Arab American University
Faculty of Graduate Studies
Department of Administrative and Financial Sciences
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Palestine, the Real Startup Nation: A Vision for the Next Generation Role Model for Technological Innovation and Economic Transformation

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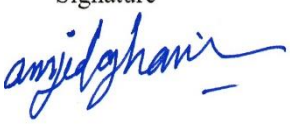
1. Dr. Amjed Ghanem	Main Supervisor	
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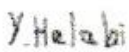
3. Dr. Yacoub Halbi	Members of Dissertation Committee	

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Declaration

I declare that, except where explicit reference is made to the contribution of others, this dissertation is substantially my own work and has not been submitted for any other degree at the Arab American University or any other institution.

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Dedication

Dreaming is an innate creative instinct in the rhythm of necessary change to reap its fruits, transforming reality into something more beautiful. Thank the dream that held me so I might make an impact that benefits my current generation and future generations. A profound thanks you to the presence and the first model who believed in peace as a reality based on equality and the necessity of diligent work to change the necessary culture to build a healthy and sound Palestinian generation. Thank you.

Your continuous support is a crucial motivator for this study to be a pivotal building block toward transforming reality into something better.

His Excellency President Mahmoud Abbas

Thanks to the essence of success, struggle, brilliance, and building, the master of giving and stance, the beauty of presence, the brother and father,

Dr. Yousef Asfour

A precious gratification to the leader and the creative model in work, humility, and positive communication, the great brother and high beacon,

Prof. Dr. Waleed Deeb

Complete gratitude to the brother who strides with steadfast faith, his steps unwavering... my elder brother,

Mr. Bilal Zahra

Thanks to all who have been with me on my path, my friends, each by name and title, filled with love and gratitude and leaving a beautiful impact on my soul.

How can the homeland be thanked? How can names have meaning if they lack all my first homeland names—my father, the guardian, the unbreakable. The extraordinary and all-purity lady, my mother. Diaa, my brother, my support. Milad, my brother, the joy, the adornment of smiles and laughter, the crown of my humble pride. The lady of happiness, my sister Rawand, the charm of blossom, the jasmine scent I belong. The sun of my belonging rose homeland to which Thank God this is my first among you.

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Anan Yousef Abdallah Deek

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Abstract

The socio-political and economic status of Palestine, including its occupation, economic constraints, and lack of infrastructure, makes it challenging for them to compete in global markets. The technological, diaspora, and resilient human resources Palestine possesses certainly give them the potential they need. This study looks into the effective ways and conditions needed for Palestine to create a cohesive and competitive global startup ecosystem while addressing deeper systemic issues, mobilizing its human capital, and formulating innovative approaches. This research investigates how new, unconventional solutions and collaborative efforts between different stakeholders can offer answers to these structural problems. In particular, the research specifically seeks to provide answers to such issues as: examine how entrepreneurship is discouraged and what are the structural challenges to establishing any enterprise in Palestine, assess the role of the diaspora in promoting innovation and investment, understand the possibilities of international collaborations to help a Palestinian startup system, and finally, lay out a plan for developing a nuisance free and globally competitive start-up ecosystem. The goals are identifying structural constraints, measuring international collaborations, and recommending actionable solutions (model) to aid in economic development and technological improvement which can convert Palestine into a disruptive force for economic growth.

The researcher utilized both qualitative and quantitative methods. Qualitative data were sourced from interviews with 10 venture capital, policymakers, and startup enablers, academic and members of the diaspora, while quantitative data were collected through surveys from 97 entrepreneurs, experts, and academia, as well case studies that examine funding trends, market access, and infrastructural barriers. It was overseen that the Ecosystems in Estonia, Israel, Singapore, UAE, and Saudi Arabia have been a success, adapting patterns to the scenario of Palestine, and this advancement has been called a comparative analysis. This proves the validity of the obtained data and results as well as their usability in relation to the peculiarities of entrepreneurship in Palestine.

The methods of collecting data shed light on the challenges and opportunities of the ecosystem in a major way. Startup surveys and interviews revealed that about 70% of Palestine's startup sector experiences a funding shortage because there is no venture capital as well as there is a bank-oriented culture where lending practices are very conservative. The interviews also showed great promise for diaspora-led initiatives, while a high percentage of diaspora respondents stated they would be interested in

mentoring or investing in Palestinian startups. The case studies revolving around the enabling innovation centers, such as Gaza Sky Geeks and Rawabi Tech Hub, show their impact on the local entrepreneurship and innovation ecosystem, the hindrances generated by under-developed infrastructure and for global markets. Various analytical techniques, including chi-square tests and thematic analysis, aided in the illumination of these economic dynamics.

The research shows that, including the undersupply of funds, regulatory restraints, and infrastructure gaps, there are systemic impediments to the startups in Palestine. Even though there is the possibility to focus on growth factors such as the ability of young and educated workforce, the engagement of the diaspora, and other business models have shown to make a significant contribution to the startup business in Palestine. The sharp focus on AI, blockchain, and other technologies is appropriate to resolve scalability and transparency issues. Looking at Estonia's e-residency and Israel's venture capital networks, it can be argued that certain policies can be introduced in Palestine that can significantly improve the ecosystem.

The research proposes a multi-layer model for developing Palestine's startup ecosystem, and this system includes key components: Government, Venture Capital, International Partners and Doners, University-Industry Partnership, Diaspora, Community of Entrepreneurs, as well as Innovation and Startup Fund. The model will serve the startup ecosystem in many ways, for example, Regulatory Reforms: The business registration process, strengthening of intellectual property, and supporting virtual business operations will be simplified and inspired by some international experiences. Educational Enhancements: startup-focused education courses, as well as mentorship by local experts and diasporas will aid in strengthening the human capital. The model also enhances the Research and Development Component of the ecosystem. Collaborative Entrepreneurship: Facilitating the development of a work environment (e.g., entrepreneur's society) for entrepreneurs to collaborate, give support to each other, and advocate important and common issues relevant to the startup sector. The Model itself has been based on the application of Digital-First Business Environment: The incorporation of Digital Practices in Business Operations will allow virtual businesses to operate without physical and political constraints. Translated into practice, this model is expected to place Palestine within the map of emerging start-up ecosystems in the world, and able to successfully embed itself into the global entrepreneurship arena.

Keywords: Ecosystem, Resilience, Startup Nation, Access to Capital, PISA

Table of Contents

List of Tables

List of Figures

Chapter One: Introduction

1.1. Introduction

A nation which aspires to position itself among those known for their start-ups has its fair share of challenges and opportunities. Instead of asking if Palestine has the ability to compete with other countries in the startup arena, the focus is on how to make it inspirational and alter the global startup scene through its abilities. Palestine has an innovative approach that will as well create a new trend in the culture of startups on the world stage. As such, this research covers the diverse processes of transformation in Palestine and the mechanisms that make the desired change possible. The study seeks to examine the constraints and also the growth opportunities existing in Palestine. It is commonly said that one can turn back in time by literature and be transformed by the cultures of many nations. Moreover, Israel, which is well known as a tech startup capital, is considered by many as the land of lucrative business ventures. Rather it’s imperative to highlight the economic developments in Palestine in the context of other nations in the region. Palestine hopes to adopt a new business and innovation approach that will leverage its multi ethnic local and international backers and allies.

This study is purposed to provide a comprehensive business model which reflects the purpose of Palestinians seeking for both political and economic freedom. It also intends to render products and services to people willing to support Palestinian existence, even if the occupation, political, and economic environment is quite challenging. It supersedes its opposition and advances in politics, human rights, and international trade by galvanizing its citizens and sympathizers to create a new market. For more than one hundred years Palestine has developed a very strong entrepreneurial culture and a commitment to seeking their rights and freedom even in the midst of challenges. There is a remarkable presence of the matrix that defines the people of Palestine known for hardship and the fight for social justice, economic self-governance and political sovereignty. This kind of political resistance applies in business and finance where there is social entrepreneurship fighting for economic self-sufficiency like the one of resistance. Palestine's influence in local and international markets has been steadily increasing with time. There exist several interesting instances that demonstrate the potential of technology in solving social

issues. One remarkable case is Souktel which is a mobile services provider that links employers and employees in remote and low-income locations.

As of now, there are a lot of investment funds that exist and yet the full potential of Palestine has not been leveraged.

These business accomplishments point to a certain tendency common to Palestinian enterprises which is turning challenges into opportunities. This confirms the findings of academic studies which show that where there are some levels of conflict, entrepreneurship can still stimulate the economy and find ways to be creative. A report by UNCTAD also found that there is a possibility of making entrepreneurship development strategies in Palestine that would enhance the prosperity and resilience of the economy. This would therefore lessen the dependency on foreign aid (UNCTAD, 2015). In their research, Dana and Dana (2005) also found some interesting links between entrepreneurship activity in Palestine and tenacity and adaptability. These qualities are essential in making it possible to address the effects of the occupation and institutional challenges whilst also instilling optimism concerning the evolution of the economy of Palestine.

Palestine has potential to grow in its outlook and consider other aspects of its being which include political, economic, and social aspects. Palestine is likely to create a unique inclusive model that pushes past spatial and political barriers by applying virtual activities and encouraging interaction amongst its people, its refugees and its diverse supporters across the world. Such application of this model which can be classified within the broader concept of it extends to all fields including in public many digital and physical as well as in private forms. This model has the capacity to position Palestine in the global innovation and entrepreneurship landscape.

In this regard and in an effort to move towards realization of this dream, Palestine is set to become a center of creativity and development distinct from its neighbors which is what these countries have done. The entrepreneurial spirit is taking root, political self-determination is yew, and economic self-determination through entrepreneurship which is the new wave is something Palestinian startups are fully courting. This type of entrepreneurship can bring about technology development and enrichment of the economy not only in the Middle East but in other countries over the world as well. The future is bright for the Palestinian people in terms of participating in the global culture of startups.

Research seeks to introduce a new way of conducting business by incorporating the inputs of individuals, funds and crowdsourcing in the process. Such a business model encourages a resilient and flexible market yet able to address the twists and turns brought about by the market place. There is however a fresh and holistic approach that seeks to enhance development agendas and empower people while at the same time enhancing the national and international self-determination objectives of Palestine.

In the end the Palestinian startup ecosystem is more of a case study of the global entrepreneurship interaction that is all inclusive, persistent, creative, independent, collaborative and ideological in support. The political and human rights reputation of Palestine will have a crucial impact on the economic, business and innovative spheres and will place the nation among the most innovative countries in the world. According to this study, there is a monumental opportunity for Palestine as a center for the development of startups, and this is a message for the international world. The views of the Palestinian people towards the contemporary global startup culture are very interesting and hopeful.

1.2. General Background

In order to comprehend this issue fully it is needed to elaborate the political, historical, and economic features that define Palestine, these features do require intense attention. The history of Palestine has been one of the most turbulent, making it one of the most significant geographical areas of planet earth. Certain cultural identity that has been all the more strengthened till today, the resistances and a series of warfare have been the agents of history in Palestine. These long-standing conflicts encompass a variety of modern history from Ottoman Empire, the British Mandate, the establishment of the State of Israel, and age-old societies such as the Canaanites and Philistines (Khalidi, 1997). The Israeli-Arab conflict which includes various forms of occupation and land issues have dominated the political landscape of the region since the second half of the twentieth century (Said, 1979).

Despite its history, this research illustrates the endurance, skills, and hope of the Palestinian people in their efforts to improve living standards through economic initiatives. The activities of Palestinian entrepreneurs surfaced in the late 19th and early 20th centuries, which is the period when foreigners noticed and Palestinian merchants and traders established themselves within the economic structure of Israel.

However, the new entrepreneurial movement development began to gain ground in the early 2000s with the increase of technological advancements and the support of external institutions. As such, business accelerators and incubators in cities such as Ramallah, Gaza, and Nablus were funded by USAID (USAID, 2011) and other local and international endeavors.

1.2.1. Historical Context

The Palestine of today is deeply affected by the narrative of partition and violence that preceded it primarily by the occupation, in addition to internal and structural challenges. The Palestinian economy has always been subject to external shocks which have caused a rise in unemployment and a lack of resources. Despite the living conditions being extreme, every effort has been made by the Palestinians to create and solve their problems, for to help in progress and become self-sufficient economically the only help they can look for is technology and entrepreneurship (Abusalah & El-Hajjar, 2019). Historically, Palestine witnessed the composite features of multiple cultures together with a massive economic activity that greatly contributed to the cradle of humanity. On the other side, however, more recent Palestinian history only features an active campaign for due recognition and independence, reaching a breaking point with the establishment of the State of Israel in 1948 and the forced displacement and ethnic cleansing of hundreds of thousands of Palestinians from their homes until today.

1.2.2. The Rise of the Palestinian Startup Tech Ecosystem

Although Palestine is still a nascent market and under occupation, there are over 100 firms involved in various aspects of the startup ecosystem including financial technology, e-commerce, mobile applications and agricultural technology (World Bank, 2020). Palestine however also became the heart of extraordinary commercial predisposition in addition, though resource availability seems somehow conservative and increased political crises was commonplace. For example, it has been noted that the Gaza Sky Geeks accelerator has helped some of the companies funded by them to attract international investors as well as scale their businesses (Mercy Corps, 2019). Likewise, Fikra, a Palestinian innovation hub builds community around technology and the entrepreneurs so that people can start to create companies and new ideas (Fikra, 2022).

The entrepreneurial spirit in Palestine is largely supported by the various educational and research institutions in the country. Moughrabi (2001) places such universities as the Arab American University, Birzeit University, An-Najah National University and the Islamic University of Gaza as key players in generating talents and creativity. The academic literature emphasizes that the potential of entrepreneurship offers towards economic growth and social development especially in societies experiencing violence is immense. More specifically, Khalidi and Samour (2011) maintain that for a people to be politically independent in their own land, they must reach the level of financial sufficiency and that development of internal commerce would reduce the level of aid that Palestine is subjected to (Khalidi & Samour, 2011). Also, UNCTAD (2015) notes the importance of encouraging entrepreneurship as well as the enhancement of the private sector if the economy of Palestine is to remain resilient to the obstacles of occupation and restrictions on movement and trade (UNCTAD, 2015).

Owing to the fact that most sociological studies only address whether this is a feasible task, this particular research goes further. It is noted in this context that feasibility refers to the likelihood of achieving a certain goal with the existing constraints as opposed to the context of possibility which refers to the general ability to cause change that transforms the principles of governing society (Smith, 2020). This is an essential distinction within the case of Palestine. Even though these challenges include limited market access, poor infrastructure, and political uncertainty all under occupation, the possibility to turn these challenges into sources of the growing startup industry is what keeps these challenges (Dana & Dana, 2005).

Despite the geographical limitations of many established or emerging Palestinian entrepreneurs, there is a growing mix of activities in the Palestinian entrepreneurship ecosystem integrating both local and international components. Alternatively, many Palestinian entrepreneurs operate in more than one sphere and more than one culture using social and other networks in order to overcome constraints (World Bank, 2020). For instance, international online travel companies such as Yamsafer, based in Ramallah, leverage advanced IT tools to distill and simplify the region's complex logistics (Forbes, 2018). Also, the diaspora is fundamental to the promotion of entrepreneurship in Palestine through investment, mentoring, and market access (Tamari, 1991). Palestinians in the USA set up Samara Ventures the first venture

capital fund targeted at technology companies in the West Bank and Gaza. (Sadara Ventures, 2015, Ahmed, A., & Chib, A., 2020).

Apart from initiatives that concern the technocrats expanding their businesses, Palestine is also experiencing the emergence of social firms, which are businesses whose aim is to solve social problems and at the same time achieve economic independence. Other business activities such as helping Palestinian craftsmen (for instance Sunbula) and making traditional olive oil soap (for instance Nablus Soap Company), reflect how entrepreneurial activities can protect and create economically viable destinations without compromising their heritage (Smith & Moughrabi 2018).

In order to bring about the change trends on the territories of nations, one must put in their efforts to study the available possibilities. Presumably, in this uncomfortable task, the Palestinians are able to recover the economic independence necessary for them and at the same time develop the narrative of resilience, creativity and self-determination (Said 1979). Nevertheless, due to the very useful combination of its unique nature of political resistance and business characteristics, Palestine can position itself in the global startup scene (Khalidi & Samour 2011).

Within the last few years, due to the increasing number of incubators and accelerators and startup companies, the innovation ecosystem in Palestine has been expanding. Such organizations as Gaza Sky Geeks, Palestinian Information Technology Association of Companies (PITA) have been very important in the establishment of the startup ecosystem by providing training, mentorship, and funding, just to name a few (Abdel-Ghani & Sheikh 2018).

Since its inception in 2011, Gaza Sky Geeks has been providing essential assistance to the many young entrepreneurs in the region. Despite the obstacles of the current occupation blockade and conflict in place, the organization has successfully enabled the emergence of multiple businesses, makers and solopreneurs who all share the common goal of making a positive difference to their community. This accelerator and co-working space in Gaza City is a clear demonstration of the effort and creativity typical in the Palestinian tech scene.

Indeed, PITA, which was created in 1999 as an independent non-profit organization, has been very important in improving the startup ecosystem in Palestine. The main aim of PITA has been to build local IT companies and ensure that the local technology start up ecosystem is not politically hampered. Such activities have been instrumental

to the visibility and growth of Palestinian start-ups both in the local and foreign markets.

The realm of innovation doesn’t stop in Gaza and the West Bank, as there are developments such as the Yementech-Retail-tech in Rawabi, the first planned city of Palestine. This technological hub was launched in 2016 as an element of more profound activities named Rawabi Vision 2025. It aims to transform Rawabi into a city within a hinterland of creativity and skilled people, where entrepreneurs, investors, and innovators can flock. Many links between the progressive attitude and the modern facilities of Rawabi make it a city of the future in terms of urban and economic development in Palestine.

In addition to the formerly mentioned notable establishments, most other significant contributors in high-tech include startups such as Yamsafer, Souktel, and Mashvisor. While these companies may gain less notoriety than Gaza Sky Geeks, PITA, and the Rawabi Tech Hub, they nevertheless contribute to the variety of the Palestinian ICT market. The rising number of these companies in the sector speaks to the variety of challenges and opportunities faced by different kinds of businesses, thus attempting to show the spectrum of the Palestinian startup scene and the potential for growth.

1.2.3. Key Success Factors

Here are the factors that can contribute to the promotion of Palestine's innovation environment; by using various enablers that can lead to a flourishing startup ecosystem. Firstly, the local 'young' people in Palestine are very energetic and dynamic. It should be stated from the latest report from the Palestine Central Bureau of Statistics that a substantial portion of the population in the Palestine Region is less than thirty years old, making them one of the youngest people ages in the world (Palestinian Central Bureau of Statistics, 2021). This demographic dividend presents an opportunity for Palestine to harness the young population's enthusiasm, creativity, and flexibility to support business and innovation efforts (Al-Arja, 2019).

Despite infrastructure-related impediments and instability and, therefore, little access to high-speed internet due to the war and occupation, Palestinians have been amazing in utilizing the given means of technology in creating technology-oriented ventures. Even with that limitation, the penetration of mobile devices and the internet allowed would-be innovators to connect with far and wide markets. Palestinian entrepreneurs have also managed to grow and establish startups that connect with the world,

contributing to the global digital ecosystem through their initiatives to close the digital gap.

There are many professionals in different fields from the Palestinian diaspora who are now well regarded worldwide and are important figures in the growth of Palestine's tech industry. A number of Palestinians living abroad have not forgotten their roots and are eager to do some good for the welfare of their country. Organizations such as the Palestinian American Community Center (PACC) and the Palestinian Business Network (PBN) help in building linkages between entrepreneurs and professionals of Palestinian origin throughout the world. They play a role in building a common economy and a common vision (Alaa, 2020). These institutions provide capital ex-post but also aggregate other resources, such as human capital and relations with foreign markets, crucial for the success of domestic entrepreneurs.

A fine example of these diaspora-led efforts is the program called ‘Tech Circles ’ which was started despite resistance from the local community by the Canadians for Tech in Palestine with the Canadian Palestinian Professional Foundation and the Technopark at the Bir Zeit University. This program aims to enhance and promote the growth of the Palestinian technology sector. It provides guidance and training for the people involved in the technology industry. By leading various initiatives in the diaspora, professionals boost the growth of individuals required to develop Palestine. They are intended to prepare these people regarding the skills required in the prevailing global environment.

The objectives set for the Tech Circles program are various. First, the goal is to improve the education and skills of the IT community in Palestine through the experience of IT experts worldwide. Also, the program intends to provide a virtual internship program for Palestinian students, equipping them with relevant practical skills, which can increase their likelihood of employment opportunities. By enhancing cooperation between the mentor and the mentee, Tech Circles has an essential function in building human capital and nurturing the culture of innovation, this are the key aspects to transformation in the digital scene of Palestine.

So, supporters from around the globe can augment these efforts by promoting strategies directed towards socio-economic advancements in that region. They can lobby for more assistance to the Palestine; blocking trade agreements that are not favorable to business and will hinder Palestine's tech growth. They can push for campaigns that enhance digital access and nurturing. Also, using digital tools to

market and advertise Palestinian goods and services can help break the geographic boundaries caused by the occupation, enabling Palestine to develop its exports and penetrate a new or higher international customer base (World Bank, 2020).

