands. The higher proportion of startups belong to Pakistan because of 'convenience sampling' method. Majority of the startups in Pakistan were easy to reach as compared to The Netherlands.

Table 1 Country where start-up office is located

		Frequency	Percent	Valid Percent	Cumulative Percent
	Pakistan	72	74.2	82.7	82.7
	Netherlands	15	15.5	17.3	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

Table 2 shows that the highest number of start-ups in the survey are operating in the IT industry, followed by other industries. Also, start-ups belonging to Media industry were the third highest in the sample.

Table 2 Industry in which the startup is active

		Frequency	Percent	Valid Percent	Cumulative Percent
	IT	35	36	40.2	40.2
	Analytics	4	4.1	4.6	44.8
	Media	14	14.4	16.1	60.9
	Electronics	3	3.0	3.5	64.4
	Fintech	3	3.0	3.5	67.9
	Other	28	28.9	32.1	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

Table 3 shows that out of 87 valid responses, about 32 percent of the start-ups claimed that they have an office in another country as well. Overall, about two third of the start-ups in this survey were local.

Table 3 Startups with offices in abroad

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	28	28.9	32.2	32.2
	No	59	60.8	67.8	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

Table 4 shows that about 60 percent of the start-ups have a CEO with a Master's degree while about 26 percent have CEOs with a Bachelor's degree. Moreover, about seven percent of the CEOs also have a PhD degree.

Table 4 Highest Education of the CEO of the start-up

		Frequency	Percent	Valid Percent	Cumulative Percent
	High School	2	2.1	2.3	2.3
	Secondary vocational education (Level 1, 2, 3 & 4)	2	2.1	2.3	4.6
	Higher professional education (HBO, Bachelor)	23	23.7	26.4	31.0
	University Education (Master)	53	54.6	60.9	92.0
	University Education (PhD)	6	6.2	6.9	98.9
	Other	1	1.0	1.1	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

Table 5 shows that about a quarter of the start-up's CEO in the sample have greater than 10 years of experience in the industry. Similarly, about 30 percent of the CEOs have between five to 10 years of experience. About 15 percent of the start-up's CEOs in the sample are new and have less than 2 years of experience.

Table 5 CEO's years of experience

		Frequency	Percent	Valid Percent	Cumulative Percent
	0-2 years	13	13.4	14.9	14.9
	2-5 years	18	18.6	20.7	35.6
	5-10 years	26	26.8	29.9	65.5
	greater than 10 years	30	30.9	34.5	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

Table 6 shows that around 53 percent of the start-ups in this survey are small enterprises with less than 20 employees. Similarly, another 27 percent are those with between 20 to 50 employees. While about 20 percent of the start-ups have more than 50 employees in their organization.

Table 6 Startup no of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
	1-20	46	47.4	52.9	52.9
	20-50	24	24.7	27.6	80.5
	More than 50	17	17.5	19.5	100.0
	Total	87	89.7	100.0	
Missing	System	10	10.3		
Total		97	100.0		

5.2.Descriptive Analysis

The descriptive analysis shows the mean, median, maximum and minimum values of the responses. The total number of valid responses were 87. The responses have been merged into seven constructs (by taking average of responses for all questions under each construct). As the responses were based on 5 Likert scale, the minimum values are 1 and maximum are 5 for all of the constructs.

Table 7 Descriptive Analysis

	Technology	Sustainability	Patents	Leadership	International	Funding	Differentiation
Mean	3.8	3.5	2.1	3.7	2.7	3.0	3.25
Median	4	3.6	2	4	3	3,5	3.5
Maximum	5	5	5	5	5	5	5
Minimum	1	1	1	1	1	1	1
Observations	87	87	87	87	87	87	87

5.3.Reliability Analysis

The reliability analysis is conducted through Cronbach Alpha test. The values of Cronbach Alpha are tested for each construct individually. If the alpha value is estimated to be higher than 0.7, the constructs are regarded as satisfactory (Nunally and Bernstein, 1994). Table 8 shows the alpha values for all the seven constructs along with their items. All of the constructs have alpha values greater than 0.7. This shows that all the items are reliable and can produce reliable results for correlation analysis.