In any case, Palestinians throughout the world, together with their international sympathizers, have a huge window to enhance the facilitating elements of the Palestinian innovation ecosystem. They can pool efforts to help Palestine develop into an innovative and enterprising hub by supporting local ventures, providing mentoring captains, pushing for better policies, and endorsing tech solutions. Thanks to the never-ending assistance of the diaspora and foreign friends, Palestine can build an economy that is vibrant, robust, and integrated into the world system."

1.2.4. Challenges and Opportunities

There are several challenges that must be resolved if Palestine is to position itself as a major player in the IT industry. Most notable among these challenges are the constant political turmoil and the economic strangulation that comes with the occupation. This not only hampers the economic development but also discourages any foreign investments or the brightest minds in the country who wish to realize their ideas. The Israeli occupation very much limits people's movement and how they conduct trade as well as access certain resources essential for building an active and robust economy. And thus, the economic conditions that result are not conducive to innovation and development of new companies and their products and services (Al-Saifi et al., 2021).

More exacerbating the situation is inability to raise useful finances and poor state of the entrepreneurial ecosystem that can nurture and support the Palestinian start-ups. Although attempts have been made to catalyze investment and development, most famously by the Palestine Investment Fund as well as the Palestinian Monetary Authority, the absence of factors that hinder growth is still conspicuous. Those factors are not only political and economic but also physical ones that are a hindrance to the growth and development of new businesses.

Issues that affect the Palestinian tech scenario, despite these challenges, the Palestinian tech potential definitely has some serious opportunities for advancement especially in areas like education, healthcare, and financial services. There is a steadily increasing appetite for tech-based solutions worldwide, as well as growing demand for such solutions within Palestine, which is a great opportunity for the

Palestinian entrepreneurs. Especially, mobile technologies are expected to be used to overcome a number of social challenges and develop applications which would make a huge difference in the lives of many people. In this way, Palestinian start-ups can be instrumental for the development enhancement and economic recovery of the country.

The gains from the COVID-19 pandemic and the adjustments from the career changes into a teleworking environment have accordingly afforded Palestinian business people an opportunity to make contact with business leaders as -adventures partners on international markets. A new map has emerged in this 'Globalization 'where the Palestinian entrepreneurs have been enabled to reach out easily into the international market. In particular, it is possible for Palestine, like other countries, to harness its people, technological advancement and create a favorable environment for the policy of innovation and come out triumphant from its hurdles and become a hub of creativity and technology.

1.2.5. Lack of legal framework for the startup ecosystem

The absence of proper legal provisions covering the startups in Palestine is a hindrance to progress, particularly due to a number of challenges faced by the nascent entrepreneurial ecosystem. The very first issue is the absence of a well-laid and clear legal framework that would be helpful in registering the startups, securing intangible assets, or enforcing contracts. Investors are not only put off by such vague legal systems; entrepreneurs who wish to establish enterprises are also unable to do so as such legal systems also create obstacles (El Khatib & Khalil, 2020).

Such uncertainties about the law, lower the trust of the people towards the startup scene and this deters entrepreneurial development as well. Legal rights are necessary to enhance establishment, assimilate intellectual property safety, and facilitate trading activities. Otherwise, the parameters that facilitate the possibility of engaging in intellectual property theft, and the chances of such contracts being exuded are usually high which in turn stops any form of innovation or investment from being injected into the Palestinian economy (World Bank, 2021).

To start with, and more specifically, the most feasible remedy for these legal and institutional weaknesses would be institutional frameworks and policies that will particularly facilitate a conducive startup space in Palestine. In this way and expanding the support provided by the legal structure, it is expected that Palestine

will be able to realize its promises of great economic contributions where ideas will be taken without constraint and investments will flow in wealth seeking. And so these legal structures if ameliorated the best results in terms of the economic impact of startup ecosystem will be evident in Palestine (UNCTAD, 2022).

1.2.6. Policy Implications

Palestine as the ' Real Startup Nation ’would require overcoming additional barriers, this time a little less connected to the rest of the world and more towards the national government. Identified primary objectives include to facilitate such innovative start-ups ’existence within the legal framework of the country, enhancing the financial substrate of new technology-based industries through the development of special funds as well as and venture capital networks, and raising the level of education and skills such that potential technology entrepreneurs can be raised. In addition, the improvement of the status of relations with the coastal states together with the execution of cooperative plans and projects should also uplift the qualitative profile of the Palestine in the global technological renovation (Al-Arja, 2019).

Thus as a minimum requirement, it is expected that the Palestinian Authority (PA) at the institutional level must formulate and put into practice a separate, viable, and enduring national innovation policy framework whose outcome would be in line with the aspirations of the Palestinian people. For this matter, this policy should also include the formulation of a viable legal structure for startups, simplification of processes, and provision of an enabling environment for investment in the startup ecosystem. The PA should also spend more money on education that will ensure the youth take part in the new economy. This would create situations in which such innovations as innovation and entrepreneurship would be welcomed and embraced by the Palestine youth and integrated into the education system as supplements to their education which would act as the first step towards building sustainable economic growth (World Bank 2020).

Simultaneously, for the Palestine Authority as the point of immersion has been taken these investments diplomatic and strategic efforts could be made to build up on the country as well as help in searching for such investments and such technologies out of those. Furthermore, if it connects with countries and organizations that are engaged in and have a history of innovation and looking to promote entrepreneurship, it becomes easier for Palestine to access capital without limitations as well as

knowledge and aspects of the market. In addition, it has been pointed out that the Palestinian diaspora is also strategically located to introduce Palestine to the technology and investment communities, the entrepreneurial community and in the further expansion of the network and hence the development of the Palestinian startup ecosystem (UNCTAD, 2019).

1.3. Research Study Problem

Images & Discourses of Palestine as "The Real Startup Nation": Global Palestinian Epistemic Communities and Advanced Business Models in the Creation of a Palestinian Alternative Vision.

1.3.1. Problem Statement

Despite more than one hundred years of ethnic cleansing including forced displacement and a protracted occupation, Palestinians have been astonishingly able to sustain their primary identity, endurance and faith in freedom. This fighting spirit can act as a start for a new way of doing business and entrepreneurship globally. The "Real Startup Nation" concept for Palestine focusing on the power of the entrepreneurs of Palestinians in Israel, the West Bank, Gaza, the diaspora abroad and those actively supporting Palestine can greatly assist in such development.

The research delves into the structure of the global blue ocean cooperation and addresses how these peculiar agents can resolve the Palestinian entrepreneurs ' problems: occupation, funding, market access, business model and sustainability along with human/democratic/cooperative business. The study looks for possible solutions for Palestine based on the Israeli "Start-Up Nation" concept, the Estonian e-governance, the Mondragon Corporation in Spain, as well as to other experiences including KSA and UAE.

1.4. Hypothesis

No matter how deeply their people are oppressed or dispossessed, the Palestinian people have remained steadfast, determined and hopeful. With the help of Palestinians, the West Bank, Gaza, the diaspora communities, and other friends around the globe, a new business model can be tailored that will be able to address the unique challenges that Palestinian businessmen and women are confronted with. A model that incorporates virtual management, remote management, multiple registry

jurisdictions, and hybrid financing mechanisms, will ensure that Palestine will be marketed as what is known in our paralanguage as ‘Real Startup Nation. ’This will be self-sustaining, developing markets thereby achieving growth and be one of the many aspects of the struggle for freedom and self-determination of Palestine.

1.5. Research Questions

1. In what ways, and under what conditions, can this identity of Palestinians both at home and in the diaspora be turned into a competitive edge for development of a high-tech startup ecosystem in Palestine?
2. In what way can self-identified Palestinian people of the West Bank, Palestinian people of Gaza, Palestinians around the world, and their friends contribute towards business inclusivity?
3. How can a balanced/equable business model work within the parameters of occupation that is imposed and the legal and policy ecosystem, where there are financial, operational and physical restrictions?
4. What initiatives can be taken to help grow Palestinian startups like other Israeli or even international ventures by adopting and applying international best practices?
5. What are some examples and practices of constructing and operating a web of hybrid investments seeking to meet the needs of the Palestinian society?
6. How would the global Palestinian community use this power and the means available for them to establish and grow the demand for Palestinian goods and services?
7. What is the best way to help Palestinian start-ups reach the international market?
8. In what ways could a business be oriented toward humans, rather than capital, to deviate from accepted capitalist forms?
9. What are the policy and legal and financial frameworks needed for this new business model to thrive?
10. In Palestine, how can such frameworks be reformed or established, in order to create a propitious environment for the growth of Startup concept?

1.6. Objectives

1. To seek out and evaluate the prospects of globalization in forming cohesive network of Palestinian entrepreneurs and startups united in one supportive environment drawing lessons from positive examples around the world.
2. To assess the input each of these Palestinian communities contributes to the ecosystem based on successful international practice to support STPs: residents, non-residents and host institutions.
3. To design the solutions capturing the essence of the problem and possible ways out at the occupied territory taking into consideration the global experience.
4. To formulate an innovative approach to the structure of the business containing the elements of virtual management, inter-state registration, hybrid financing.
5. In order to find out how this model is likely to affect the Palestinian movement for economic self-sufficiency, the creation of a market and its sustainability in the long run, such models that have worked elsewhere in the globe are referenced.

1.7. Study Focus Areas

Occupation Constraints and Financial Barriers: Examining the monetary, operational as well as physical barriers that the occupation places and the extent to which an online, remotely controlled business model can mitigate these challenges. This model borrows from the case of Estonia as a cyber-nation, where thorough digitalization was achieved accompanied by depletion of geographical capital (Breslauer & Charles, 2017).

Alternative Mechanisms of Funding: Focusing on hybrid funding mechanisms such as passive government funding, crowd funding and foreign investments. This model is similar to the funding success of the Israeli startup ecosystem that helped Israel rise to a technologically advanced and innovative region of the world (Senor & Singer, 2011).

Selling these products in new markets and through the global network; Formulating approaches that will help develop & seek new markets for the products that the Palestinians will produce with emphasis on global markets and the use of Palestinian products and services. This strategy benefits from the manner in which valley plants coordinate their activities and expansion in the world (Saxenian 2006).

Every company claims to be in the business of sustainability, mostly for business reasons. You have model where you generate profits and reinvest them back into

enhancing the Palestinian's resilience and independence, thus making it economically sustainable in the long run. This is similar to the circular economy models adopted well in Nordics and the socialism of Mondragon (Murray et al, 2015; Whyte& Whyte, 1991).

Co-operative and Human Being Capital business model: Reinventing the scope of cooperative business where it is not based on similar old perceptions of capitalism. An Economic Development strategy in this model maintains emphasizes ownership of the Palestine Market Square by All Palestinians, which is Inclusive, and all Palestinian business people and Independent supporting persons support all Palestinian business people. This has drawn its foundation from the Mondragon Corporation in Spain which is one of the worker co-operatives that has made it in a globalized economy (Whyte& Whyte, 1991).

Legal and financial readiness: This pertains to the internal legal and financial dispositions that are relevant and instrumental towards the active operationalization of this business model. The Research looks at ways in which legal reforms which borrow ideas from international best practices can be localized to the Palestinian market in order to foster the development of a robust startup ecosystem (World Bank, 2021).

1.8. Implementation Strategy

Virtual and Remote Management: It is putting in place a global structure that enables Palestinian start-up businesses to go outside the confines of the occupation and operate from various countries so as to limit the effects of the occupation. This theory would make use of modern facilities such as brought out in the Estonia's e-residency program which permits doing business all over the world without having to be present physically (Breslauer & Charles, 2017).

BDS-Inspired Economic Strategy: BDS Movement's achievements will be used as a springboard for the development of a new economic strategy that will endorse Palestinian entrepreneurs urging their potential clients and funders from around the world to invest in and purchase Palestinian goods and services. This strategy would change the recognition of the BDS movement from being perceived only as boycott initiative mechanisms to be viewed as gregariously building a market (Barghouti, 2011).

Hybrid Funding Mechanisms: In the process of collecting unsolicited contributions from Palestinians and supportive people from across the world, the use of some small monetary allocations from the government, to help with the regarded resources, includes the silent government funding. This mechanism explains what has come to be termed as everyone who contributes to the development of Palestine's startup ecosystem becomes a part of the asset pool. This model derives inspiration from the successful blending of Public and Private funding mechanisms in Israel's startup ecosystem (Senor & Singer, 2011).

Market Creation and Adoption Priority: Forming a self-standing market for the products of Palestinian startups by the global network of patrons where buying Palestinian products and services is paramount. This effort would bring about a viable market threshold – just as in the case of community supported agriculture (CSA) models that are gaining acceptance in the US and Europe (Cohen & Uphoff, 2011).

Sustainability and Reinforcement: Investments in these startups are offset by the return, which goes to self-fund Palestinian innovation and resilience efforts. This strategy of capital reinvestment would render the expansion of the Palestinian startup ecosystem to be self-reinforcing and sustainable and similar to the Mondragon cooperative (Whyte & Whyte, 1991).

1.9. Importance of the Study

Reflection of this research is important because it has great potential to change the outlook of Palestine as quite different in terms of economic activities and entrepreneurial actions. Over the last hundred years, Palestinians have went through exceptionally rigorous experiences such as ethno-national cleansing, exile, and prolonged sovereignty repression which in turn have jeopardized their growth. Nevertheless, against all odds, the Palestinians have been forced to adapt to extremes, protecting their lives, language, and beliefs, and still clenching onto their quest for freedom. This research aims to tap that resilience differently, by making Palestine a "Real Startup Nation" and in building the global collaborative business platform.

1. Uniqueness of the Problems being Solved

This research is important in the view that it fills the gap with regard to the unique and intricate issues which have affected Palestine economy in the past. Econometric models in this case tend to omit the nitty gritty, which in this case, include the occupation that the Palestinians are under, the shortage of resources and the spatial

disintegration of the people of the Palestinians within Israel, the West Bank, Gaza and outside the borders. This research aims to change the approach in outlining the problems, by addressing them, and suggesting constructive alternatives appropriate to the challenges of Palestine for finding such an economy, rather than arguing how difficult it is to create all these factors.

2. Making Use of the Global Networking

A salient of this research is its focus on the unity of Palestinians living in various countries. For the first time, this research argues competitive pomocracy of Palestinians, whose members are located in Israel, West Bank, Gaza, the Palestinian diaspora, and supporters abroad. This global network is considered an undervalued resource that can be turned into a critical investment that addresses the substantial structural, ideational, and social gaps that are needed for systemic economic transformation in Palestine. In this regard, the study includes the global Palestinian community and seeks to harness their entrepreneurial and innovative capabilities to impact the economic transformation of Palestine.

3. Novelty in Cooperative Business Models

What is innovative in this study is in its articulation related to a new cooperative business repository, which dramatically shifts from traditional capitalist bodies. The model draws, for instance, from successful examples such as Mondragon Corporation in Spain as well as the principles of the Nordic countries 'circular economy in that it's centered on ownership for the community, participation, and support by all. This model can easily be applied to the Palestinian case because of the community-based nature of the economy which is expected to be human and environmentally sustainable. This way, not only does this approach contest the dominant western business philosophy, but it complements the Palestinian cause of liberation and independence.

4. Integration of Digital and Remote Management

This is pioneering research since it attempts in the use of both digital and remote management as a means of overcoming geographic and operational limitations imposed by the Occupation. Making references to Estonia's digital nation, which has been able to build a successful economy digitally within a country with few resources, the study recommends an online provision of management services by Palestinian Start-ups in several countries at the same time. This approach is however, not only

creative but key in assisting Palestinian businesses in growing to compete with other businesses globally, even if there are borders in between.

5. Strategic Use of the BDS Movement

Another innovative dimension of this study is the Boycott, Divestment, Sanction (BDS) movement as a plan. Though BDS has been mainly non-violent resistance to occupation, in this area of research, it can be rejuvenated as an offensive campaign strategy. Instead of simply asking global supporters to boycott Israeli products, the BDS movement can be harnessed to encourage supporters to invest into Palestinian start-ups and consume goods produced by Palestinians. It will in turn help develop the burgeoning growth of Palestinian's startup ecosystem. This new perspective not only strengthens the effect of the BDS movement but also provides favorable conditions for Palestinian businesses.

6. Practical and Theoretical Contributions

And this area has practical implications, substantial ones. By offering a clear guideline to developing Palestinian's start-up ecosystem, the research provides implementable strategies, which can be utilized by policy makers, business owners and foreign stakeholders. Furthermore, the research enhances the theoretical discussion of the concepts of economic development in a war torn society. The study in this way intersects innovation, resilience, and cooperative economics contributing further perspectives about building and maintaining economies in rather harsh conditions.

7. First-of-Its-Kind Approach

There has not been any research sufficiently providing a critical analysis of Palestine, in relation to its aspirations of becoming a global startup nation. Most of the existing literature centers on certain aspects of Palestinian entrepreneurship but does not provide a multi-disciplinary approach, which brings together best practices, new ways of funding and a shared business model. This research is new and different in that it is organized in such a way as to combine these aspects into a workable framework that is imaginative, rational and strategic concerning the potential paradigm shift and economic repositioning of Palestine.

In summary, this study is of significance and, beyond that, it is innovative in its vision of making Palestine and 'sure enough, a real startup nation. Along with the usage of global Palestinian resources and new forms of business, such work tries to re-invent the economy of Palestine in context of occupation and pursues stable and self-

sufficient growth. This study remains the most advanced when it comes to assessing and branding Palestine's entrepreneurship eco-system for its future utilization across the globe.

1.10. Research Study Boundaries and Determinants

1. Geography of the Bounds

In this instance, the research more or less concentrates on Palestine, that is, the West Bank, Gaza, and Palestinian areas in Israel. But it goes further to include the global Palestinian diaspora that is expected to play an active role in the proposed startup ecosystem. Such an undertaking also takes into account the geographical separation challenges for a common global business model development, especially the possibilities of virtual and distance management in mitigating such spatial barriers.

2. Political Boundaries

In light of the sensitive political realities concerning the region and human geological etiquettes, this study attempts to overcome barriers that are as a result of the Israeli occupation such as movement, resource access and unstable security situation. These political boundaries are of great importance for the analysis of the prospects of establishing vibrant startup ecosystem in Palestine. Moreover, the research highlighted that there are potential changes in political situations that may hinder the application of some of the strategies and solutions that were proposed.

3. Economic Aspects

The research is limited by the economic situation in Palestine today that is limited: closed economy, limited international economic interactions and high dependence on external support. It acknowledges the economic aspects of the occupation such as sanctions and trade restrictions. The present of the study intends to assess the new ways of addressing such barriers by investigating the incorporation of public-private and crowdfunding strategies in the municipal development finance practice.

4. Legal and Regulatory

The other factor relevant to this research is the political context within which the legal system is embedded in Palestine, where it is pervasive yet grossly undeveloped in form and content owing to occupation and political division (between the West Bank and Gaza). The research examines the extent to which there will be the need for changes in the law in order to accommodate the proposed business model such as copyright laws, contracts and practices that are supportive of the growth of high-tech enterprises and city

development. It is also explored how reforms such as in Estonia and other countries with a high number of startups can be implemented into the Palestinian legal framework.

5. Social and Cultural Boundaries

The research does not ignore the different regions of Palestine, for example it includes the comparisons of communities in Israel, West Bank, Gaza and amongst diasporas. Such social and cultural differences are important considering the peculiarities that beg for attention in formulating an integrated startup ecosystem. In the course of the study, the author states that it is necessary to provide additional factors based on the unifying experience and identity of Palestinians, at the same time minimizing the risk of cultural barriers.

6. Technological Boundaries

The study brings out uniqueness as one of the technological characteristics after finding out that there are technological constraints within the Palestinian territory due to its coercive environment such as poor communication networks usage. Such findings are however looking for encouraging factors like the Estonian digital nation model which can help solve the problem. The study focuses on the use of technology and specifically virtual workability for the achievement of the goals of the organization.

7. Temporal Boundaries

This research is limited according to the scope of the socio-political present and economic conditions existing at that point in time in Palestine. As presented in the research, there will be long-term efforts to achieve the transformation of Palestine into a “Real Startup Nation”, such strategies should be open to evolution. The temporal scope of the study includes the historical analysis of the forms of successful economy-entrepreneurship system development that are applicable in the modern world and will be useful for proposed solutions.

8. Determinants of Success

Political Stability and Legal Reforms: The realization of the proposed business model is usually pegged on the degree of political and legal environment stabilisation that nurtures venture forming and pursuing opportunities. In this case, this means overcoming administrative obstacles, guaranteeing copyright protections, and securing an active supportive legal framework within which new ventures can grow. In parallel fining hybrid and multinational and virtual aspects of legal formation and management can be part of the resolutions

Access to Funding and Markets: The effectiveness of the ecosystem of a startup is dependent on reliable and multifaceted sources of funding such as government, foreign investors, and crowd funding support. In addition, the growth and profitability of Palestinian startups also depend on the ability to penetrate and grow in overseas markets.

Community and Diaspora Engagement: The active participation of the international Palestinian community and friends of Palestine must be included in the proposed model for the cooperative business which is core to the success of the model. They provide vital resources such as funding, mentorship, and market access which are essential in addressing the economic and logistical issues of Palestinian entrepreneurs.

Technological Adoption and Innovation: The use of virtual incorporation and finance tools and remote management systems are one of the key factors influencing how practical the proposed hybrid virtual concept is going to be. The dependability of the Palestinian business people on technological advancement will enable them work around geographical limitations and emerge as competitive players in the international market.

Sustainability and Profit Recycling: The marginal performance of the business model after establishment and growth of the chapter will revolve around the success of the startup ecosystem. It also encompasses the positive investments of stock-generated earnings towards extra growth and innovation without leading to the economic collapse of the Palestinian territory.

Defining such boundaries and determinants, this research attempts to provide a proper background in order to explore the practical possibilities of turning Palestine into a "Real Startup Nation" model. It undertakes the research within the constraints prevailing in the existing sociopolitical, economic and legal environment focusing on the issues that provide room for entrepreneurship and development.

1.11. Organization of the Study

More particularly, the research work will be carried out in five chapters. The first chapter describes the overall structure of the whole research work and gives the general overview of the whole research work. This research will be organized in the following manner: first, the context of the research will be presented; then the

research problems, the objectives of the research, and the research question will be set. This problem will be elaborated upon in the background of the study.

In the second chapter, it aims to achieve not an estimate of the synthesized modern studies case on the nature of the research. In addition, this chapter will also include elaboration of the theoretical framework. Finally, through the third chapter of the research, the details, explanation, and discussion of the prescription of the study areas, the data collection technique, the research design adopted, the data sources, and the data analysis plan were made. Chapter four involves the analysis and interpretation of the results of the study, which is in every study report. Chapter Five provides the end of the study and completes the work by recommending actions based on the findings.

1.12. Definition of Some Terms.

A startup is a young business venture established to introduce a new product or service to the market and grow it rapidly. New-generation companies work towards introducing change in the existing markets (Amabile, T. M., 1996).

Ecosystem: In a business context, it means a system of interdependent entities that includes suppliers, distributors, customers, competitors, governmental bodies, etc, aimed to create and deliver a particular good or service (Runco, M. A., & Jaeger, G. J., 2012).

Interconnectedness: Organizational participants are interrelated and require each other's assistance in providing materials and exchanging information (Csikszentmihalyi, M., 1996).

Collaboration and Competition: Members of this ecosystem may have partnerships or may also be in direct competition with one another (Sternberg, R. J., 2006).

Dynamism: Dynamic in nature and changes in technology, market and the rules and regulation of the government (Kaufman, J. C., & Sternberg, R. J., 2010).

Resilience: A healthy ecosystem helps organizations to react to new conditions and to perform certain functions faster and more effectively than isolated organizations (Sawyer, R. K., 2012).

Startup Nation: commonly defines the country with a high density of new startup companies, high entrepreneurial activity and developed support structure for startups (Gardner, H., 1993).

High Innovation Rate: High amounts of money dedicated to research and development, as well as hi-tech solutions (Boden, M. A., 2004). I am not sure if this is an accurate definition

Strong Entrepreneurial Spirit: An increase in opportunities for acquiring loans to finance business (Tidd, J., & Bessant, J., 2018).

Supportive Government Policies: Favorable rules of formation and support of startup businesses such as taxation preferences, grants, and financial support programs (Christensen, C. M., 1997).

Access to Capital: A clear indication that capital, specifically venture capital and angel investors, are available for funding startups (Schumpeter, J. A., 1994).

Skilled Workforce: Generally favorable demographic including high literacy and skilled workforce, especially in technologies, biotechnology, and cybersecurity (Teece, D. J., 2010).

Global Integration: A global presence and markets for these startups to expand into rapidly.

Technological improvement, also known as technological progress, means enhancing technology. This can include the development of new technologies, strengthening of current technologies, improvements of different technology tools, and the general efficiency and effectiveness as well as the capabilities of the various technologies and systems available (Keeley, L., Walters, H., Pikkel, R., & Quinn, B., 2013).

Innovation can be defined as the creation of something new and valuable, as seen in the enhancement of current solutions in the market. It entails using ideas to produce tangible solutions that make an organization efficient, productive, and competitive. Innovation can be applied in information technology, commerce and trade, learning institutions, and even social institutions to produce change and break the norms (Rogers & Kincaid, 1981).

Creativity: Creativity is the capacity to develop unique and useful ideas or products. This entails a process of creativity where components are combined unusually, called synergistic creativity since it frequently leads to creative and new ideas. Creativity does not only concern art but has shifted to other sectors like science, business, and technology. It is defined as the creation of ideas and the tangible output of these ideas (Amabile, T. M., 1996; Csikszentmihalyi, M., 1996).

Efficiency: Improvements enabling more rapid, less expensive, or better ways of doing things and producing goods (Van de Ven, A. H., Polley, D. E., Garud, R., & Venkataraman, S., 1999).

Capabilities: More possibilities and utilization of technologies (West, M. A., & Farr, J. L. (Eds.). 1990).

Accessibility: Increased use of technology for the mass general public and other entities (Drucker, P. F., 1985).

Integration: The extent to which introducing new technologies can fit into existing systems and practices (Dodgson, M., Gann, D. M., & Salter, A., 2008).

Impact: Great impact on industries, economies, and societies, which usually cause shifts in these pillars (Chesbrough, H. W., 2003).

Chapter Two: Literature Review

2.1 Introduction

The literature review, as could be stated, forms a part from the necessary compliance of this research aiming to deliver constructive and quite ample understanding of the processes behind startup nations and the particularity of Palestine's prospects in that respect. In this chapter, studies, theories, and literature relevant to the Palestinian tech ecosystem, innovation, technology entrepreneurship, and economic development is critically reviewed. This review brings forth the objectives and research questions of the study by performing a cross-case analysis of success stories of the like organizations and positioning the stories within the internal and external environment of Palestine.

2.1.2 Historical and Socio-Political Context of Palestine's Tech Ecosystem

To appreciate the present tech ecosystem including its startup companies, officers, and researchers, an understanding of the colonial history and national politics is imperative. For a century and more, Palestinians have been victims of ethnic cleansing, colonization, and occupation, activities that have altered the ways of life economically and socially (Pappe, 2006, Ismail, A., & Jabeen, F., 2021). In spite of such unfortunate circumstances, the Palestinians in the territories occupied rather impressive figures of perseverance and adaptation, while staying true to their ethnical roots and their sense of innovation (Hroub, 2006).

The long-standing political turmoil and the continuing occupation are likely the main causes of many deprivations of the Palestinians such as access to resources, mobility, and economic activities (Bourouiba & Yiftachel, 2015). However, rather than being a setback, these issues have reversed their meaning and have in effect provoked invention by the Palestinians, as they try to find other ways of becoming economically active. Other researchers note that necessity-based and resilience-based entrepreneurship can also flourish in conflict zones (Murray et al., 2015). In Palestine, the technology industry has become a source of optimism as it maximizes available options in the creation of useful products (Al-Arja, 2019).

2.1.3 Structure of the Palestinian Startup Tech Ecosystem

Despite the adversities, the Palestinian tech ecosystem is evolving to be full of start-ups, supporting groups, and new systems development. Citing the World Bank, 2020, the Palestinian technology sector has transformed over the last few years, with the emergence of several tech startups and innovation centers in the West Bank and Gaza Strip. Palestinian Information Technology Association (PITA), Palestine Entrepreneurship Program (PEP) and other such key support organizations are instrumental in developing the culture of entrepreneurship and provide adequate resources for the initiatives (World Bank, 2020).

Financing is still considered the most significant barrier for the Palestinian startups due to the lack of venture capital or Foreign Direct Investment (Al Arja, 2019). However, some progressive funding options like crowd funding and investments from the diaspora are slowly gaining popularity. The investment ecosystem is also complemented by international bodies and non-profit institutions that extend financial and technical support to Palestinian entrepreneurs (UNCTAD, 2019).

Another barrier is market access and even that is restricted due to the laws of the occupying power like movement and trade restrictions. Even with such hurdles, for example the Palestinian tech startups have used various Overseas and online marketing avenues and remote working strategies and adopted some techniques from other surrounding countries (Saxenian, 2006).

2.1.4 Challenges and Opportunities in the Palestinian Tech Ecosystem

Some of the challenges identified in the literature that affect the Palestinian entrepreneurship include but are not limited to: Political shocks, restrictive funding, discrimination in the market, and poor facilities (Barghouti, 2011, Tlaiss, H., & Alharbi E., 2020). These challenges inhibit the development and the expansion of the start-ups which hence calls for the need to come up with strategies that will focus on these challenges.

Nevertheless, there are also several opportunities to be explored in the Palestinian tech ecosystem. A great deal of community and Palestinian resilience encourages collaboration which, in turn, encourages innovation (Whyte & Whyte, 1991). Moreover, the Palestinian diaspora has found a way to expand that is very valuable in achieving economic development because it is both intellectual and financial (Al-Arja, 2019).

The advent of digital technologies offers a solution to these geographical and political impediments and allows Palestinian start-ups to be established and run within the circumference of the global economy (Breslauer & Charles, 2017). Moreover, the growing focus on sustainable and collaborative business practices is in line with the paradigm shift towards inclusive economics and resilient societies (Murray et al., 2015).

2.1.5 Theoretical Perspectives on Innovation and Entrepreneurship in Conflict Regions

Current models on the intersection of innovation, human capital, and resilience are scrutinized in this chapter in relation to regions in conflict. According to the economic growth concepts, innovation is key to economic development, especially in places where normal economic activities have been interrupted (Schumpeter, 1942). In most conflict regions, the idea of "resilience" is especially important because people adjust to continuous crisis and look for lasting ways out of this problem (Adger, 2000).

Sociology and related disciplines are concerned with the role played by social networks and social capital in the entrepreneurship process. In Palestine, the entrenched diaspora gives way to the diffusion of supportive infrastructures encouraging business partnerships (Granovetter, 1985). Political science theories also explain the extent to which governance and legal regimes advocate the creativity and innovations of their people, and the level of development in such regimes (North, 1990).

It has been observed that in most instances, especially in areas of conflict windfalls stress on the adaptive capacity and the efficient management of the scarce resources at hand (Murray et al., 2015). For the Palestinians, this means coming up with new forms of business that are improvisational, consistent with, and work in hard places (Senor & Singer, 2011).

2.1.6 Comparative Analysis with Other Startup Nations

In order to assess the potential of Palestine as a startup nation, it is prudent to consider other regions models of success. Such attention to this problem is increasingly justified by the Israeli experience of transformation into a “Startup Nation” (Senor & Singer, 2011). In the same way, the case of Estonia’s digital revolution demonstrates

how technology can be used in a small country to bypass the barriers of space and poverty (Breslauer & Charles, 2017).

It is important to note that Mondragon Corporation of Spain is a perfect representation of the successful co-operative business model which is based on the spirit of community ownership and cooperation (Whyte & Whyte, 1991). Such levels are also particularly beneficial to Palestine in showing how productive technological investments, appropriate policies, and robust community infrastructure can lead to economic advancement and, in particular, innovation.

2.1.7 Governmental and Other Stakeholders 'Support and Intervention

The governmental support and intervention are also important factors that determine the success of a startup ecosystem. For example, in Palestine, the importance of the governmental and non-governmental organizations towards the establishment of a favorable atmosphere for the technological startups is extremely high (World Bank, 2020). There are also policy issues such as legal provisions for patenting and protecting inventions, as well as making it easier to set up a business and access funding that will increase the rate of innovators.

However, international cooperation and partnerships are also of great importance. Such work can include actions such as outsourcing development activities for Palestinian startups with help from international technology companies and NGOs (UNCTAD, 2019). Furthermore, tapping into the global Palestinian diaspora can create better investment possibilities as well as mentorship and networking options for new business owners (Al-Arja, 2019).

2.1.8 Successful Startup Strategies in Palestine: A Case Study Approach

Despite the difficult conditions on the ground, several Palestinian startups have recorded encouraging achievements. For instance, such firms as MENA Innovations and Yamsafer have shown that Palestinian entrepreneurs boost turnarounds, translating to solutions worth their competition on an international scale (Al-Saifi et al., 2021), (Tartir and Fink, 2020), (Murray et al., 2015). These case studies clearly speak to the case of innovation, use of strategic alliances and digital platforms to address the local challenges. (Palestinian Central Bureau of Statistics, 2021)

It then continues to work on technological solutions for the Very Specific Geography represented by the Middle East, and it is places like Yamsafer which have been able

to break up the travel solutions parochialism by offering solutions to tourists within the region. These examples highlight the ability to comprehend market dynamics, harness the existing opportunities and map out functional infrastructures for the long term.

2.1.9 Synthesis and Theoretical Framework

The literature review has demonstrated that this specific research would be carried out through the combined lenses of economic development, sociology, political science and innovation studies. The theoretical framework is oriented towards the economic growth principles of resilience, cooperative economics and adaptive capacity, using best practices of the world and projecting to the business model for Palestine.

The framework calls for utilizing global Palestinian networks, embracing creative funding, and promoting an interpersonal and humane business model. Integrating all these factors into the study seeks to formulate a convincing strategy for translating Palestine into a 'Real Startup Nation'.

This literature review adds to the growing body of knowledge on the Palestinian tech ecosystem by highlighting the theory of the conflict and its complexities on the Palestinian situation. It examines the interrelationship between socio- political variables and the entrepreneurial processes in a post conflict economy and how these can be used to foster growth in such adverse business environments.

Implementing the respective business model should be the focus of further studies in order to evaluate how the objectives set can be achieved in practice. Also, follow-up studies may seek to investigate the effect of cooperation and sustainable business ideals toward economic growth in Palestine in the long term.

2.1.10 Conclusion

This literature review also explains why Palestine has the potential metamorphose into a "Real Startup Nation" using available resources such as social networks, internal structure, and politics. In spite of liberalization-driven changes being met with substantial opposition, perseverance, and creativity of the Palestinians can, with the help of the engageable stakeholder and the Government, forge a sustainable collaborative tech ecosystem where all thrive. This chapter provides a foundation for

the following parts, which will discuss further the goals of the study, the types of research conducted, and their findings.

2.2 Academic Literature Review

A number of academic works discuss policies, plans and problems related to the growth of Palestine as a Startup nation. These studies provide a wide range of academic base to help understand the complex landscape of Palestinian entrepreneurs. Some of the notable studies include Esraa Al Shroof, David L Deeds and Fadi Kattan (2018) where all these authors come together in discussing entrepreneurial ecosystems in the most unlikely of places; the Palestinian West Bank. The research underlines the effect which enhancement of entrepreneurship education may have on the Palestinian IT industry and lays stress on the need for appropriate educational work to get covered in the preparation of entrepreneurs. A similar submission is made by Majdi Quttainah and Shaker A Zahra (2018), stating that entrepreneurship, which is an essential pillar for the building up of the aforementioned, the ecosystem, also requires policy support of the state and private sector.

Based on their inquiry into the potentials of the labor market within Palestine, Assaf Zimring and Zafiris Tzanatos (2019) enumerate the major economic policy problems that Palestine is experiencing, calling also to redress the imperfections of the labor market to promote the development of the growing tech sector. Tariq M. Ziadah and Rami Nabil QawasMi (2020) turn out attention to the academic institute technological capabilities and how they are courting changes in the society, agents of change arguing that universities are at the center of the knowledge economy meeting the needs of entrepreneurs with human and scientific resources for the establishment of their firms.

The political economy of entrepreneurship has also been studied from the cultural and social angles that pertain to the Palestinian business community. Eyad Fouad Aljawadi, Ayman Zaki Said and Yazan Abdo Khalifeh (2018) study also the socioeconomics of opened Palestine for capital, advertisement and the built up cities and mobile people influence the drive to entrepreneurship. Their contribution links the geopolitical conditions of Palestine with practice of entrepreneurship suggesting that instability could be a driving force for engaging in business activities leading to economic emancipation. Similarly, Studies by Abdel Aziz Sharabati, Mostafa Saad and Mohammad K. Abu Jarour (2021) on innovation hubs in Palestine indicate that

these are also sources of entrepreneurial ecosystems and highlight the necessity of focal points for entrepreneurs where resources, clustering, guidance and financing can be readily found.

Particularly in the area of entrepreneurial finance, Al-Mahmood and Abu Jarour (2022) scrutinize funding avenues for nascent firms located in Palestine stressing that funding continues to be among the most challenging constraints to foster growth. Laila Shereen Sakr, Dina Abu-Ghaida, and Rama A. Zakaria (2023) research the issues of women-owned businesses in Palestine, providing a more thorough look at the issue of women's access to enterprise. The gender-related aspects are also observed in other countries but in Palestine are heightened due to socio-political reasons.

To add on, Moath Al Khasawneh and Dina Abu-Ghaida (2024) examine the emotional response of potential entrepreneurs to risk factors such as political instability, stating that the effects of war are mixed, that is, there are many obstacles imposed by political conflict but political risk leads to innovation as a coping strategy. This is consistent with an analysis by Yara Abu-Jalala and Mohammad Al-Gharabli (2024) of the Palestinian context pertaining to startup accelerators and incubators, highlighting ethical dilemmas, opportunities, and environmental threats such structures bear.

Moreover, Rawan Abu Hamdleh and Osama Qadan (2024) do acknowledge the growing trend of digital entrepreneurship in Palestine examining the rights and obligations brought forth by transitioning to the digital economy. They are concerned with how Palestinians in the global digital economy employ technology to circumvent physical and political boundaries to reach worldwide markets and sourcing.

Eljilany and Abu-Maizar (2024) research public-private partnerships as tools for the advancement of emerging businesses in Palestine, focusing on how such approaches require governmental and private resources. Zupts, N. A. and Khametov, I. T. (2024) studied possibilities of social entrepreneurship in Palestine, depicting how such initiatives can lead to change in society for the better and also development of economy, through entrepreneurial activities of the people.

These works together offer different views on entrepreneurship, innovation and development of economic sector in Palestine. Collectively, they discuss the range of practices, problems and opportunities of the innovation support in this territory. The studies show that although the state of affairs still remains unfavorable due to wars

and lack of funding, the high-tech portion of the Palestinian economy is not stagnant thanks to Palestinian entrepreneurs.

2.2.2 Methodological Insights from the Literature

In their work, Al-Shboul and Alrawadieh (2019), and Autio, E., & Levie, J. (2021) emphasize the need for the adoption of qualitative approaches which comprise of interviews, focus groups, and participant observation in order to understand the Palestinian tech ecosystem. Conclusively, qualitative methodologies are revealed to always accommodate and scrutinize the differences between the stakeholders' experiences and this in turn helps the researchers in identifying the controversies embedded in the ecosystem. Such methods as well give robust evocative useable information that can influence the decision making of the politicians and practitioners providing important rationale for improvement of interventions for the startup businesses in Palestine.

Apart from within this qualitative perspective, Mawas and Rjoub (2020) carry on the research into the Palestinian tech sector and elucidate the funding and investment patterns by using quantitative methods. The investigation uses mathematical modeling methodology in order to determine how funds are allocated and how effective certain investment incentives are. The findings are also helpful as regards to the staff and investors of the policymakers and provide them practical ways of enhancing access to finances by the Palestinian start-ups.

Naser Awartani (2018) suggests a mixed-method research framework to look at the processes of innovation within the technological landscape of Palestinians. Besides, surveys, interviews and analysis of secondary data undertaken in Awartani’s study give a good insight into some of the factors that facilitate and impede creativity in the region of Palestine. The mixed-methods approach enhances the credibility of the study by bringing both qualitative and quantitative data that reinforce the results and their usefulness to the policy makers.

Furthermore, action research is reported to be an effective method in developing entrepreneurship education in Palestinian universities. Successful Action Research works –Alabdalalati, Abu-Libdeh and Qader (2019) show how the action research method can lead participants in problem resolution thereby effecting improvement in training towards entrepreneurs. There is however hope that such action research will

facilitate tenable collaboration between academics, business and students, thus improving Palestinians ’universities ’ability to nurture technological advances.

2.2.3 Comparative and Cross-Methodological Approaches

Scholars have engaged in comparative studies, and applied various types of methodologies, including; network analysis, experimental design, and geo-spatial analysis, to the Palestinian startup ecosystem. For instance, Ahmad and Tafesh (2019) conducted thick description oriented ethnographic research in Palestine catching the culture and community of Palestinian start–ups. The present study surfaces the context of these social relations and their cultural attributes that are said to act as a backbone to entrepreneurial activities and entrepreneurs giving the most plausible emerging situation in the tech valley of Palestine.

Nasser and Khader (2019) illustrate that, network analysis studies the interdependencies of entrepreneurs, investors, and support organizations and the relationships that exist between them. It establishes a clearer understanding of the waters the Palestinian start-up community swims in by identifying the actors and networks in the information and resource flow. Such establishments are critical and aiming for improving connections legally among its participants as well instigating for effective system dynamics.