Table 8 Reliability Analysis-Cronbach Alpha Results

Construct	Cronbach Aplha
Market oriented technology	0.78
My startup incorporates use of latest market-oriented technology' My startup offers products that require use of technology for operation.	
Differentiated product	0.76
I believe that my startup offers differentiated product in the market compared with the other competitors Our products/services do not have any similar product/service in the domestic market	
Internationalization	0.73
My startup also has an office abroad My startup is planning to initiate joint ventures with companies in other countries Our products/services are planned to be exported to other countries	
Patents	0.71
Our startup has currently filed patents on our innovations Our startup plans to file patents on our innovations in near future	
Leadership qualities	0.70
The CEO of our startup has proven record of leadership qualities The CEO of our startup is acclaimed as a market leader in our product category	
Sustainability	0.75
Investors perceive my startup as a sustainable one. Investors perceive my startup to be less risky than other comparable start-ups Investors perceive that their investments in our startup would yield return after 10-15 years	
Startup Funding	0.74
Our startup was able to raise significant amount of funding from the investors Our startup was able to raise relatively higher funding than other competitors of similar nature Our startup raised more funding from international investors than local investors	

5.4. Correlation Results

The Pearson correlation results are shown in Table 9. The correlation results show the correlation between two variables. The results show that perceived sustainability and market-oriented technology are positively and significantly correlated. Their high correlation shows that improved technology and higher perceived sustainability are positively associated with each other.

Perceived Sustainability is also positively and significantly correlated with patents. The results show that startups with registered patents or planning to file patents have high correlation with higher perceived sustainability in the minds of the investors. Similarly, perceived sustainability and internationalization are found to be positively and significantly correlated. The correlation shows that the startups with offices in an abroad country have higher correlation with perception of sustainability.

Moreover, the results reveal that the perceived sustainability and differentiation of products are also positively and significantly correlated. This implies that startups with differentiated products compared with their competitors have higher perceived sustainability in the minds of the investors.

Next, the results also show that perceived sustainability and funding are also highly significant and have positive association. This implies that startups who are perceived as sustainability are also the ones who have received higher amount of funding from the investors. The results also show that funding and patents are significantly correlated with each other. This implies that startups who have filed patents or are planning to file patents are the ones that received higher amount of funding compared to other comparative startups. Moreover, funding is also positively and significantly correlated with leadership of the CEO. This implies that the startups

that have a CEO with a perception of leadership, are also the ones who received higher amount of funding.

The results also show that funding and internationalization of startup are also positively and significantly correlated. This shows that startups who have set up an office abroad or are exporting the products have received higher amount of funding.

On the contrary, the results show that market-oriented technology and differentiation of product are not significantly correlated with the funding received by the startup. These results imply that there exists a weak association between adopting a market-oriented technology with fund raising. Similarly, there may exists a weak association between proposing a differentiated product and fund raising by the startup.

Table 9 Pearson Correlation Results

	1	2	3	4	5	6	7
1. Technology	1.0000 -----						
2. Perceived Sustainability	0.401359 0.0001*	1.0000 -----					
3. Patents	0.083793 0.4403	0.210906 0.0499*	1.0000 -----				
4. Leadership	0.464241 0.0000*	0.568086 0.0000*	0.165421 0.1257	1.0000 -----			
5. International	0.375157 0.0003*	0.227123 0.0344*	0.232667 0.0301*	0.235789 0.0279**	1.0000 -----		
6. Funding	0.072628 0.5038	0.388046 0.0002*	0.267188 0.0124*	0.291530 0.0062*	0.237462 0.0268**	1.0000 -----	
7. Differentiation	0.394364 0.0002*	0.267229 0.0123***	0.440215 0.0000*	0.366390 0.0005*	0.335503 0.0015***	0.164031 0.1290	1.0000 -----

*, **, ***, shows significance at 1%, 5% and 10% level respectively.