Hamdan and Abu-Musa (2020) in their study assessed the impact of various interventions on the impact of the corresponding support programs on the socio-economic status of their beneficiaries in Palestine. Randomized controlled trials (RCTs) were used in this research to assess the effect of workshops, accelerators, and financing components on the development of startups. This type of approach helps those in government intervention programs in knowing which strategies work and therefore program implementation relies on evidence and seeks to optimize the entrepreneurs ’ecosystem.

Al-Masri and Shomar (2020) employ geospatial analysis in which they illustrate the locations of tech hubs, co-working spaces and broadband infrastructure throughout Palestine. This method, however, demonstrates the unequal distribution of resources and the development of infrastructure within geographical limits, thus establishing a basis for decision making regarding the allocation of resources for the future growth of the tech ecosystem.

Finally, longitudinal studies such as the one done by Abu-Libdeh and Qader (2018) give a historical account of the changes within the Palestinian tech ecosystem over some time and how these changes affect the growth or death of startups, and how the policy has influenced these changes. Longitudinal data is very significant in such cases as ascertaining the sustainability of entrepreneurial activity in its growing phase and in formulating strategies that will enhance growth using technology.

2.2.4 Global Comparisons

Global entrepreneurship models have paradigmatic significance in contextualizing Palestine's startup ecosystem. For example, the Global Entrepreneurship Monitor-GEM framework identifies three broad sub-dimensions of entrepreneurial ecosystem which are entrepreneurship intentions, perceptions of opportunities and availability of funds to potential entrepreneurs as predictors of success for startup ventures (Reynolds et al, 2005). Vine-security's network transformation of Silicon Valley as Powell et al. (2005) demonstrate points to the importance of networks backs by ventures in the development of organizations. International models aid Palestine in strategies that include collaboration, funding and legal structures.

Adopted the principles of the coba-coba strategy by the Abdul Latif Jameel Poverty Action Lab (J-PAL) is, in fact, very relevant for the evaluation of various entrepreneurship promotion programs (Banerjee & Duflo, 2011). Geospatial analysis, as it is practiced in the tech cluster in Bangalore, explores the role of geographical factors in promoting innovations through the proximity of startups and their complementary institutions such as universities (Glaeser et al, 2010). An additional aspect, from the standpoint of National Institute of Entrepreneurship, is the longitudinal analysis of startup activity conducted through the Kauffman Firm Survey – the data allow to offer updated conclusions about the factors determining startup survivability and scalability: namely the necessity of political and financial efforts (Robb & Coleman, 2009).

2.2.5 Conclusion

This subsection has examined important theoretical frameworks and concepts in the study of technological development in Palestine and its respective scholarship, particularly with regard to the points which Bolt has placed emphasis on, and how scholars have approached this sector's problems and opportunities. These studies offer an integrated perspective of the coexistence of dramatic market changes with emerging Palestinian entrepreneurial ecosystem and its development prospects rendering realization of these potentials at least in a few years' time despite the rapid progress of socio-political upheavals. In integrating qualitative and quantitative research approaches and applying global best practices, this literature review advances the framework for establishing a resilient and innovative start up country in Palestine.

2.3 Findings from Previous Research

Analysis of the relevant academic literature makes it possible to investigate several important outcomes that describe the Palestinian environment in terms of innovation, entrepreneurship, and economic development. One of the prominent challenges is the shortage of funds, especially venture capital, further exacerbated by conservative banking policies. Hence, supporting Palestinian start-ups through Choukr, or Angel investors, grants or international funds is becoming more and more critical (World Bank, 2020). The absence of the so-called 'hard –'physical structures such as tech parks, co-working spaces, and the 'soft – 'reliable internet provision makes these challenges even more complex, reinforcing sovereignty sponsorship and investment into those segments (Abu Jarour et al., 2022).

1. Financing and Infrastructure:

Lack of funding has regularly been cited as one of the key barriers to the advancement of the Palestinian tech ecosystem. Owing to the scant availability of Venture Capital, Palestinian entrepreneurs rely on other forms of funding such as peer-to-peer (P2P) funding, crowd funding, and angel investors (Abu-Libdeh et al., 2020). Moreover, there is quite a desperately lack of technology parks, spaces for collective work and stable access to the internet, that are also crucial in promoting creativity and providing a favorable environment for startups (Ziadah & Qawasmi, 2020). Enhancing the connectivity and offering venues for collaboration are therefore a key in mitigating these hindrances.

2. Education-Industry Alignment and Talent Development:

Another major finding concerned the gap between the education sector and the requirements of the Palestinian tech industry. The ‘brain drain ’phenomenon is more pronounced in this regard with many capable people vacating such a country because of lack of relevant opportunities. Much as the former may be, there is also room for ‘reverse brain drain ’where skilled people return back to Palestine with experience and knowledge acquisition (Eljilany & Abu-Maizar, 2024). This potential can be expatiated by introducing STEMbased education and vocational programs that meet the human capital requirements of the Palestinian context (Aljawadi et al., 2020).

3. Legal and Regulatory Environment:

There are factors such as public red tape and uncertainty in business practices in Palestine that have been reported as some of the major barriers to small ventures. These include poor regulatory policies, absence of initiatives to encourage young entrepreneurs and inadequate legal systems all inhibit the growth of Startups. There is an obvious need of such parties so as to ease the processes of registering business activities, improving the protection of ownership rights, and nurturing the startups regarding legal aspects (Abu-Hamdleh & Qadan, 2024). Regulatory reforms can lead to improved conditions, for example, one where entrepreneurship investors can operate freely without government intervention.

This is incorporated in access market due to the geopolitical situation prevailing in Palestine. The limited movement of people and cargo and the small internal market hinder the growth of Palestinian start-ups. However, there is a possibility for Palestinian businesses to access local and foreign markets with the use of social media technologies and taking part in international exhibitions. Additionally, the global Palestinian diaspora increases that market which has yet and may benefit from a move to engage that would promote the use of Palestinian services and products (Shereen Sakr et al., 2023).

On the other hand, a significant limitation to the study of Palestinian entrepreneurs relates also to their low risk tolerance. This is a risk aversion culture which can be excised through the development of an entrepreneurial trait that is open to failure though innovating. Mass media, success narratives, educational programs, among others have a cultural embrace and encourage entrepreneurship among Palestinians. (Abu-Jalala & Al-Gharabli, 2024).

6. Global Partnerships and International Cooperation:

International partnerships and, endeavors play an important role in promoting the Palestinian tech ecosystem. In particular, the Strategic Technology Deployment of Palestinian Institutions as in the si Silicon Valley in the USA, Israeli start-ups and the Nordic public-private partnerships (Isenberg 2011; Senor and Singer 2009). These are understood within the context of Palestine due to the fact that these models must be localized addressing the political environment of Palestine especially those tragedies of occupation which firmly limit creativity and entrepreneurship (Glaeser et al., 2020).

7. Social Enterprises and Technological Solutions:

Social entrepreneurship has proven to be an indispensable strategy and means of addressing certain societal issues, in this case in Palestine. It is through such innovative business approaches that Palestinian business people can develop and implement high-impact, and profitable, enterprises which solve local challenges while also creating jobs (Abu-Zahra & Ghunaim, 2024). Furthermore, the application of modern health information technologies such as Blockchain and AI, and the Internet of things are expected to enhance productivity and creativity in sectors such as agriculture, energy and education (Abu Hamdleh & Qadan, 2024).

8. Government Policies and External Factors:

Policies formulated by the governments themselves as well as the activities of outsiders such as international organizations and foreign investors are extremely influential to the Palestinian entrepreneurial context. According to Ziadah and Qawasmi (2020), a government has the right conditions such as the capacity to make enabling regulations as well as tax incentives and investment in education and infrastructure that is important in nurturing a vibrant start-up culture. Furthermore, International Organizations also have a role to play via grant provision, starting investment initiatives, and encouraging partnerships for the exchange of knowledge, and resource contributions too (UNCTAD, 2022).

9. Theoretical Frameworks and Concepts:

The different fields of the Palestine case have also been through several theoretical frameworks such as the theory of disruptive innovation, theory of resilience, and theory of adaptive capacity to mention but a few. These theories attempt to understand how Palestinian businessmen exploit new opportunities while coping with the challenges of conflict and occupation. For example, Palestinian entrepreneurs ’

resilience is observed in the ability to cope with cases of resource shortage, legal volatility, and political volatility. Palestine fosters conditions for disruption innovation where other types of countries encourage sustaining innovation. This is where new entrants into the market be it startups tend to go around the traditional structures that impede development and innovation and instead forge new ways of doing business and capturing the market (Sharabati et al., 2021).

10. Research Methodologies:

The literature also highlights the use of a variety of research methodologies to explore the Palestinian tech ecosystem. For instance, interviews and focus groups provide qualitative data to appreciate the narratives of the entrepreneurs and stakeholders while quantitative data assists to obtain the exact figures of how much funding has been obtained, how market access has been sought, and how startups have performed. Geospatial analysis, network analysis, and longitudinal analysis complement the techno-geography of tech development in terms of the spatial distribution of techno-infrastructures, the network connection of players within the ecology and the historical transformation of startups (Nasser & Khader, 2019; Al-Masri & Shomar, 2020).

Conclusion

In a nutshell, it is already noticeable that the upon mention doom and previous studies more or less in common underline the obstacles and opportunities characterizing the Palestinian marketplace. There is no doubt that these hinder the potential of the people, such as insufficient capital, heavy handed policies, or markets that are surrounded by war and various contentious issues. There are however quite a number of challenges which can also be more than positive, such as the use of alternative sources of financing, the need to connect education with industry and business, international partnerships and networks, fierce promotion of entrepreneurship. Policymakers and entrepreneurs have enough food for thought on how strategic interventions should be taken in order to achieve a strong technologic base in Palestine, adopting embedded practices and policies learned from other countries.

2.4 Gaps in Current Research

Although the evolution of Palestine's entrepreneurial ecosystem is well appreciated, there are several gaps that exist within the literature which ought to be filled. These

gaps pose difficulties in the toolkit coming up with strategies and policies to be employed in fostering innovation, growth and development, and sustainability into Palestine.

1. Gender Inequalities in Entrepreneurship

Works such as that of Sakr, Abu-Ghaida, and Zakaria (2023) shed some light regarding women entrepreneurs in Palestine. However, they take a much more superficial stance on a few of the gender inequalities that cut across the entrepreneurship ecosystem. Palestinian women experience limitations such as low funding capabilities, lack of female mentors, and poor support for their businesses. Many of the studies have pointed to problems within structure and institutions but fewer dispositions have been found towards the needs of the women and the issues that prevent them from fully engaging in the IT environment due to the culture (Sakr et al., 2023; Abu Hamdleh & Qadan, 2024). More on women's business ownership should inform how best gender equality within the start-up ecosystem is achieved.

2. Access to Education and Skill Development

Although the literature cites education as one of the primary factors in the development of entrepreneurship, there seems to be less emphasis on the nature and availability of educational elements that are meant to target the enhancement of entrepreneurial skills. Previous research has not sufficiently looked into the inadequacies existing within the entrepreneurial training (ENT) and skills development (SKD) constructs or initiatives. Closing these gaps would mean first assessing how far the current provision for entrepreneurship education programs is effective in meeting one’s learning needs or conducting needs-gap analysis of the skills development interventions. Such efforts would inform the design of more supplements to the existing curriculum to ensure that would be entrepreneurs possess the relevant skills required to flourish in the Palestinian entrepreneurial landscape (Eljilany & Abu-Maizar, 2024 – Abu-Jalala & Al-Gharabli, 2024).

3. Support with Mental Illness and Mental Health

Stress, job insecurity, frequent change and uncertainty are typical characteristics of the entrepreneurial environment. Further, there is a noticeable gap in the existing literature concerning mental health and well-being support for Palestinian entrepreneurs and startup employees. Researchers have noted that entrepreneurial oppression, as in many other highly stressful scenarios, has red flags also shaped as

mental issues that should be addressed (World Health Organization, 2021). It is crucial to understand how this objective can be achieved through sustainable entrepreneurship ecosystem development. This will help achieve not only the survival of startups but also their growth with the emphasis on long-term sustainability (Abu Hamdleh & Qadan, 2024).

4. Cultural and Social Stigma

Attitudes about failure and entrepreneurship are culture specific tendencies important when cultivating a startup environment. Nonetheless, sparse attention has been given to researching the impact of cultural constraints and social stigma, especially that of failure, on entrepreneurship in Palestine. Research on this passion will be aimed at devising ways in which human beings can overcome the fear of undertaking risks, which is helpful for the wellbeing of the people and the economy. More knowledge of these cultures may enable the creation of educational and communication strategies seeking to change—in positive ways—beliefs about choosing entrepreneurship as a career (Sakr et al., 2023).

5. Diaspora Engagement and Brain Drain

Although there is some acknowledgement of the possible contribution of the Palestinian diaspora towards fostering local entrepreneurship, the level of diaspora participation into the Palestinian startup ecosystem is not well documented. Diaspora networks offer an opportunity of significant value in terms of resources such as investment, mentorship, and skills transfer. Further investigation is warranted to identify the nature and level of interactions that currently exist between the Palestinian diaspora and local entrepreneurs in order to create more defined networks and relationships. Likewise, it suffers from brain drain where people with talents migrate out of Palestine in search of greener pastures – an issue that can be tackled in part through policies and programs that aim for "reverse" brain drain (Eljilany & Abu-Maizar, 2024; UNCTAD, 2022).

6. Sustainable Development and Environmental Impact

Some discussions on the part of sprint encourage the use of various technologies to impact on the development or conservation of the environment. The existing literature on strategies for sustainable development in Palestine seems to ignore the growing role of Startups in this emerging trend. The combinational application of green technologies, renewable energy and waste management applications are crucial in enhancing economic development without degradation of the environment. There is

a need for more data on how Palestinian startups are positioned to foster sustainable development which is consistent with the economic strategy of the country and the need to protect the environment as well (Abu-Zahra & Ghunaim, 2024). It is such Courses of Action which believably would have been looking for high economic notice without undermining the course of development. Hence Palestine would quickly emerge as a hub of sustainable business development in the region.

7. Legal and Regulatory Frameworks

The regulatory environment in Palestine has greatly affected the growth of Startups, yet there has been less understanding of what type of legal and regulatory changes are needed to better promote entrepreneurship. Some studies evaluated the negative impacts of bureaucratic procedures or ineffective regulatory regimes, but very few proposed any meaningful solutions to their amelioration. It is, therefore, necessary to examine the provisions governing business formation, the status of private business owners and initiatives, the laws on sponsorship or seed financing for startups and evaluate their effectiveness and novelty gaps with a view of recommending alternatives that would enhance the scope for entrepreneurship (Abu-Hamdleh & Qadan, 2024; UNCTAD, 2022).

8. Access to Markets and Internationalization

One more gap that still exists in the above picture is the insufficient attention to the market access and internationalization of the Palestinian startups. While issues of funding are very popular among researchers, there is lack of work regarding the ways Palestinian entrepreneurs can reach out to foreign markets specifically through the same politically controlled boundaries. This calls for more analysis on the ways and means through which Palestinian startups may penetrate foreign markets for instance through digital products that do not require the physical movement of any goods. There is a large scope of Palestinian technology firms in providing services like software development, digital marketing and a lot need to be done in the investigation of the economic contribution of such services in the form of export towards the national development (Abu-Hamdleh & Qadan, 2024).

Conclusion

To the proposed recommendations, it can be stated that filling these gaps in literature and practice is critical for making the Palestinian start-up environment stronger and more comprehensive. Each of these broad aspects – gender inequality, education, the mental health, cultural issues, participation of Diasporas, which contributes to the development of the sustainable regulatory policies and access to the market, contains important prerequisites for entrepreneurship. Looking at these research questions where stakeholders and policymakers have been utilizing all these available resources to propose activities that enhance the competitiveness and stimulate entrepreneurship and economic growth in Palestine, they will be positive graph of the impact of research and practice on Palestinian innovation.

2.5 The Entrepreneurial Nation as Constructed by Theories That Exist

A conclusive analysis of the startup ecosystems of several countries, particularly Israel, Singapore, Estonia, Saudi Arabia and the United Arab Emirates, helps one to understand the drivers of the creation of nations which become the vanguards of progress and business innovation. These models are valuable as they help in understanding the methods and templates which Palestine is likely to embrace in seeking to establish a solid ground for entrepreneurship development even with the prevailing political and economic difficulties (Senor & Singer, 2009; Koh et al, 2012; Märtin, 2020, Kim, Y. J., & Davidson, E., 2021).

Israel: The Model for an 'Entrepreneurial Institute

Israel is often referred to as a “Startup nation’” status is well cities all over the world due to the many factors present in that country which are said to support entrepreneurship. Compulsory Military service: Israel has compulsory military service for all men and women; hence, there are compulsory units like unit 8200 which helps in the generation of revolutionist veterans. Most of these veterans mostly go on to work in high-tech industries such as computer science, mainly in the cyber security practices learnt during the wars that they often gain high success in establishing startups (Senor & Singer, 2009, Chalmers, D., & Matthews, R., 2021).

Transfer of Defense Technology: In Israel, various high technology defense-oriented companies and organizations exist which spread their technologies timely from idea creation through R&D and MPG product development stages till their marketing

phase. The same pattern is seen in other industries such as biotechnology and agritech industries in which Israel is a leader of the world (Mowery & Ziedonis, 2002, Saxenian A. L., 2020).

Government Support: One of the aspects that enhances entrepreneurial activity in Israel is the availability of government assistance. Social services such as those of the Israel Innovation Authority help start-ups with funds, facilities, and tax breaks. The Yozma program initiated in the 1990s has had great success in the mobilization of international venture capital and the creation of the Israeli venture capital market (Avnimelech & Teubal 2006).

Diversity Advantage: The heterogeneous society of Israel incorporates immigrants of different social status and occupations and is therefore creative in generating and developing new ideas. This, in turn, has a positive impact on the innovation within the entrepreneurial ecosystem (Saxenian, 2007).

Global Networks: Israeli entrepreneurs are thoroughly connected with the environments of financial institutions and other economic resources, such as marketplaces and know-how in the form of Silicon Valley, which facilitates global business expansion for the start-ups (Kenney, 2000, Mesnard, A., & Ravallian, M., 2021).

Risk-Taking Culture: The Israeli society as a whole and its business environment in particular unhesitant accept risk, perceiving a failure as a chance to learn and improve instead. This mindset enhances capacity for rapid change and promotes invention, which is required from the forth coming startup ventures (Shane, 2003).

Venture Capital Dynamics: It is the local angel investors and international investors acting in such vibrant tapering and angelic dome networks that facilitate the exit of the startups from stage two and stage three of their developmental lifecycle (Lerner, 2002).

Understanding these paradigms, it is not difficult to understand why Israel has become one of the World’s technological entrepreneurship powerhouses, and how lessons in producing a sustainable competitive startup ecosystem can be taken by the Palestine.

Singapore: Innovation Management by the State

It's no doubt that Singapore has become a global center for innovation management, thanks to the population's active engagement in business and sustained government policies.

In a State-Driven Approach to Development: State plays a decisive part regarding the orientation of the business sphere in Singapore with instruments like the Smart Nation Vision as well as the Research, Innovation and Enterprise 2020 Plan. These programs target the development of a knowledge based economy, particularly providing startups with the infrastructure, capital and advisement (KOH & TAN, 2019, Beugre, C. D., 2021).

Location Advantage and Connectivity: The location and physical development of Singapore create regional and international market opportunities for startups. Each parent's world leading airport, sea port and telecommunication systems appeal to parent's planning to launch (Borrero et al., 2019).

Human Capital Development: There are programs and strategies in Singapore that enhance competitiveness and employability of its human resources, such as SkillsFuture. Such cooperation is essential since it gives rise to the continuous supply of personnel essential for the entrepreneurial ecosystem (Koh & Tan, 2019, Zaman, R., & Talib, S. A., 2021).

Diversity in Culture: Singapore is multicultural and has an ethnicity that favors diverse populations as well as thinking. This diversity leads to creativity and innovativeness in the startup ecosystem (Chua & Morris, 2019).

Business-Friendly Regulations: The business environment in Singapore has been reported as one of the friendliest in the world, attributed to its unambiguous rules, a friendly government bureaucracy and protection of intellectual property rights (Ang, 2018). The very elements accelerate the development of a startup souring in the country and so form a particular degree of interest for the investors.

Access to Financing: The investment climate in Singapore is in a good condition with an array of options for funding including venture capital, angel investors and government funds such as Startup SG (Goh & Ho, 2020).

Technological Innovation: Gone are the days when economies are without technology-based strategies, for Singapore, the plan is for every industry, exemplified by the Info COMM Media Master plan which invests in areas such as assisting industries going digital (Theng et al., 2020).

These factors motivate Singapore's kickboxing approach toward innovation, providing pivotal lessons for Palestine regarding the utilization of the state, cultivation of people, and creation of the legislative environment.

Estonia: Digital Governance and Innovation

In connecting the ever-growing e-Services to e- Services, Estonia has been identified as a forerunner in digital entrepreneurship, primarily due to its approach on e-governance & Technology.

Digital Governance and Infrastructure: The e-Residency and the X-Road are examples of e government packages which enable an entrepreneur to establish and manage a company using electronic resources with little or no need of administrative intervention. All this perfect digital environment creates a little operational barrier and makes Estonia rank e-entrepreneurship at its best (Kattel & Lember, 2018).