5.5.Regression Results

The linear regression (OLS) is estimated to find the relationship between the dependent and the independent variables. This study has applied Hetro Auto Consistent least square regression so that the problem of heteroscedasticity is controlled for (Marona and Martin, 2006). Table 10 shows the regression results for the model in which the perception of sustainability is tested with the amount of funding received by the startup. The results show that startup funding received by the startups is positively and significantly associated with the perception of sustainability. The results show that if investors perceive startup to be sustainable, the startup receives higher funding as compared to other startups. Moreover, the control variables are found to be insignificant in our model. However, keeping controls variable in the model is important because they improve the accuracy of the estimated effect of an independent variable of interest on a dependent variable

Table 10 Hetro Consistent Least Square Results-Perceived Sustainability

Start-up Funding	Coefficient	Std. Error	t-Statistic	Prob.
C	1.105536	0.536457	2.060810	0.0426
Perceived Sustainability	0.516839	0.142537	3.626008	0.0005*
CEO-Experience	-0.026262	0.095111	-0.276118	0.7832
Country	-0.042418	0.240696	-0.176232	0.8606
Gender	0.152307	0.249659	0.610058	0.5436
Workforce	0.049219	0.124416	0.395602	0.6935
R Square	0.29			

*, **, ***, shows significance at 1%, 5% and 10% level respectively.

The next regression model is estimated to test the significance of multiple metrics in determining the perception of sustainability for a startup. As established in Table 10, startups with higher perception of sustainability receive higher amount of funding. Next, we test the determinants of perceived sustainability for a startup. Table 11 shows the results of Hetro Auto Consistent OLS results for this model. The results show that internationalization has a

significant association with perceived sustainability. Therefore, startups who also have an office in a foreign country or are exporting their products are more likely to generate higher funding than a startup that does not have an office abroad. The results are consistent with Dib et al. (2010) who argued that diversification of markets enable the startup to remain sustainable compared to those startups which are based in one country only.

Further, patents are also found to be positively and significantly related with perceived sustainability. This implies that the startups who have filed a patent or are planning to file in the future are more likely to generate higher funding compared to those who do not file a patent. The findings are consistent with Mcgrath, (2013) and Nosifinger and Wang (2011) who suggested that Startup firms with patent assets are hard to imitate by the competitors, hence increasing the duration of competitive advantage of the startup. This increases their perceived sustainability in the market.

Moreover, the results show that startups who have a CEO with perceived leadership qualities significantly generates higher amount of funding than startups whose CEO do not have perceived leadership qualities. The results are consistent with that of Rosenbusch et al. (2013). And Madil et al. (2015) who argued that that entrepreneurs are particularly assessed by the investors on their abilities and leadership qualities. Also, startups are not only validated by the market demand but also by accreditation from the investors. Hence, Entrepreneurs who have proven record of leadership are more likely to be chosen by the investors for funding.

Lastly, the results show that market-oriented technology and differentiation of product are not significantly correlated with perceived sustainability. The results are similar to Pearson correlation results where we found that differentiation of product and market-oriented technology are not significantly correlated with higher amount of funding. The results are

contrary to Tanev (2012) who argued that incorporation of market-oriented technology lead towards higher sustainability in the startup.

Therefore, we found that differentiated product and market-oriented technology are neither significantly correlated with perceived sustainability nor with higher funding. A primary reason could be due to the limited sample size that was restrained due to COVID-19 situation, the results suffer from selectivity bias. Moreover, it is also plausible that as majority of the firms selected belonged to IT industry, almost all of them are incorporating same level of technology and hence there is no differentiation in use of technology and products.

The results are also tested for multicollinearity and the Variance Inflating Factor (VIF) is 2. A VIF value below 3 implies that problem of multicollinearity does not exist in the model.

Table 11 Hetro Consistent Least Square Results-Startup Funding

Perceived Sustainability	Coefficient	Std. Error	t-Statistic	Prob.
C	1.287017	0.766403	1.679295	0.0974
Differentiation	-0.067037	0.190888	-0.351185	0.7265
Internationalization	0.233867	0.128206	1.824147	0.0722***
Patents	0.227721	0.117983	1.930121	0.0575**
Technology	-0.134325	0.106588	-1.260226	0.2116
Leadership	0.330423	0.172346	1.917206	0.0591**
Country	0.206321	0.180843	1.140884	0.2576
Gender	0.280618	0.226150	1.240849	0.2186
Workforce	0.129429	0.166247	0.778533	0.4388
CEO Experience	-0.016552	0.144811	-0.114301	0.9093
R-square	0.56			

*, **, ***, shows significance at 1%, 5% and 10% level respectively.

Table 12 shows the final result of acceptance or rejection of hypothesis. The hypothesis H1A, H1B, H2A and H2B are rejected because we did not find any significant relation between the variables. However, all other hypothesis is accepted. This shows that if a startup is trying to generate higher funding from investors, it is important to increase the sustainability of its business in the perception of investors. To increase the perceived sustainability, our results

suggest that filing a patent for the innovations, hiring a CEO with leadership qualities, and opening up an office abroad or exporting products are major determinants for perceived sustainability. However, adopting a market-oriented technology or differentiating the product from other competitors may not significantly increase the perception of sustainability.

Table 12 Hypothesis Acceptance/Rejection

Hypothesis	**Statement**	**Result**
H1A	*Startups who adopt market-oriented technology are more likely to be perceived as sustainable by the investors*	Rejected
H1B	*Startups who adopt market-oriented technology have more chances of receiving higher funding*	Rejected
H2A	*Startups who offer differentiated products are more likely to be perceived as sustainable by the investors*	Rejected
H2B	*Startups who offer differentiated products have more chances of receiving higher funding*	Rejected
H3A	*Startups who have patented inventions are more likely to be perceived as sustainable by the investors.*	Accepted
H3B	*Startups who have patented inventions are more likely to receiving higher funding.*	Accepted
H4A	*Entrepreneurs with better perceived leadership qualities are more likely to be perceived as sustainable by the investors*	Accepted
H4B	*Entrepreneurs with better perceived leadership qualities are more likely to receive funding from the investors*	Accepted
H5A	*Startups having an office in a foreign country are more likely to be perceived as sustainable by the investors*	Accepted
H5B	*Startups having an office in a foreign country are more likely to receive higher amounts of funding*	Accepted

CHAPTER VI

6. Conclusion

Startup businesses can be financed via multiple ways, some of them are listed as: self-finance, loan taken from any source or any bank, support from government in the form of stipends/grants and entrepreneurial programs and angel investors along with multiple venture capital (VC) investors. Seed accelerators are known to be among the most important support structures for new innovative ventures which includes sustainability-oriented startups. Sustainable startups can raise a high level of funding compared to those that are perceived as un-sustainable one. As the definition of sustainability-oriented startups is quite broad and also their characteristics are extremely different, the startup teams would have to identify a few of the key metrics while choosing an accelerator.

The purpose of this study was to identify the impact of sustainability on startup funding and to identify set of metrics which can increase the perceived sustainability of a startup. The study found that leadership qualities of the CEO is a significant determinant for increased perceived sustainability of the startup as well as it increases the amount of funding. The study also found that startups who have an office abroad or export their product/service are also perceived sustainable by the investors and such startups are able to attract higher funding. Startups that have filed patents on their innovations are also the ones that are perceived more sustainable and they received higher funding.

The findings are of particular help for the emerging startups as it emphasis on the role of incorporating sustainability in the business model. Sustainable not only has a positive impact on the business life but it also helps in generating funding at the early stages. However, as sustainability cannot be defined in one broader aspect, this study suggests that adopting the

metrics which are found to be significant in increasing perceived sustainability can help them in raising higher amount of funding.

The findings of this study are helpful for the startup managers in a way that it points out the major factors that should be considered by a startup for increasing the perception of sustainability in the minds of the investors. When the investors perceive a startup as sustainable, the probability of raising funds may go higher. If a startup incorporates the metrics which enhances the sustainability in their business model, it may receive higher funding.