Support Structures for Start-Ups: The government of Estonia has worked out strategies which provide a direct support for the start-ups such as the Startup Estonia initiative or the Startup Visa program which offers advanced funding, guidance, and promotion (Ojaveer, 2019).

Investment in Education and Talent: The emphasis on STEM is high up within the Estonian society in the wise effort of ensuring the country has skilled personnel always on standby within the technology industry. Programs such as ProgeTiiger give a basic introduction to IT and programming to school children and therefore getting them ready for their technology future careers (Tammets, 2020).

Risk Taking and Innovation Culture: In Estonia, it is common for businesses to have a culture of judging that it is always better to try than to wait for failure to come if one wants to have an effective operation. This method encourages a constant desire to come up with new ideas, regardless of the issues being presented (Vene et al., 2021).

Worldwide Linkages and Partnerships: The limited size of the domestic market forces Estonia's start-ups to market their products or services beyond their shores. Being a member of the European Union, and engaging with a number of international cooperation and innovation organizations, the Estonian start-ups are able to reach international market-based resources (Lauristin et al., 2018).

Support For Startups Based on Technology in Estonia, Estonia's entrepreneurial environment is characterized by a strong focus on new technologies such as fintech,

cyber security and e-commerce. Incubators and accelerators which are state funded play a great role in ensuring the emergence and growth of the start-ups in the international arena (Magi et al., 2017).

Estonia's model of digital governance, global reach and inclusion, and technology support are lessons that Palestine can adopt in order to cope with geographical and political constraints.

Saudi Arabia's Economic Diversification and Vision 2030 Initiatives

The Initiatives on Economic Diversification in Saudi Arabia with Special Emphasis on Vision 2030

In line with its aim under Vision 2030, Saudi Arabia has taken great steps to broaden its economy. The purpose of the development is to lessen the country's dependency on oil resources by catalyzing the expansion of other industries, explicitly non oil industries like the technology centered ones. This transformation is being driven by the building up of core areas like infrastructure, education, and entrepreneurship focusing on changing and a strong technological base in the economy (Alghamdi & Beloff, 2021).

State Encouragement and Input

The Saudi government has focused on call for the incorporation of technology and modernization in all activities critical to the economy. Religion has found its way into the strategy of Vision 2030 through the Public Investment Fund (PIF), Sponsoring religion through industrialization, plantations, in stubbed industries. The creation of NEOM- a city of the future designed to be at the center of technology is part of these efforts to put the government in the forefront of technology in the world (Alshuwaikhat & Mohammed, 2021).

The Saudi Arabian General Investment Authority (SAGIA), now called the Ministry of Investment, makes sure to promote foreign investment by providing benefits to the foreign investors who choose to set up their businesses in Saudi Arabia. Althaqafi (2020) states that these efforts are aimed at ensuring that there is a healthy startup culture, especially in the technology field, through global appeal and global investment.

Educational Reforms and Skills Development

Saudi Arabia has an idea that technological advancement can only be achieved through a knowledgeable population. Therefore, it is necessary to improve education within the country. Educational reforms in the country now tend towards emphasizing STEM to prepare the youth for very dynamic high-tech jobs. The Human Capability development program includes a Modernization of US and aims at not just regular education, but vocational education, and education throughout a person's life and therefore meets the requirements of the new economy (Alnahdi, 2020; Vision 2030, 2021).

Programs such as Misk Academy, where students receive training in specific skills in coding, AI, and data science, aim to prepare the human resource to fit the technology-based economy. Moreover, it is also in the private sector that further resources for innovation have been raised, notably with the example of KAUST and a range of high-tech global firms (Al-Ghamdi & Al-Gahtani, 2021).

Entrepreneurial Ecosystem

The Kingdom's concerns have increasingly shifted towards the most critical drivers of the economy, the new entrepreneurs. Help is rendered by the Small and Medium Enterprises General Authority (monsha'at), which offers assistance to numerous businessmen with high practice approaches, creates and tends to networks, timely mentorship, and investments into fast-growth sectors. The establishment of SMEA (small and medium enterprise authority) and Monsha'at, gave rise to policies such as; the Venture by Monsha'at that funds and invests inharnessing high potential startups (Baslom & Yamin, 2021).

Additionally, promoting entrepreneurship for women through Monsha'at's specific programmes is also enhancing the inclusion efforts in the country's entrepreneurship ecosystem. Especially, Saudi women are actively taking part and making a change in the tech landscape with the increase of women start-ups in the areas of fintech, e-commerce, health tech (Al-Mutairi & Al-Matrafi, 2021).

Digital Transformation with E-Government

Saudi Arabia is undertaking a radical digital shift as part of the bigger picture Vision 2030 plan. As e-transformation has taken root within the government, e-government services have been availed in order to improve the efficiency, accessibility as well as the process involved in distributing government services. Such platforms as Absher

and Tawakkalna have ensured delivery of public services with an increased potential for governance improvement through such digital solutions (Alshammari, 2021).

In addition, plans such as NEOM and The Line – futuristic smart city projects that call for green design and field up-to-date technologies – is intended to make sure that Saudi Arabia remains among the countries leading in smart cities and digitalization. Such projects have the ability of interesting strategies that will attract global human capital, technology firms as well as cash that will improve the position of the country in the global market place (Al-Khouri, 2020).

National Digital Transformation Program of Saudi Arabia also fosters innovations such as AI, blockchain technology and cloud computing. It is through initiatives like the Saudi Data and Artificial Intelligence Authority (SDAIA) that the country is positioning itself within the emerging technological trends from in order to be active in the economic digitalisation (Al-Falih, 2020).

Conclusion

It is expected that with the further implementation of Vision 2030 and the relevant initiatives the Kingdom of Saudi Arabia will become a competitive player in the technology-oriented industries of the global economy. The transformation focuses on the reorganization of education, state support, entrepreneurship, and the implementation of information technologies and forms conditions for the creation of innovations. These initiatives are important for the process of economic diversification in the Kingdom, considering the absolute dependence on the oil sector and the necessary shift towards a more innovative and technology-based economy.

United Arab Emirates: Historically and Structurally a City of Innovation and Business

Over a short time-frame, the United Arab Emirates (UAE) is already coming up as one of the world's premier hubs for innovation and entrepreneurship. In many aspects, the transformation of the UAE can be linked to the goals and ambitions of the government to have sound investments in infrastructure, as well prioritize developing a strong entrepreneurial ecosystem. Such steps have made the nation a business and innovative powerhouse globally, and thus a country such as Palestine is able to envision (El-Sayegh, 2021).

Political Stability-Great Governance

Another main reason why the United Arab Emirates presents as a preference country to a foreign investor is their political stability. Because of the country's low-risk political factor, it is understood that there are more market entry chances to run businesses in this region. Risky foreign direct investment (FDI) and risky entrepreneurial initiatives have been avoided by allowing a stable and foreseeable business environment. Nonetheless, features of bureaucratic burdens rest lightly on the shoulders of business operators especially for new startups in the country as the UAE performs high on several governance and business climate indices (World Competitiveness Year Book, 2020).

Strategic economic plans that seek to reduce dependence on oil and turn the UAE into a knowledge economy further prove why UAE's governance is efficient. This long-range perspective now supported with the guarantees of policies such as UAE Vision 2021 and Dubai Plan 2021, has led to UAE becoming a stable and the most business conducive countries in the world (Al-Ali, 2021).

World Class Infrastructure

UAE is famous for excellent infrastructural facilities which have been instrumental in rising the country as a business center globally. Innovations are rampant in this country due to its developed transport system, cutting edge telecommunication systems and world-class technologies deployment. Evolution of the economy of the UAE is highly dependent on technological advancement evident from infrastructure development in cities such as Dubai and Abu Dhabi that include projects such as Dubai Internet city and Abu Dhabi Hub71 (Fujairah, 2018).

Further, the technological advancement in the UAE comes in the format of the 5G coverage and smart city projects that enable less friction for startups as they expand into new geographies. Such infrastructural improvements, which lure giants such as Amazon and Microsoft, also enable the new generation of the local economy to be globetrotting startups (Emirates News Agency, 2021).

Support for Startups and Innovation

Country, when is enough for startups why in fact, there are a well-developed support mechanism. Infrastructures like Dubai Internet City, Abu Dhabi Hub71 or the Dubai Future Accelerators give high growth, stage, startup access to funding, guidance and

business contacts. Such trademark ecosystems are attracting startups with the whole range of services including VC funding, co-wroking spaces and tech support. (Abou-Moghli, 2018)

The Dubai Future Foundation in coordination with the Abu Dhabi Global Market ADGM non-kinetic sectors participates in the more general economy primarily by attracting foreign investments and promoting various innovative projects in the fields of fintech, AI, renewable energy et cetera. The Dubai startup hub purports to offer a vast pool of resources including but not limited to business networking platforms, innovation hubs, and business incubators/accelerators to promote both local and international entrepreneurship. (Al-Khouri, 2020).

Collaboration in Education and Research

Among the core activities of the United Arab Emirates is education and research, which have been identified as core enablers of innovation and technology in the UAE. Modern institutions like the Khalifa University and the Mohammed bin Zayed University of Artificial Intelligence (MBZUAI) are leading in advanced research as well as advanced technology development. Khalifa University has this outstanding advantage, especially in terms of industry partnerships, thereby facilitating the linkage of industry and academia, which is very important towards the improvement of the levels of innovations (Almarabeh et al., 2020).

What clearly comes out in the plans of the UAE government is their concern on human resources which explains the policies towards STEM education and also policies encouraging technical training of people in line with the economy. There are also, enhancing the image of the UAE as an advanced scientific technological development nation, such projects as academia and industry collaboration in artificial intelligence, robotics, and renewable energy (El-Sayegh, 2021).

Important Takeaways for Palestine

The experience of the UAE's increasing innovative capabilities, and the establishment of robust entrepreneurial activities, can serve as a guide for the Palestinian Authority. Palestine can achieve such goals by ensuring there is political stability, requisite infrastructure, and reform of the education systems. More specifically, Palestine can offer:

Political Stability and Governance: Palestine strives to achieve a relatively stable and predictable business environment for the local investors by creating good governance structures and minimizing the excessive red tapes in the promotion of entrepreneurship.

Infrastructure Development: There will be a great need for the development of digital networks, telecom facilities, transportation modes and so forth in order to pave the way for the technology dependent economy in Palestine, just like how it happened in the UAE with state of the art infrastructures.

Support for Startups: There is, in Palestine, the possibility of setting up technology parks and business incubators and accelerators like the Dubai Internet City and Hub71 that were designed to provide start-ups with access to capital, networks, and expertise.

Education-Relevant Research: Promoting joint research initiatives between industries and Palestinian universities may lead to valuable advancements in certain types of engineering required.

Palestine is in a position to develop a vibrant start up eco system that guarantees sustainability by utilizing and adjusting the taught strategies that work in the UAE.

Applying Lessons to Palestine

Government Support and Policy Frameworks: Innovative policies and action plans led by the government as in the case of Singapore and Estonia enable creativity and willingness to establish businesses. Consequently, the Palestinian Authority (PA) will have the opportunity to create correct policies which favor the growth of startups by making it easier to comply with regulations and offering financial risks to encourage innovative ideas. It is also possible that the dynamic and innovative spirit, as illustrated in the smart nation's vision scheme of Singapore, could be translated to allow the building up of a community while in migrant conditions, given the problem of mobility and self-political space.

Digital Infrastructure and E-Government: The case for digital governance in Palestine has been effectively demonstrated by the Estonian example. The opportunity of creating virtual spaces through digital mechanisms presents Palestine in such a way as would mitigate the constraints posed by physical and political geography. The availability of e-services and sites over the internet would enable Palestinian businessmen to set up companies, sell their goods or services, and work with

international clients, without the physical presence needed because of the ongoing occupation.

Human Capital Development: Similar to Singapore and Saudi Arabia, Palestine also has to invest in preparing a skilled workforce by encouraging STEM education and vocational training. This will involve involvement of the ivory towers and industries so that the young Palestinians are able to become entrepreneurs armed with the requisite knowledge and skills. Assisting in the talent pipeline for the Palestinian tech ecosystem could be similar programs to Skills Future in Singapore or educational reforms with a focus on STEM like the ones found in Saudi Arabia.

Risk-Taking and Cultural Shifts: For Palestinians, learning from the entrepreneurial culture in Israel which cherishes risk and encourages one to learn from failure, can be very useful. Cultural strategies can be adopted by Palestinian entrepreneurs that enhance innovativeness and perseverance by exposing them to circumstances like those. Shifts in the mindset of people towards entrepreneurship and an increase in risks taken in investing, can be achieved through media, education, and stories of success.

Engaging the Diaspora: Similarly, as Israel and Saudi Arabia did, so can Palestine mobilize investment and mentorship from its global diaspora? The Palestinian Diaspora is a potential source of funds expertise and a market for thousands of interested people. Promoting organized Diaspora – Palestinian entrepreneur relations primarily through networking, investment, and mentorship may broaden the horizons for Palestinian startups.

Sustainability and Green Technologies: In developing sustainable technologies and launching green startups alike, Palestine has similar potential as Estonia and the UAE. There is focus on renewable energy, waste disposal and various other environmentally friendly policies and ideas positioned Palestine in the region as the sustainable entrepreneurship focal point. This could bring about foreign investment and other forms of support especially from international organizations dealing with the green technology and business sustainability.

Conclusion

The success stories of such biotechnology centered entrepreneurial nations as Israel, Singapore, Estonia, Saudi Arabia and United Arab Emirates present a number of such paradigms that could be modified in order to stimulate entrepreneurial activity in

Palestine. There are particular problems of Palestine especially those of a geopolitical nature, however, there is a certain possibility of utilizing some aspects of the present approach. In concentrating on digital infrastructure, government support, educational reforms, risk taking culture as well as diaspora involvement, a sustainable and innovative entrepreneurial environment can be fostered in Palestine.

There are learning's from each countries 'model-whether Israel's military driven innovation, Singapore's development in people, Estonia's innovation in E-governance, Saudi economic diversification or UAE's construction boom. These lessons if applied in the case of Palestine can act as a springboard for the creation of a country famous for technology startups.

A New Business Model and How AI Can Help Palestine Compete to be the 'Real Startup Nation'

There is no doubt that the introduction of artificial intelligence (AI) into the contemporary world of business is going to be revolutionary. AI has changed the way businesses operate and opened greater avenues for entrepreneurship and growth of the economy. For a case like Palestine, where there are certain specific socio-political and economic factors, AI is a very rare chance for the country to bypass developmental inhibitions and reinvent itself as a credible startup nation. Taking advantage of AI, Palestine would be able to create new ways of doing business and become one of the top few startup nations in the world. New SGT inspired studies and trends, and even synthetic biology, point to a use of emerging market design that creates frameworks that use AI efficiently in the marginalized market economies which can be localized within the Palestinian situation.

Creating AI-Driven Innovation Ecosystems in Emerging Markets: Tapping into Unexplored Potential

Providing scalable, automated solutions by AI enables bypassing the need for any conventional infrastructure and hence, increases the potential of emerging markets. In the case of Palestine, AI-driven innovation ecosystems can also be created without having an elaborate physical infrastructure. The new wave of innovation, infusing AI technology economy in Estonia and Singapore has shown the possibility of virtualized environments for start-ups supported by seed AI technologies even in the absence of physical space (Vene et al., 2021; Chua & Morris, 2019).

The development of such a platform for entrepreneurs that integrates AI and other advanced technologies will make it possible to create a digital and decentralized ecosystem. Such an ecosystem could:

Enable such processes as business registration, application for funding, taxation, etc. to be undertaken less manually. By applying AI to these bureaucratic areas of the business, the start-ups would have more time to work on better ideas as opposed to working through supervision.

Offer virtual incubation & acceleration programs that integrate AI with business more effectively through tailored mentorship and business development programs. Such virtual environments will enable Palestinian businessmen to engage and raise funds from expert and investors all over the world irrespective of the place held.

Furthermore, the use of AI could advance the provision of translation and translation-related NLP systems, subsequently allowing Palestinian entrepreneurs to access more easily the international markets as well as the foreign investors (Cascio & Montealegre, 2021). This would alleviate one of the critical issues that the Palestinian establishments suffer from – market or customer access – through providing global access to potential customers in real-time.

AI-Powered Crowdsourcing – Tapping into the Diaspora

The Palestinian diaspora is an untapped goldmine. The proposed novel IT enabled business model may use such platforms for AI driven crowdsourcing and link entrepreneurs in Palestine with Palestinians in the diaspora. AI can help internationalize Palestine by enabling local startups to focus on specific problems, assemble teams, and acquire resources anywhere in the world.

For instance, AI can:

Improve rating platforms that helps in matching diaspora investors with local investee businesses. It can incorporate AI algorithms to assess the likelihood of success of certain startups and complement these with assessment of the type of investors appropriate for these startups as well as their potential risks (Goh & Ho, 2020).

Design professional service marketplaces where AI identifies the talents available in the diaspora who can support specific exceptional needs of emerging Palestinian startups and assist in the transfer of skills to reduce the talent deficit (Theng et al., 2020).

This AI-driven diaspora outreach model has the potential to evolve into a self-sufficient system as it will be able to create its own funds, occupies manpower and penetrate global market without running into the infrastructural and political walls which have a huge impact on activities within Palestinian businesses.

AI-based Smart Contracts and Blockchain-Supported Trust Economy

On the top of such issues, another significant barrier which concerns Palestinian businesses is that of trust and transparency, especially when it comes to money and legal issues. Thus, Dmitry Zakros would explain that there are alternatives whereby such firms could exist within and by eliminating any need for middlemen who are laboriously overhead which guarantees complete and clear transactions. Above all, with the use of AI and other devices, there are opportunities to deploy smart contracts to manage International Business with Palestinian Investors (Mei and Shen 2020).

Both crystal A.I. and blockchain can help overcome legal barriers to foreign investment in Palestinian start-ups by undertaking due diligence procedures and monitoring them to avoid future problems.

Blockchains can assist Palestinian startups in penetrating foreign markets by utilizing for example supportive financing in the case of local political institutions imposed international sanctions.

Having said that, the values presented by A.I and Blockchain, makes it possible for Palestinian businesses and industries to clearly these economic bottlenecks within local economies and move to global capital markets where there are no blockage limits, hence grow without boundaries.

Technology for the Environment and AI for Environmental Sustainability

As the world moves towards sustainability, Palestinian ventures have an opportunity to make use of AI and create devices that solve local and global environmental problems. Considering the renewable energy resources in Palestine, waste management is also possible, and bringing about agricultural systems with efficient crops to land currently limited for cultivation in Palestine (Zhou et al. 2021).

Pioneering studies in AI have shown that it is possible to have precision agricultural practices in Palestine, enhancing dissolved waste, and crop cultivation areas which will pavilion food security and place Palestine as an agritech hub.

The NEW WAGE CITIES project proposed new systems for urban waste management in the cities of Palestine using the communications and information technologies for sustainable resource management. This would minimize costly urban infrastructure typically focused on over-reliance and make cities better places (Cascio & Montealegre, 2021).

Targeting at such AI-based solutions, Palestine may become one of the leaders of the protection of the environment and the energetics which will draw the attention of foreign investors focusing more on eco-friendly business ventures.

Education Creation and Talent Development Using AI

Perhaps the most serious hindrance Palestine has is to develop a qualified labor force capable to adapt itself to the new technological changing economy. It is argued that through the use of AI, the education monopoly will be broken and the skilled labor force will be produced irrespective of the place and the conventional educational institutes.

Those who are in the countryside, Palestinians in particular, can make use of AI-powered e-learning systems and avail courses designed to teach them entrepreneurship, coding, AI, and digital marketing, among others. These systems are able to recognize how fast or slow a particular learner is and their skills facilitating everyone to access quality learning (Chua & morris, 2019).

Skill enhancement of such individual capacities may equally employ Artificial Intelligence through developing specialized development and training programs to fit in the needs of the technology development gap in Palestine.

If Palestine employed the use of AI to generate education that is flexible and can adjust to the size of its population and other requirements, the country could be able to build a human resource base that could sustenance an active startup culture within the country without investing much in physical structures.

Toward a New Model of Palestinian Capital, a Global AI Driven Capital Ecosystem: Development and Application Factors of AI

The guiding principle of flesh out such an AI-based business model is facilitating Palestinians through the creation of a geographic independent and synergetic Visa project that integrates the roofing of multiple startups into one whole that can be operated from anywhere in the world. Palestine would also be able to overcome many

of the challenges that have inhibited its growth in participating as an active economic region in the world by utilizing AI.

This new model of capital would not only focus on financial gains but it also incorporates social and environmental benefits which situates Palestinian startups in impact-centered entrepreneurship. AI can help evaluate and improve the social return on investment (SROI) for the startups, making sure they not only benefit the local market but also the planet (Zhou et al., 2021).

Creation of and decentralization of economies, based on entrepreneurship becomes possible by the introduction of artificial intelligence in all aspects of the entrepreneurial ecosystem: funding, talent, market, and law, which would make it possible for Palestine to emerge as one of the top 10 startup countries in the world.

2.6 Global Partnerships and Their Role in Mapping Palestine's Innovation Ecosystem

The existence of global partnerships enables a successful development of any startup ecosystem. A number of studies emphasize international dimensions of innovation which encourage innovation and outreach as a necessary aspect of technical and entrepreneurial ecosystems (Etzkowitz & Leydesdorff, 2000). In the case of Palestine which has very unique geopolitical realities, being able to take advantage of already established collaborations as well as being able to forge new collaborations would aid in building new a technological edge. One of them can be capitalizing on the movement of knowledge and financial resources as well as engaging in research activities, all of which are critical for innovation.

Some more general conclusions can be drawn from the study of successful models of cooperation of flanking states with Palestinian institutions for example whom does what in exchange for knowledge, research or making investments towards joint innovations. Focusing attention on Singapore, Israel, and Estonia, it can be seen that external relations have been a crucial determinant in the establishment of startup ecosystems in these countries. So could Palestine implement these strategies – in that case, it will stick to the temple of the initiative implementing into practice economic, social, and political particularities.

2.6.2 The Intersection of Technology and Social Entrepreneurship

A social technology which can be most effectively utilized in the field of social entrepreneurship is the micro lending approach to micromarketing (Tusubira, 2009). The marketing potential of technologies undertaken by them has been neglected for too long and a few studies have been engaged in outsourcing. Further, specific inequalities faced by minorities within a specific country are very common; hence the issue of women empowerment and equality should be of concern and addressed effectively (Yunus, 2007). A technology which has somewhat reconfigured the business landscape is the mobile phone. However, students face challenges in the adoption of technologies in teaching foreign languages (Ozarov et al., 2016). There are some common trends in social projects implemented in Ukraine and some other countries of the former Soviet Union. In other words, the ethnically and religiously diverse society of Palestine provides fertile ground for innovative solutions to societal problems, such as youth unemployment. However, ICTs do not always yield universal benefits to the society. However, faced with constant challenges and barriers posed by technological decision-making predisposition, learning other cultures, and foreign languages, they are incapable of doing it. The term social entrepreneurship has been publicly publicized and popularly put forward in relation to poverty alleviation and the alleviation of social problems. Technology can be defined as a mix of attributes of knowledge, instruments, information systems and methodologies used to solve human problems.

2.6.3 Economic, Political, and Social Conditions in Palestine

In order to formulate an effective business model that is based on the idea of innovation for Palestine it becomes imperative to examine the context of the country in terms of the economy, politics, and culture, the factors that affect entrepreneurship in the country. As Turner (2009) and Khalidi & Taghdisi-Rad (2009) propose, it is fundamental to comprehend the evolution of Palestine in historical, political and socio-economical dimensions, which creates insightful barriers and useful aspects in a given environment. The development of Palestine has always been imbued with conflict and struggles of occupation and influences of the political scene, making it very complicated with regard to methods of nurturing innovation.

Nonetheless, this aids in the creation of different prospects. The pang of the Palestinian each epoch is a great pillar for nurturing an effervescent startup culture in

the area. Looking at the intersection of these factors with the global economic environment makes it possible to synthesize a vision for Palestine, which is likely to be effective, sustainable, and innovative.

2.7 Summary of Findings

To sum up, regardless of the many limitations that Palestine has, from internal politics to poor infrastructure, there is an opportunity to create an efficient and active startup ecosystem. Israel, Singapore and Estonia have also gone through these advantages and disadvantages and emerged successfully with the help of the government support, improvement of the infrastructure, investment in education and creating an ecosystem that supports technology startups. Learning from these best practices, Palestine can aspire to bridge the existing gaps and build a robust technology ecosystem.

The members of the Palestinian business – tutoring ecosystem expect the achievement of the future entrepreneurial cluster through the performance of certain key enablers that were identified due to the analysis conducted on economies comparable to Palestinians. Political Stability and Security are some of the very first anchors. With the increasing political stability, it is anticipated that funds for the Palestinian start-ups will also grow in order to promote the innovative activities which will then result to further economic development. Therefore, one of the tracked outcomes is the ability to move forward in respect to the core principle of how to increase market orientation: increasing funding sources, establishment of venture capital networks, as well cultivating international investors. Also, improving of the internet framework is very important towards making digital enterprises operational especially in scenarios where there is absence of sufficient physical facilities.

Such critical government policies supporting startups, which provide for deregulation, taxation benefits, and other business friendly legal frameworks, are indispensable. These policies should promote local entrepreneurial activity as well as help in building such partnerships with other countries. Furthermore, human capital development – investing in education, STEM, vocational training, etc. - will help build a generation of entrepreneurs ready to fuel innovative growth.

Global partnership, especially with the diaspora of Palestine, may help in structuring the flow of resources, skills, and markets into the Palestinian startup ecosystem. Last but not least, there has to be a change in the great society about risk-taking in

entrepreneurship. People's attitudes towards failure as a result must change for people to be able to desist from being in fear of starting businesses.

It can be possible to develop a comprehensive framework on the structure and evolution of the startup ecosystem in Palestine by testing these hypotheses and investigating what the key success factors are in economies of similar stages. In this way, not only will stimulate innovation rather, will also build up the economic base that is required for the sustainability and growth during the long-term future. Such strategy will transform Palestine into an emerging hub of technology and entrepreneurship thereby opening new avenues for economic growth and self-determination.

The combination of Artificial Intelligence-driven smart contracts with Blockchain can resolve some of the most critical problems faced by Palestinian business owners in terms of trust and transparency. These technologies do away with intermediaries in financial and legal transactions which allow such transactions to be fast, safe and efficient across borders. Thanks to this technology, Palestinian startups can undertake the necessary procedures to get foreign assisted investment markets even with international restrictions (Mei & Shen, 2020). These new developments allow Palestinian enterprise to avoid encumbrance of local resources and pursue worldwide equity markets yielding no limitation on growth and development.

Its environmental sustainability which can make Palestinian AI based startups among the best environmental problem solvers both in the region and globally. The majority of such sustainable ventures would attract potential binary investors with eco-focused strategies thus elevating Palestine to the international arena.

There is no doubt that a large-scale implementation of AI can also change the landscape of education and talent management in Palestine as well. AI-enhanced e-learning systems can expand the educational scope for Palestinians, and more importantly, rural Palestinians, by providing access to entrepreneurial and computer coding and AI courses. Such systems would adjust to individuals 'educational needs hence allowing people to learn at their own pace and acquire skills that are relevant in the modern economy. By cultivating an investment in AI based knowledge, Palestine can hope for a talented workforce which will be able to sustain a vibrant startup ecosystem with little expendable assets in building physical infrastructure.

In the end, establishing such a capital-ecosystem for Palestine would make sure it becomes a part of the global AI network which would allow the shifting of its

economy to be driven from within. Therefore, believe this new model will place Palestine in the forefront of impact focused startup businesses which will address both social and environmental issues by integrating AI in all processes from finance, human resources, to market, and policy. Provided that AI is used correctly, Palestine is highly likely to be among the world's best startup nations.

Chapter Three: Methodology

3.0 Research Methodology

3.1 Research Design

As for the research methodology, this work to examine the Palestinian startup technical environment chooses the mixed method approach which combines the qualitative research method and the quantitative research method. This guarantees collection of both qualitative and quantitative data about the ecosystem since the two research strategies are combined. Quantitative methods (questionnaires, surveys, polls) assist in the achievement of Objectives 1 and 4 by identifying the required key stakeholders and their activities; whilst, interviews and/or focus group conversation and ethnographical probes assist in the attainment of Objectives 3 by analyzing the interactions and dynamics in the concerned area.

The quantitative techniques like surveys and statistical findings define the indicators, changes, and patterns in the percentage, mortality and retention rates. These variables are listed in table 3.2, Hence, Dependent and independent variables recount to important parameters such as investment flow, number of start-ups, and funding access pertaining to the proposed innovation support structures, in accordance with closely connected (Objectives 1, 2, and 4). Fund and dynamics analysis, successful factors identification, and support assessment etc in order to explore the success factors to promote the enhanced support system as part of Objective 2 and 4. The combination of results obtained from qualitative and quantitative research as a method of data analysis increases the credibility, dependability, and density of the research.

The mentioned model (figure 3.1) shows one of the approaches to the organization of scholarly research that combines qualitative and quantitative analysis. The breakdown of the parts of the mentioned model, the norms it complies with, and its possible use to analyze the startup environment in Palestine.

The triangulation procedure makes sure that data from the different methods qualitative and quantitative are complete to enhance the understanding of the ecosystem.

Observations, interviews and focus groups support identification of dynamics and the stakeholders' position (Stakeholder Objective 1 and Stakeholder Objective 3).

Surveys; statistical analysis offer numerical information on indicators results, trends and patterns, results on success factors and assessment of support structures (Objectives 2, 4).

Components of the Analysis Model

1. Methodology: The overreaching plan which determines the general nature of the investigation incorporating both qualitative and quantitative methods of data collection.
2. Qualitative Analysis:
   - Interview: A technique, which implies obtaining information through a face-to-face communication with a respondent.
   - Participant Observation: A method in which the researchers enter the social setting of the participants being studied for a period of time.
3. Quantitative Analysis:
   - Questionnaire: One of the approaches to data collection that involve a large number of persons and it is more structured in the sense that it is geared towards capturing figures from a large number of people.
4. Statistical Analyses:
   - Descriptive Statistics: Gives basic information about the sample and measures and briefly describes the main characteristics of the collected data.
   - Inferential Analysis: Methods that enable the investigator to make generalizations of what constitutes the population through the sample.
5. Results: The last process, in which data obtained is processed, compared and conclusions are made.

Standards of the Model

- Triangulation: Expanding on what was said earlier on, utilizing more than one method or data collection procedure to increase the reliability of the study conclusions.

Context of Data (Key Features)

The context factors determine that the concept of a startup in Palestine is rather specific and is determined by socio-economic and political conditions of this region. This model will help in highlighting the key features which include: This model will help in highlighting the key features which include:

- High Youth Engagement: The population is young and has a high literacy level on technological issues; hence, it favors the creation of new ventures.

- Resource Constraints: Constraints in terms of funding, support and encouragement, and facilities more than those obtained by more developed ecosystems.
- Innovation and Resilience: Some of these issues include high innovation and resilience among the entrepreneurs, resulting from the capability to come up with solutions for the challenges.
- Support Networks: Incubators accelerators, and international support organizations that aid in the fostering of startups.

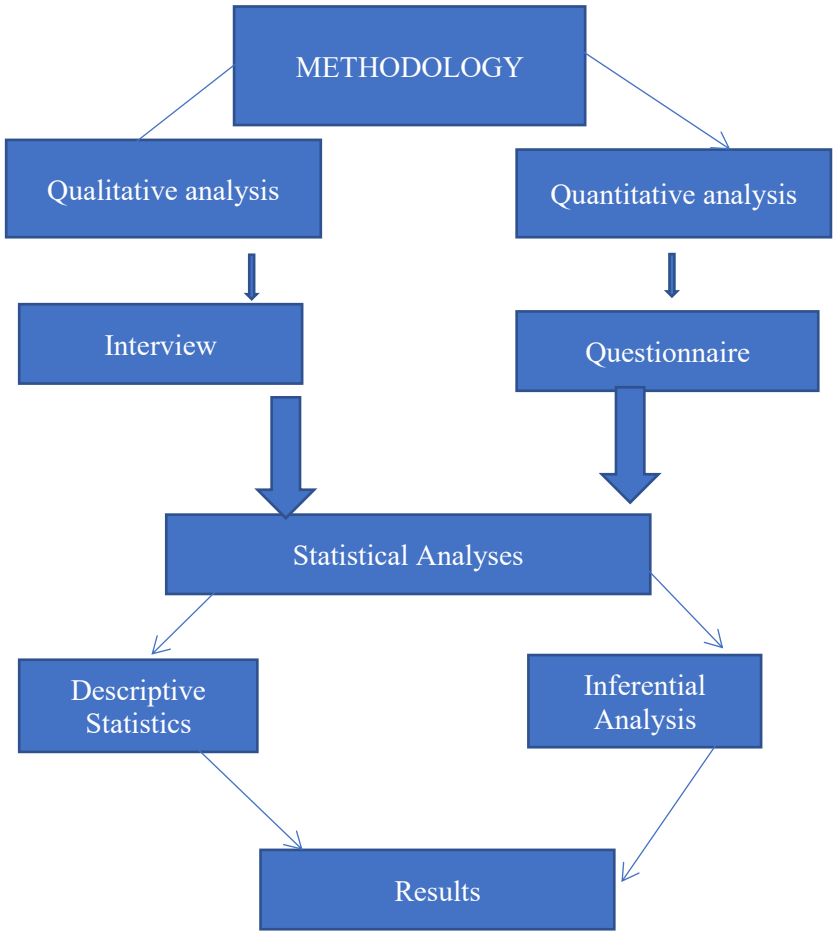

Figure 3.1: Methodoly Model

3.2 Sampling Strategy

The sampling technique used here will take a goal of diversity and representativeness of the participants into consideration. Some of the considerations that have to be made when choosing the sampling technique for the quantitative data collection may include the objectives of the research, the population characteristics, and the available manpower. That is why the chosen sampling method should be free from bias and try to encompass the greatest possible degree of population similarity.

However, in this particular study, there is a kind of sampling recognized as Stratified Sampling in a growing population (the startups this year is part of the startups next years), which will be used. In this method, the population is categorized into groups, called strata, which are believed to possess similar characteristics within it (nerum) for instance age, sex or income. Then, random samples are obtained from each in accordance with its size in the population. In stratified sampling, subgroups in the population are assured, and the differences between the subgroups are quantified and analyzed. Due to the fact that the study will incorporate qualitative as well as quantitative data gathered from the Palestinian tech ecosystem, the most appropriate sampling method which will be used will be the stratified sampling.

The use of stratified sampling enables a researcher to partition the population (for these cases) stakeholders into layers based on some significant attributes (for instance; their role in the ecosystem, the industry they belong, geographical region). Due to the research's aim of integrating both qualitative and quantitative data collection, utilizing a stratified sampling approach guarantees that a structured and appropriate data collection process can be achieved for both methods. Regarding quantitative data collection techniques such as questionnaires, the same earlier mentioned strata can also be useful in order to ensure that quantitative data are collected in such a way that each and Every segment of the population under study is represented. In general, the essence of stratified sampling is suitable with enrolment of a broad mixed approach of data collection and analysis envisioned in the research design as under; In addition, it facilitated a blend of quantitative and qualitative data that fills in the gap of any representation in the various sub sectors within the Palestinian tech environment. Representativeness of target groups is achieved in stratified quantitative data collection, a necessity for establishing success factors and analyzing the effectiveness of support (Objectives 2 and 4).

3.3 Expected Population Size

In research, the term "population" therefore refers to the large group of people or objects which has a common characteristic, which is the basis of the investigation. It covers the entire possible source populations from which sample can be derived. For instance, if particular research is undertaking to establish the impact of a new teaching approach, its population could be all learners within a certain district. The population

offers the background to the study and defines the general applicability of the results to the entire group.

Specifying the population and sample about 100 participants, increase the external generalizability of results (Objective 1, 2, and 4) this is in line with the relevant literature such as (Flynn, K. E. et al., 2021; O'Muircheartaigh, C., & Hedges, L. V., 2014; Murray, D. M., 1998). Consequently, it is vital to provide a forecast of the size of the population of interest in the context of Palestinian tech ecosystem research and policy. It indicates if one could presume that there are about 100-110 actually active startups; 5-10 major investors; and it is possible to estimate that there are between 800 and 1,200 people employed in the industry. Also, 3-5 state and local officials and representatives of support organizations as well as 10-20 scholars and scientists specializing in technology-related fields are engaged in the ecosystem. Tech products and services can have a diverse consumer and user base and therefore, the measure of the two will be less quantifiable as compared to the case in the initial and FMCG industries; although the samplings will be derived from the users of common social media and commercial tech platforms and services in the region.

Table 3.1: The Distribution of the Total Sample Size of the 100 Participants

Ecosystem Component	**Population Size**	**Data Source**	**Sample Size for Analysis**
Government Entities	3-5 entities	Government databases	3
Entrepreneurs	102 startups	Startup directories	82
Investors	5-8 investors	Investor networks	5
IT Companies	10-15 companies	IT business directories	10

3.4 Case Studies

Case studies offer detailed information on the stakeholder's learning and working experiences as well as the findings on the effectiveness of support structures that is in line with understanding key dynamics, stakeholders and support structures (Objective 1, 3 and 4).

Moreover, this research will comprise an analysis of a case study on the qualitative method based on primary data collected from interviews with innovators and entrepreneurs, policy makers, investors, and representatives of Organizations such as

the Palestine Information and Communication Technology Incubator (PICTI) the leading organization focused on innovation and entrepreneurship in the Palestinian startup environment. Further, primary data using academic research papers, empirical reports, and government documents will be collected to gather the context information.

3.5 Data Collection

Data collection procedures refer to the qualitative and quantitative research tools used to collect systematic data about the Palestinian startup tech ecosystem, which is diverse in nature. In this way, the study incorporates both qualitative and quantitative methods that make it easier to cover necessary aspects of the sector. Thus, considering the demographic parameters estimated, the target sample size should be approximately 100-110 participants as in the work done by the Innovative Private Sector Development Project (IPSD). This entails participants involved in startup companies or intending to start such companies, investors, employees, government, and its agencies, support institutions, researchers, and a cross-section of consumers. This is a reasonable sample size as report by Polaris (2021) that is practicable to administer while at the same time ensuring heterogeneity since the ecosystem is diverse to allow for the analysis.

3.5.1 Types of Qualitative Data Collecting Techniques

1. Semi-Structured Interviews
    - Description: Such method entails interviewing with less or no specificity in the questions being posed to the interviewees. There is a standard list of questions which are asked to the interviewees, however; the interviewers are in a position to be more elaborate in cases with regard to questions posed with reference to the response of the interviewee.
    - Purpose: To have extended understanding of the participants' views, opinions, and perceptions with regard to the tech sector. This approach makes it possible to elicit complex and elaborate answers that contain the subject's or individual's opinion.

- **Implementation:**
  - **Selection of Participants:** Thus, the target audience of the startup ecosystem is defined as entrepreneurs, investors, government officials, and employees of IT companies, which are selected in accordance with their importance and experience.
  - **Interview Process:** Generally, in-person, telephonic or video based, interviews usually take 30 minutes to 1 hour of a researcher's time. The interviewer actively engages the participants to express, and at the same time make sure the essentials are discussed.

3.5.2 Quantitative Data Collection Methods

1. **Surveys**
   - Description: Surveys include dispensing set forms to a group of stakeholders with a view of getting quantitative data on some elements.
   - Purpose: They are specifically helpful in quantifying attributes related to the tech ecosystem of specific funding sources, investment patterns, and perceptions of the ecosystem. Indeed, this method offers the possibility of having a global view of the sector since the data are statistically exploitable.

- **Implementation:**
  - Questionnaire Design: This is issued with predetermined close ended questions to elicit quantitative information and it is complemented by a few other open ended questions.
  - Sampling: A representative selection of the sample comprising of the target market stakeholders, such as entrepreneurs, investors, employees and policy makers, is made using random or systematic sampling techniques.
  - *Administration:* Online, through email or in person can be used in conducting of surveys. To ensure that the targeted persons respond accordingly, follow-ups are conducted. As far the sample size stated above.

3.5.3 Combining Methods

In this way, using both qualitative and quantitative analysis, the study obtains the rich set of data that covers the aspects of the Palestinian tech ecosystem both quantitatively and qualitatively. In this approach, the data collection and analysis process offer thorough information that exposes people's experiences and environmental forces

surrounding the startup. In contrast, quantity analysis provides numbers that are likely to be universal, and can emphasize typical characteristics of the ecosystem.

This is because the mixed method approach, as a method of data collection, enables the assessment of data triangulation, whereby information collected by means of one paradigm can be confirmed or supplemented by information gathered through other means. For example, conclusions drawn from interviews and focus groups can be used to formulate the questions for surveys, while the discovered discrepancies can point out the subjects that require further qualitative analysis. It is implemented in the study to acquire highly informed and widespread understanding of the Palestinian tech ecosystem thus enhancing the policies and strategies.

3.6 Variables

To overcome the factors of deficiency concerning the dependent and independent variables of this study, it is necessary to guarantee that the section correlates these variables and determines the gaps. The research will seek to assess other dependent factors that include the FDI inflow to the hi-tech sector, number of start-ups, proportion of Palestinian Professionals in start-ups, and challenges encountered in the process. To comprehensively analyze these outcomes, the study will consider several independent variables: funding, regulations, markets, human capital, logistics and utilities, in view on business, political stability, cultures, and economy respectively. Thus, studying and connecting drawbacks of these independent factors, for example, the restricted access to funding or insufficient infrastructure will shed light on fluctuations of the dependent factors. Thus, revealing how these factors affect startups enables the study to give a comprehensive overview of the difficulties and potentiality in the Palestinian high-tech context.

Dependent Variables (DVs)

The dependent variables are the variables that the study expects to get after experimenting on the independent variables. Based on this research, the potential dependent variables could be:

1. **Amount of Foreign Investment Inflow into the High-Tech Sector**: This defined the volume of capital inflow from the foreign body into the high-tech industry.