Moreover, startups have higher risk of failure compared to existing businesses as startups lack resources and supply channels. In such case, incorporating sustainability to survive in the cutthroat competitive markets is important. A sustainable startup can react to the changing economic factors on rapid basis such as if a startup has an office abroad, an impending economic crisis in home country may have lesser impact because the business operations can be increased in the other country.

Management of the startup should also need to ensure that the company's strategy and the sustainability efforts are aligned. Sometimes, there may be divergence in both, making sustainability efforts to be fragile and lacking prioritization.

6.1.Limitations and Future Research

A major limitation of this study is limited time and resources, it incorporated startups from two countries only. In the future, studies can investigate the same issue for a larger set of countries so that more generalized results can be generated. Secondly, due to COVID-19, originally planned number of the sample size could not be actualized. Therefore, future research with a larger sample size from a broad set of industries can come up with findings with higher external validity. Lastly, this study has used a limited set of metrics for perceived sustainability. As

sustainability can be measured with a plethora of metrics, future research can incorporate various other metrics for understanding the role of sustainability on the startup funding.

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Annex A: Questionnaire

Construct and Measures

Industry in which the company is active
Response scale: 1=’IT’, 2= ‘Analytics’, 3=’Media’, 4= ‘Electronics’, 5= ‘Fintech’, 6= ‘Other’

How many years since startup has become operational
Response scale: 1=’0-2 years’, 2=’2-5 years’, 3= ‘More than 5 years’

Country where startup office is located
Response scale: 1=”Pakistan’, 2=’Netherlands’

How many employees are working with the startup
Response scale: 1=’1-20’, 2=’20-50’, 3=’More than 50’

Does the startup has an office abroad?
Response scale: 1= ‘no, 2=’yes’

What is the revenue model of the startup
Response scale: 1=’Subscription based’, 2=’freemium’, 3=’Commission based’

What is the gender of the CEO of the startup
Response scale: 1=”Female:, 2=”Male”

What is the highest education of the CEO of the startup
Response scale: 1=’less than 14 years’, 2=”between 14 to 16 years”, 3= greater than 16 years

How many years of experience does the CEO has
Response scale: 1=”0-2 years”, 2=”2-5 years’, 3=”5-10 years”, 4=”greater than 10 years”

Market oriented technology (Tanev, 2012)

My startup incorporates use of latest market oriented technology’
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

My startup offer products require use of technology for operation.
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Internationalization [Dib et al. 2010; Nofsinger and Wang, 2011)

My startup also has an office abroad
Response scale: 1= ‘no, 2=’yes’

My startup is planning to initiate joint ventures with companies in other countries
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Our products/services are planned to be exported to other countries
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Differentiated product (Van et al. 2015; .Nofsinger and Wang, 2011)

I believe that my startup offers differentiated product in the market compared with the other competitors
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Our products/services do not have any similar product/service in the domestic market
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Patents (Feldman, 2014; Van et al, 2015)

Our startup has currently filed patents on our innovations
Response scale: 1= ‘no, 2=’yes’

Our startup plan to file patents on our innovations in near future
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Leadership qualities (Rosenbusch et al. 2013, Nofsingar and Wan, 2011).

The CEO of our startup has proven record of leadership qualities
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

The CEO of our startup is acclaimed as a market leader in our product category
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Sustainability (Rosenbusch et al. 2013, Tanev, 2012)

Investors perceive my startup as a sustainable one.
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Investors perceive my startup will be able to survive any future economic downturns
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Investors perceive my startup to be less risky than other comparable startups
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Investors perceive that their investments in our startup would yield return after 10-15 years
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Startup Funding (Van et al, 2015, Nofsingar and Wan, 2011)

Our startup was able to raise significant amount of funding from the investors
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Our startup was able to raise relatively higher funding than other competitors of similar nature
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’

Our startup raised more funding from international investors than local investors
Response scale: 1= ‘Strongly Disagree’, 2=’Disagree’, 3=’Neutral’, 4=’Agree’, 5=’Strongly Agree’