2. **Number of Startups**: This is the frequency of new creation for high-tech startups and entrepreneurship counts.
3. **Percentage of Palestinian Professional Employees in Startups**: This captures the degree of professional employees that are Palestinian within these novel startups.

Independent Variables (IVs)

They are the independent variables, which in simple terms, are the factors that might in one way or the other affect the dependent variables. These would be obtained from the interview conducted, the observations made on the company, and questionnaires administered to the companies' employees. Potential independent variables might include:

1. **Access to Funding:** The access to financial sources by start-ups/ enterprise.
2. **Regulatory Environment**: The effects that the legal frameworks of countries have on startups.
3. **Market Access**: Startups' capability to venture and operate within the local and the international economy.
4. **Talent Availability:** Education and skill factors such as a pool of well-trained qualified health care professionals with regard to the quality of health education the factors include Health education standards and practices Quality of the education provided to health care workers.
5. **Infrastructure**: Availability of appropriate facilities especially the internet connection and offices for accommodation of the project among other requirements.
6. **Support Services**: The need to access BDS, support in form of mentorship, and business networking.
7. **Political Stability**: Favorable political condition as the reason for easy flow of operations and investor confidence.
8. **Cultural Attitudes**: Social-business culture and acceptance towards; innovation and risk-taking.
9. **Economic Conditions:** There's the state of general economy which influences consumer spending and business prospects.
10. **Difficulties Facing Startups**: This variable would include any problems or difficulties that the startups may face.

Dependent variable & Independent Variables

The independent variables are particularly the ones that are being altered or maintained constant so as to study the impact on dependent variables; which are the measurements of interest. The connection between them is mainly given by cause-effect, in which one is expected to cause change in the other. Consequently, deficiency factors are missing or neglected variables that may affect the dependent variables and thus the outcomes. In a table such relationships are presented where independent variables are presented side by side the dependent variables and the deficiency factors are presented as aspects that should be controlled for so as to avoid having affected the results.

Table 3.2: Dependent Variable & Independent Variables

Dependent Variables (DVs)	**Independent Variables (IVs)**
1. Amount of Foreign Investment Inflow into the High-Tech Sector	1. Access to Funding: Availability of financial resources for startups.
2. Number of Startups	2. Regulatory Environment: Legal frameworks impacting startups.
3. Percentage of Palestinian Professional Employees in Startups	3. Market Access: Ability of startups to access local and international markets.
	4. Talent Availability: Quality and availability of skilled professionals.
	5. Infrastructure: Access to facilities like internet and office spaces.
	6. Support Services: Availability of mentorship and business development support.
	7. Political Stability: Impact of political conditions on business operations.
	8. Cultural Attitudes: Societal acceptance of innovation and risk-taking.
	9. Economic Conditions: General economic state influencing consumer spending and growth.
	10. Difficulties Facing Startups

3.7 Hypothesis

Some association, which helps understanding the trends of the effect of some variables on others, should be tested in this study through testing hypothesis. The selection of these hypothesis and related variables was made based on the researcher experience and the initial impression about the startup industry in Palestine, and therefore should light on the key directions for the development of a startup model (ecosystem) that is pursued in this dissertation:

1. There is a significant relationship between the startup sector and the period of time the startup has been operated. (i.e., What sector does your startup operate in? and for how long has your startup been operating?)
2. There is a significant relationship between the startup sector and the legal and regulatory environment. (i.e., What sector does your startup operate in? and do you find the current legal and regulatory environment for the startups as encouraging?)
3. There is a significant relationship between the startup sector and the availability of talent and skills. (i.e., What sector does your startup operate in? and how would you rate the availability of skilled talent in Palestine for your startups needs)
4. There is a significant relationship between the startup sector and technologies. (i.e., What sector does your startup operate in? and What technologies does your startup focus on?)
5. There is a significant relationship between the startup sector and the future of startup in Palestine. (i.e., What sector does your startup operate in? and do you see a future where Palestine becomes one of the top startup nations? Why or why not?)
6. There is a significant relationship between the startup ecosystem and the primary obstacles to the development of startups.
7. There is a significant relationship between the startup ecosystem and the support provided by incubators and accelerators in Palestine.

3.8 Data Analysis

Thematic coding is a qualitative research method used to identify, analyze, and report patterns (themes) within data. It involves breaking down data, such as interview transcripts, into meaningful categories or codes based on recurring topics or ideas. These codes are then grouped into broader themes that represent significant patterns or insights in the data. Thematic coding is the type of analysis exercised in qualitative data analysis. First occurrence has to be defined first. After the data is collected, the

data is analyzed in a manner that involves coding and categorizing the information depending on the commonly reoccurring themes or concepts whereby the respondent's answers for respective questions amongst different participants are compared.

Relative to Objectives 1, 3, and 4, Qualitative data analysis through thematic coding offers insights into stakeholders' experiences and functioning of support structures. Descriptive analysis, inferential analysis and regression analysis reveals trends, the measures of success and effect of different variables (Objective 2 and 4).

Table 3.3: Data Analysis

Method	**Description**	**What It Measures**	**Importance**
Thematic Coding	Identifying patterns and themes in qualitative data	Patterns, themes, narratives	Provides deep insights into participants' experiences and perspectives
Descriptive Statistics	Summarizing main features of a dataset	Central tendencies, dispersion, distribution shape	Forms the basis for understanding the sample characteristics
Inferential Analysis	Making inferences about a potential population based on sample data taken.	Relationships, significance levels.	Identifies significant relationships and informs understanding of ecosystem dynamics
Data Transformation	Converting qualitative data into quantitative forms or vice versa	Quantified qualitative insights or qualitative interpretations of quantitative data	Facilitates integration and comparison of diverse data types
Merging Datasets	Combining qualitative and quantitative analysis.	Comprehensive analysis.	Enhances analysis by providing multiple perspectives
Triangulation	Using multiple methods or data sources to validate findings	Cross-verified results	Ensures credibility and reliability of research findings

Quantitative data analysis involves describing the variables, analyzing variables using hypothesis testing and performing Association test on some variables to give an insight on the relations, trends and correlation. In difference analysis, descriptive statistics are used to generalize the characteristics of the sample and the characteristics of important variables, inferential analysis is used to make hypothesis and to find Association between variables. There are two forms of integrating mixed methods data, they include; conversion of qualitative data into quantitative data, analysis and comparison of the data. The research will use the most relevant method among these.

3.8.1 Analysis Techniques in this Research

To be more specific, this research is analytically qualitative and quantitative because tools that are used in data analysis provide more information about startup activities in the Palestinian environment concerning startups' development. Evaluation is particularly challenging for qualitative data, which includes details and elements obtained from interviews.

Qualitative methods on the other hand are used whenever the research involves analysis of data in terms of numbers Qualitative methods are employed in analysis of data quantitative techniques on the other hand include descriptive statistics, inferential analysis. They facilitate the identification of the interconnections, patterns, and correlation between the variables, for instance, the amount of FDI, number of start-ups, and challenges affecting start-ups. With the help of using these tools of analysis, the research can cover both major methodological categories, which gives the opportunity to provide a comprehensive picture of the state of the startup ecosystem, along with the definition of the major factors which define its current development.

3.8.2 Expectations of Analysis

It is expected that the analysis will shed light on how the storytelling factors relate to the beliefs and behaviors concerning the Palestinian startup ecosystem. In this way, by triangulating the qualitative and quantitative results, the given research tries to reaffirm and deepen the hypothesis, presenting the empirical material and speaking about the affordance of narratives for the change, as well as proving that narratives can make people unite for collective actions. The research will bring new insights

into the methodology of identifying the impact of storytelling on the formation of the historical and perceptive environment in Palestine and other parts of the world.

3.8.3 Foresight Analysis

Foresight analysis involves conscientiously looking at the emerging signs and novelties in the environment that are likely to revolutionize the course of startup ecosystems in the future. In short, by anticipating future trends, it is possible to prepare Palestine for the targeted vigorous adoption of innovations.

3.8.4 Policy and Partnership Analysis

To investigate the current policies, international cooperation and the prospects for enhancing ecosystem profession in Palestine will be done via this Policy and Partnership Analysis.

The study begins with a thorough analysis of the existing legislation, organizations, and partnership strategies in Palestine, which are essential for understanding the present situation of the startup environment. Hence, the need to carry out this study for the identification of areas of strength and intervention strategies is crucial.

3.9 Presentation of the Results

The main findings of the research will then be discussed by integrating qualitative and quantitative data in the analysis. Besides, the data analysis will involve the use of interviewing discussion transcripts, tables, figures, and data charts to enrich the understanding of the research phenomenon. Thus, the presentation part of the study will focus on the main themes, patterns, and relations observed during the analysis and will help to convey the conclusions obtained as a result of the study.

Thus, the synthesis of qualitative and quantitative analyses, which is integrated into the proposed research objectives, would guarantee effective and concise dissemination of findings, fulfilling the purpose of the study – to offer strategic directions for the company (Objective 5)

Chapter Four: Introduction to Data Collection and Analysis

4.1 Data Collection

Data was collected from various sources as described in Chapter 3 using interviews and the questionnaire designed for this purpose. Over a period of 2 months of continuous efforts, the researcher managed to capture all possible viable data from related persons representing the startup ecosystem in Palestine. Interviews were made with 10 top institutions and professionals working in this industry who gave their views and opinions on all matters relating to the ecosystem of startups including legal framework, startup funding, type of technologies used, international relationships and the use Palestinian Diaspora, as well as local business communities, just to mention a few. Besides, the questionnaire addressed many relevant and important issues and the researcher was able to complete 97 questionnaire data from entrepreneurs working at different stages of startups. The questionnaire process was made through direct face to face meetings and indirect communications. Those entrepreneurs work with the many startup enablers in Palestine such as Intersect, Ibtikar Fund, Dimension, Technopark at Birzeit University., and the Hebron Polytechnic as well as the Al Quds and Arab American Universities. Government institutions such as the Accreditation and Quality Assurance Commission (AQAC) was also interviewed. The data collection process, whether primary or secondary, went through many challenges such as the lack of centralized sources, but all were addressed with persistence and continuous follow-up with all stakeholders.

Data Analysis

Using the vast volume of data available as a result of data collection, the various analysis techniques were utilized as given in Chapter 3. As will be shown in this chapter, several types of analyses such as data coding, data transformation, descriptive analysis, inferential analysis, as well as data triangulation were made. The variables of chapter 3 were all captured in the analyses, and the researcher used the SPSS analysis software.

In the following presentation of results, we give the analysis output as obtained from the SPSS statistical package, followed by the interpretations of these results as applied to the Palestinian Startup Ecosystem. Accordingly, the researcher gave summaries of

the results of each major analysis section, to be used later for the development of final conclusions in Chapter 5.

- **Descriptive Statistics**

	Percent
18-25	11.3
26-35	23.7
36-45	18.6
46 and above	46.4
Total	100.0

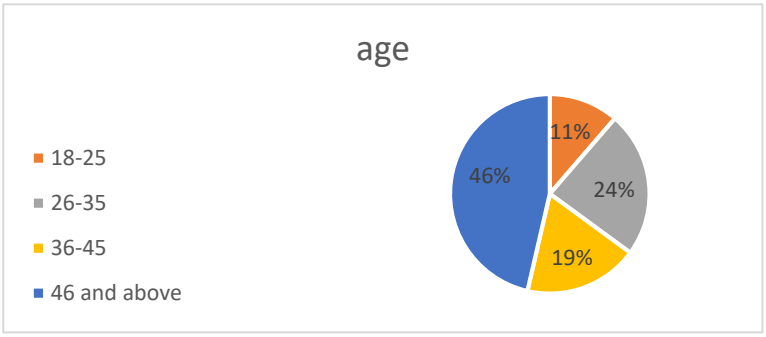

Figure 4.1: Background Variables

The table presents the age distribution of respondents as percentages. Among the total, 11.3% are aged 18-25, while 23.7% fall into the 26-35 age group. Individuals aged 36-45 make up 18.6% of the sample. The largest proportion of respondents, at 46.4%, are aged 46 and above. These figures highlight a skewed age distribution, with a significant representation of older individuals compared to younger age groups.

	Percent
Female	16.5
Male	83.5
Total	100.0

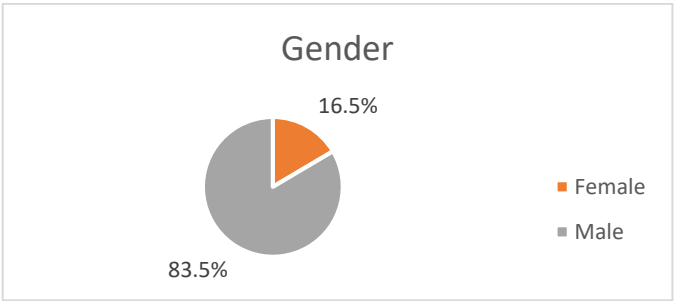

Figure 4.2: Gender

The table displays the gender distribution of respondents, showing a significant disparity. Among the total participants, 83.5% are male, while only 16.5% are female. This indicates a predominantly male representation within the sample, with females comprising a relatively small proportion. The data highlights a notable gender imbalance among the respondents. Besides, one can notice the age skewness where most of the entrepreneurs are above 46 years old, implying more experienced people started to bring in new and fresh ideas to the startup ecosystem.

	Percent
48/ East Jerusalem	11.3
Diaspora	3.1
Gaza Strip	4.1
West Bank	81.4
Total	100.0

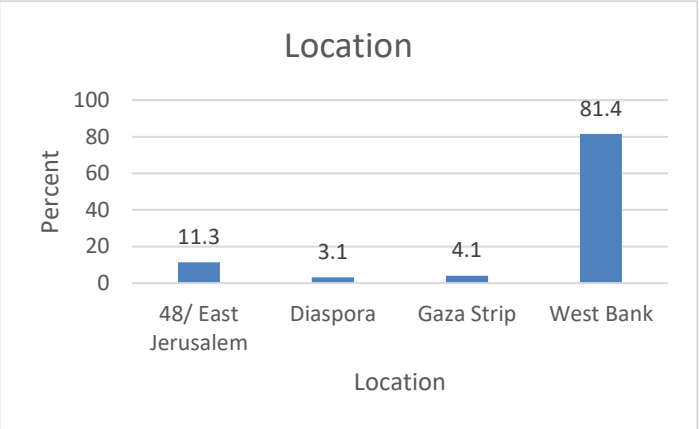

Figure 4.3: Location

The table presents the cumulative percentage distribution of respondents based on their location. Among the respondents, 11.3% are based in **East Jerusalem**, while those in the **Diaspora** account for an additional 3.1%, bringing the cumulative percentage to 14.4%. Respondents from the **Gaza Strip** add another 4.2%, making up 18.6% of the total. The largest group, located in the **West Bank**, constitutes the remaining 81.4%, bringing the cumulative total to 100%. This data highlights a significant concentration of respondents in the West Bank, with smaller representations from other regions.

	Percent
Master and above	11.3
Bachelor	86.6
high school	2.1
Total	100.0

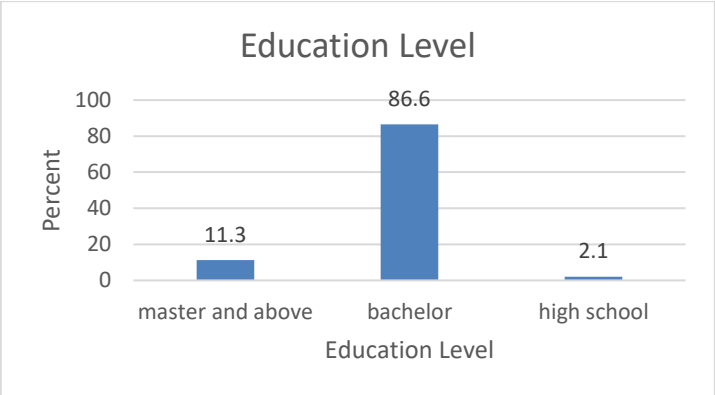

Figure 4.4: Education Level

The table provides an overview of the educational levels of respondents. The majority, 86.6%, hold a bachelor's degree, indicating a high prevalence of undergraduate qualifications among the group. A smaller portion, 11.3%, have attained a master's degree or higher, demonstrating a notable level of advanced education. Only 2.1% of respondents have a high school education, suggesting that

most participants have pursued higher education. This distribution underscores the predominance of individuals with at least a bachelor's degree in the dataset.

	Percent
mentor/advisor/ educator	47.4
User	1.0
inventor/ founder/co-founder	51.5
Total	100.0

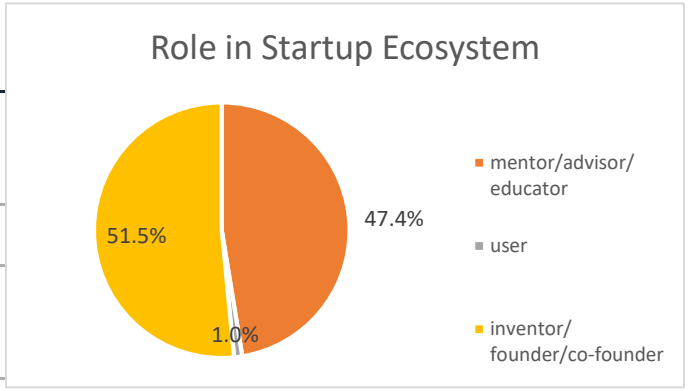

Figure 4.5: Role in Startup Ecosystem

The table outlines the roles of respondents within the startup ecosystem. The majority, 51.5%, identify themselves as **inventors, founders, or co-founders**, highlighting their direct involvement in creating and leading startups. Another significant portion, 47.4%, are engaged as **mentors, advisors, or educators**, reflecting their supportive and guiding roles within the ecosystem. Only a small fraction, 1.0%, represent **users**, indicating minimal representation of end-users in the data. This distribution underscores the dominance of founders, innovators, and mentorship roles within the startup ecosystem among the respondents.

What sector does Your Startup Operate in?

	Percent
Technology and Innovation	25.8
Education and Knowledge Building	48.5
Healthcare and FinTech	15.5
Sustainability and Green Initiatives	3.1
Industry and Infrastructure	4.1
Food and Hospitality	3.1
Total	100.0

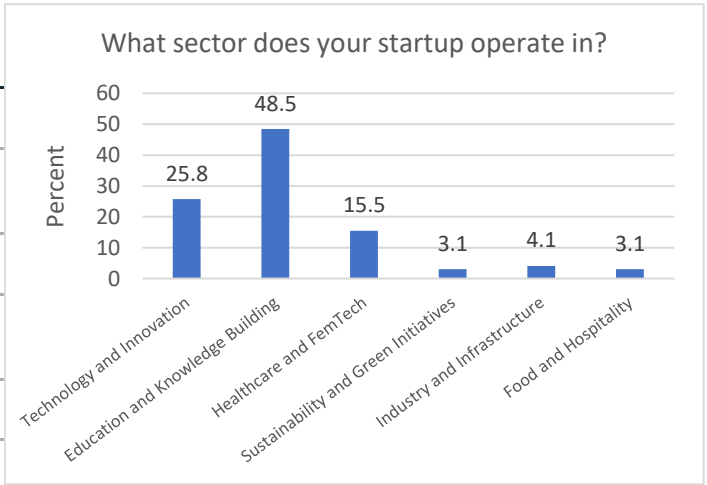

Figure 0.6: What Sector Does Your Startup Operate in?

The table provides insights into the sectors in which startups operate, highlighting significant variations in their focus areas. Nearly half (48.5%) of the startups are involved in **Education and Knowledge Building**, making it the most prominent sector. **Technology and Innovation** is the second largest category, accounting for 25.8% of startups. **Healthcare and FinTech** represents 15.5% of the total, while smaller proportions are dedicated to **Sustainability and Green Initiatives** (3.1%), **Industry and Infrastructure** (4.1%), and **Food and Hospitality** (3.1%). This distribution underscores a strong emphasis on education and technology, with limited representation in other sectors such as sustainability and hospitality.

For How Long has your Startup Been Operating

	Percent
1 to 3 years	20.6
3 to 5 years	11.3
Less than 1 year	20.6
More than 5 years	47.4
Total	100.0

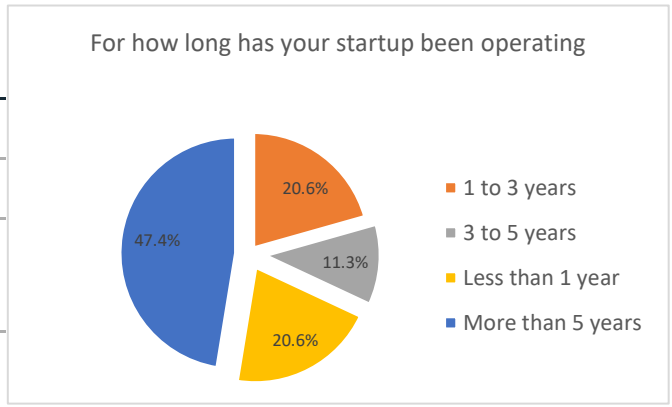

Figure 4.7: For How Long has your Startup Been Operating

The table presents the duration of operations for the surveyed startups. Among the respondents, 47.4% have been operating for **more than 5 years**, making this the largest group. Startups with a shorter duration are evenly distributed, with **20.6% operating for 1 to 3 years** and another **20.6% having been in operation for less than 1 year**. A smaller proportion, **11.3%**, have been active for **3 to 5 years**. This distribution highlights that nearly half of the startups have established longevity, while a significant number are still in the early stages of operation. The high percentage of has been in business for 5 years or more indicates that there is a real will among entrepreneurs to continue their projects and this is associated with people's passion to steadfast and persist.

What Stage is Your Startup at the Moment

	Percent
Early Stage	26.8
Idea/ Concept	18.6
Growth	54.6
Scaling	7.2
Total	100.0

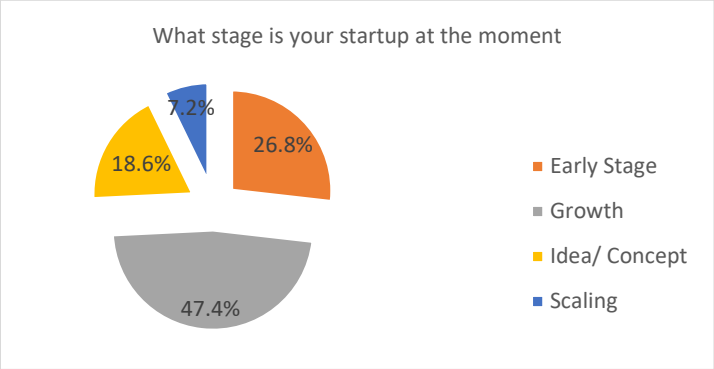

Figure 4.8: What Stage is Your Startup at The Moment

The table presents the current stages of the startups surveyed. A majority of respondents (47.4%,7.2%) are in the **Growth, and Scaling** phases, indicating that over half of the startups have moved beyond the initial stages and are expanding their operations. A smaller proportion of startups (26.8%) are in the **Early Stage**, focusing on refining their products or services and establishing a market presence. Meanwhile, 18.6% of startups are in the **Idea/Concept** stage, still in the process of developing their core ideas. This distribution highlights the prominence of startups that are already scaling and growing, with a smaller percentage still in the early or conceptual phases. The distribution indicates that more support is needed to leverage people in the early stage and the scaling up stage, which should address the marketing problems.

What are the Primary Obstacles to the Development of the Startup

	Percent
Regulations and funds	46.4
Skills	12.4
Market /network/ monopoly	41.2
Total	100.0

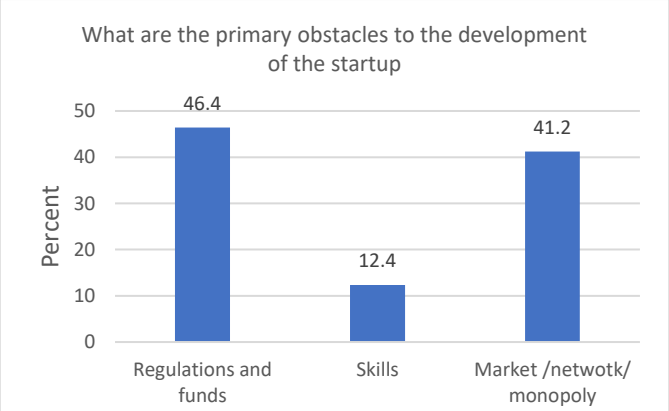

Figure 0.9: What Are the Primary Obstacles to the Development of The Startup

The table outlines the primary obstacles faced by startups in their development. A significant proportion of respondents (46.4%) identified **regulations and funds** as the main challenge hindering their progress. Another notable obstacle, mentioned by 41.2% of respondents, relates to **market access, networking difficulties, or monopolistic competition**. A smaller percentage of startups (12.4%) highlighted **skills** as a key barrier to their growth. These findings suggest that financial and regulatory challenges, along with issues related to market dynamics, are the most pressing concerns for startups in this dataset.

- **Main results**

How does One Assess the Possibility of Attracting the Necessary Capital to Launch a Startup in Palestine?

	Percent
Average	39.2
Excellent	2.1
Good	7.2
Poor	39.2
Very poor	12.4
Total	100.0

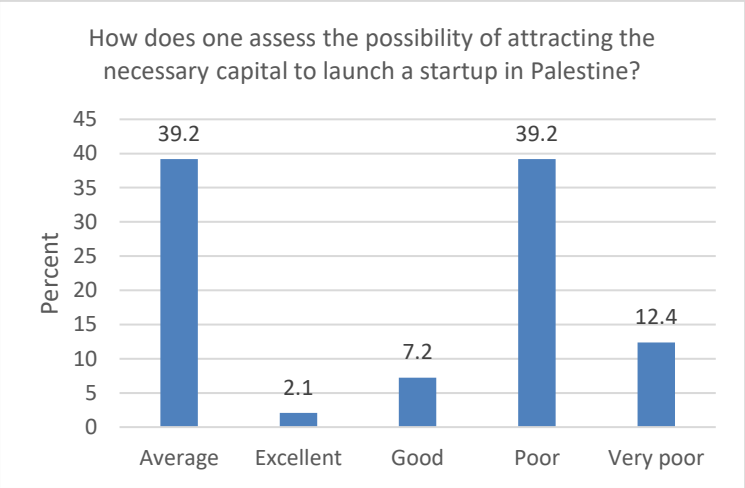

Figure 4.10: How Does One Assess the Possibility of Attracting the Necessary Capital to Launch A Startup in Palestine?

The table presents respondents' assessments of the likelihood of attracting the necessary capital to launch a startup in Palestine. A significant portion of participants (39.2%) rated the possibility as **Average**, reflecting a neutral or uncertain outlook on funding availability. Another 39.2% rated it as **Poor**, indicating widespread concern about the difficulty of securing capital. A smaller percentage of respondents felt the capital access was **Very Poor** (12.4%), suggesting some skepticism about funding prospects. Only 7.2% assessed the situation as **Good**, and just 2.1% considered it

Excellent, showing that while a few respondents are optimistic, the overall sentiment leans toward challenges in securing startup capital in Palestine.

Do you Find the Current Legal and Regulatory Environment for the Startups as Encouraging?	Percent
Neutral	32.0
None supportive	28.9
Somewhat supportive	33.0
Supportive	6.2
Total	100.0

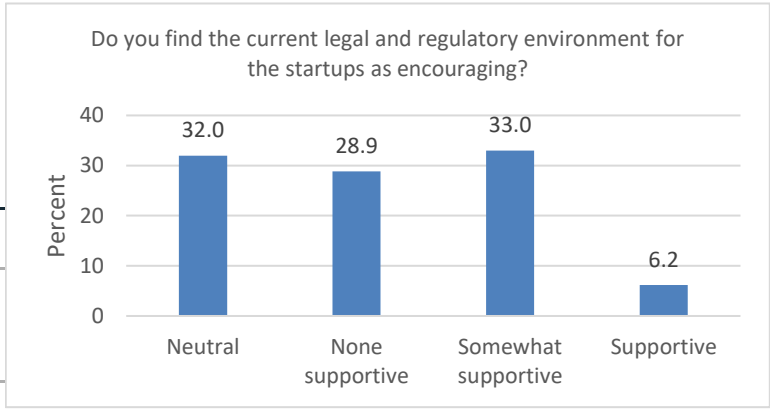

Figure 0.11: Do You Find the Current Legal and Regulatory Environment for The Startups as Encouraging?

The table presents responses regarding perceptions of the current legal and regulatory environment for startups. A large portion of respondents, 33.0%, believe the environment is **somewhat supportive** of startups, while 32.0% express a **neutral** stance, indicating they neither view it as particularly supportive nor unsupportive. A significant share, 28.9%, feel that the environment is **not supportive** of startups, while only 6.2% view it as **supportive**. These results suggest that the majority of respondents are either neutral or dissatisfied with the legal and regulatory conditions for startups, with only a small proportion perceiving the environment as favorable.

Do you Think That the Palestinian Diaspora Would Invest in the Startup Activities, such as in the Technology Sector

	Percent	Cumulative Percent
Agree	41.2	41.2
Disagree	16.5	57.7
Neutral	30.9	88.7
Strongly agree	4.1	92.8
Strongly disagree	7.2	100.0
Total	100.0	

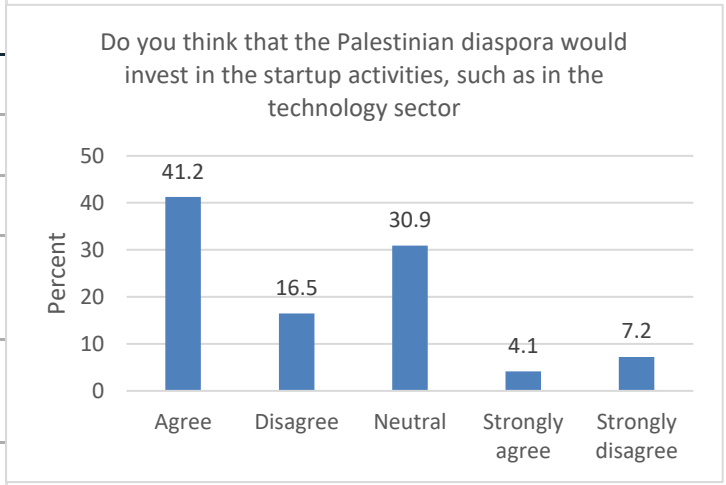

Figure 4.12: Do You Think that the Palestinian Diaspora Would Invest in the Startup Activities, Such as in the Technology Sector

The table presents respondents' views on whether they believe the Palestinian diaspora would invest in startup activities, particularly in the technology sector. A significant portion of respondents, 41.2%, agree with the idea, while a smaller group (4.1%) strongly agrees, indicating a general optimism about investment potential. However, 16.5% of respondents disagree, and 7.2% strongly disagree, suggesting some skepticism about diaspora investment. Additionally, 30.9% of respondents remain neutral, showing uncertainty or a lack of strong opinion on the matter. Cumulatively, 57.7% of respondents hold a positive view (agree or strongly agree), while 23.7% express negative or neutral opinions. This distribution highlights a moderate level of confidence in the potential for diaspora investment, particularly in the technology sector.

Rate the Support provided by Incubators and Accelerators in Palestine	Percent
Average	35.1
Excellent	2.1
Good	26.8
No experience with incubators/accelerators	8.2
Poor	27.8
Total	100.0

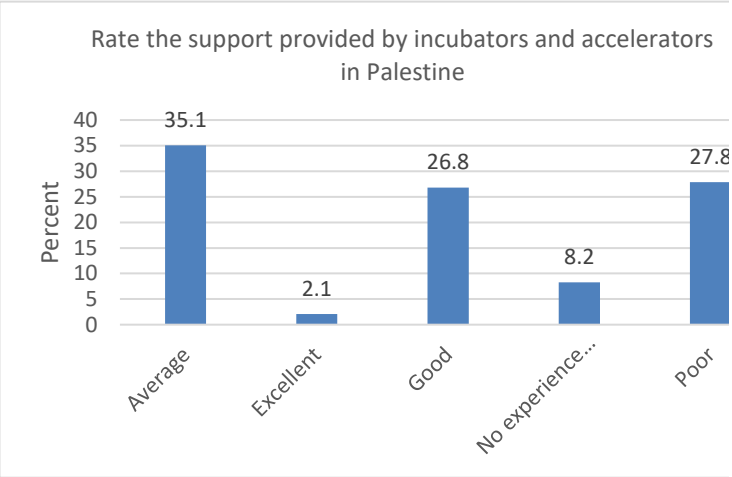

Figure 4.13 Rate the Support provided by Incubators and Accelerators in Palestine

The table presents respondents' ratings of the support provided by incubators and accelerators in Palestine. The majority of respondents (35.1%) rated the support as **Average**, indicating a mixed perception of its effectiveness. A smaller portion, 26.8%, rated the support as **Good**, suggesting a positive, though not overwhelming, experience. In contrast, 27.8% rated the support as **Poor**, signaling significant dissatisfaction with the services offered. Additionally, 8.2% of respondents had **No experience with incubators/accelerators**, implying that a notable portion of the sample was not involved with these programs. Only 2.1% of respondents rated the support as **Excellent**, reflecting a limited number of highly satisfied individuals. Overall, the data reveals that while some respondents find incubators and accelerators helpful, a substantial percentage view their support as inadequate or lack experience with these programs.

Table 4.1: Which Type of Infrastructure is Most Lacking in the Palestinian Startup Ecosystem? (Select All That Apply)

		Percent
	Community activities and meetups	1.0
	funding and market linkages	1.0
	Internet Connectivity	8.2
	Internet Connectivity; Manufacturing Facilities	1.0
	Internet Connectivity; Manufacturing Facilities; As we have limited resources, I think internet is still a problem despite	1.0
	Manufacturing Facilities	20.6
	Manufacturing Facilities; Payment system	1.0
	Manufacturing Facilities; Regulatory and legal, also financial frames designed to support entrepreneurship	1.0
	Office spaces/co-working spaces	9.3
	Office spaces/co-working spaces; Internet Connectivity	1.0
	Office spaces/co-working spaces; Internet Connectivity; Manufacturing Facilities	1.0
	Office spaces/co-working spaces; Manufacturing Facilities	6.2
	Technology Parks	11.3
	Technology Parks; Internet Connectivity	3.1
	Technology Parks; Manufacturing Facilities	14.4
	Technology Parks; Office spaces/co-working spaces	7.2
	Technology Parks; Office spaces/co-working spaces; Government support	1.0
	Technology Parks; Office spaces/co-working spaces; Internet Connectivity; general infrastructure and regulations	1.0
	Technology Parks; Office spaces/co-working spaces; Internet Connectivity; Manufacturing Facilities	6.2
	Technology Parks; Office spaces/co-working spaces; Manufacturing Facilities	3.1
	Total	100.0

The table reveals the perceived gaps in infrastructure within the Palestinian startup ecosystem, based on respondents' feedback. A significant portion of respondents (20.6%) identified **Manufacturing Facilities** as the most lacking infrastructure,

reflecting a strong demand for production-related resources. **Technology Parks** also emerged as a key area of need, with 11.3% highlighting this gap, followed by **Internet Connectivity**, which 8.2% of respondents flagged as insufficient. Smaller percentages pointed to **Office spaces/co-working spaces** (9.3%) and various combinations of infrastructure needs, such as **Manufacturing Facilities** combined with other elements like **Payment Systems** or **Regulatory and Legal Support**. Other notable combinations included **Technology Parks** and **Manufacturing Facilities** (14.4%) and **Office spaces/co-working spaces** alongside **Manufacturing Facilities** (6.2%). These results suggest a clear demand for improvements in production capacity, technological infrastructure, and collaborative workspaces to support the growth of startups in Palestine.

How Would You Rate the Availability of Skilled Talent in Palestine for Your Startups Needs

	Percent
Highly Satisfactory	13.4
Neutral	35.1
Satisfactory	44.3
Unsatisfactory	6.2
Very Unsatisfactory	1.0
Total	100.0

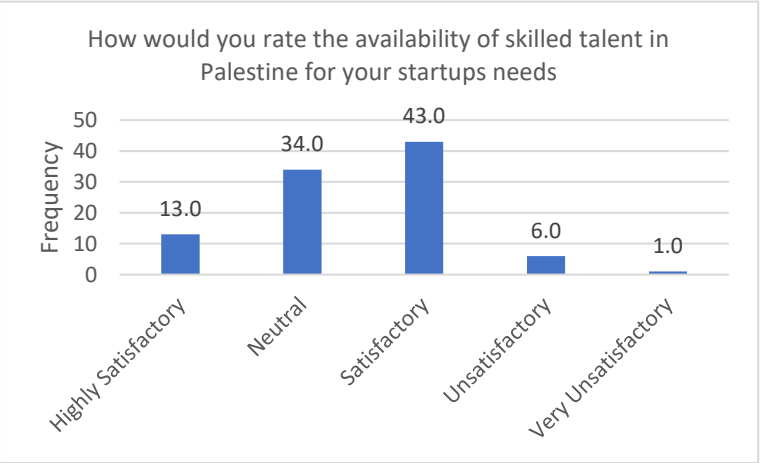

Figure 0.13: How Would you Rate the Availability of Skilled Talent in Palestine for Your Startups Needs

The table presents respondents' ratings regarding the availability of skilled talent in Palestine for their startup's needs. The majority of respondents, 44.3%, rate the availability as "Satisfactory," while 35.1% provide a "Neutral" response, indicating a mixed or uncertain view. A smaller portion, 13.4%, express a "Highly Satisfactory" opinion, reflecting some positive feedback. On the other hand, 6.2% of respondents

find the availability "Unsatisfactory," and only 1.0% rate it as "Very Unsatisfactory," suggesting that the majority do not see the talent pool as severely lacking. Overall, the responses are largely centered on moderate to neutral perceptions of skilled talent availability in Palestine for startup needs.

Do You Collaborate with Other Palestinian Startups, Locally or Internationally

	Percent
Not at all	11.3
Rarely	45.4
Yes, extensively	10.3
Yes, moderately	33.0
Total	100.0

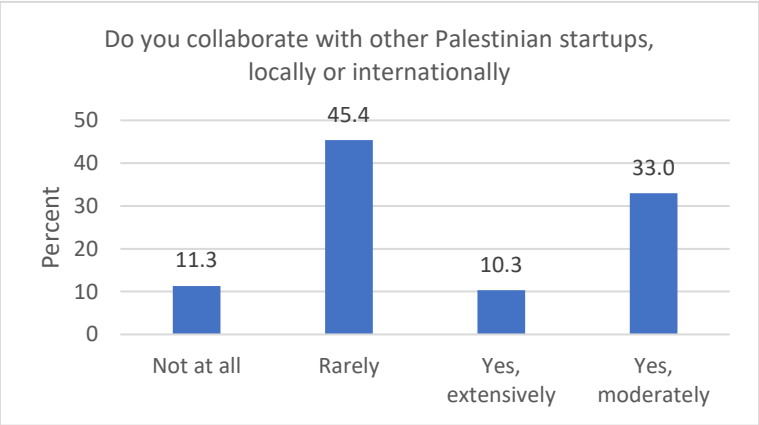

Figure 4.14: Do You Collaborate with other Palestinian Startups, Locally or Internationally

The table summarizes responses to the question about collaboration with other Palestinian startups, either locally or internationally. The majority of respondents, 45.4%, reported that they collaborate rarely with other startups, while 33.0% engage in moderate collaboration. A smaller portion, 10.3%, collaborate extensively, and 11.3% indicated that they do not collaborate at all. These results suggest that while some level of collaboration is common, a significant number of respondents have limited or no interaction with other startups in the Palestinian ecosystem.

Will the Palestinian Startup Ecosystem Expand Within the Following 5 Years or Sooner	Percent
Agree	40.2
Disagree	23.7
Neutral	26.8
Strongly agree	6.2
Strongly disagree	3.1
Total	100.0

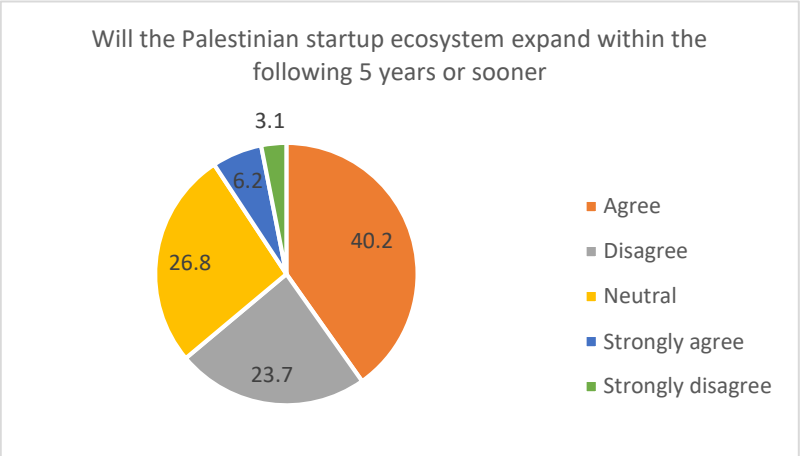

Figure 4.15: Will the Palestinian Startup Ecosystem Expand Within the Following 5 Years or Sooner

The table presents respondents' opinions regarding the expansion of the Palestinian startup ecosystem within the next five years. The majority, 40.2%, agree that the ecosystem will expand, while 6.2% strongly agree, suggesting an overall positive outlook. However, 23.7% of respondents disagree with this projection, and 3.1% strongly disagree, indicating some skepticism about future growth. A significant portion, 26.8%, remains neutral, neither supporting nor opposing the expansion. These results reflect a generally optimistic view, though with a notable level of uncertainty and varying levels of confidence among respondents.

What Areas do You Think Require Changes to Enhance the Startup Culture in Palestine	Percent
Access to funds	36.1
Attitude towards business owners	6.2
Business education and people with skills	23.7
Contacts and strategic alliances	9.3
Legal issues surrounding Palestine and regulations	24.7
Total	100.0

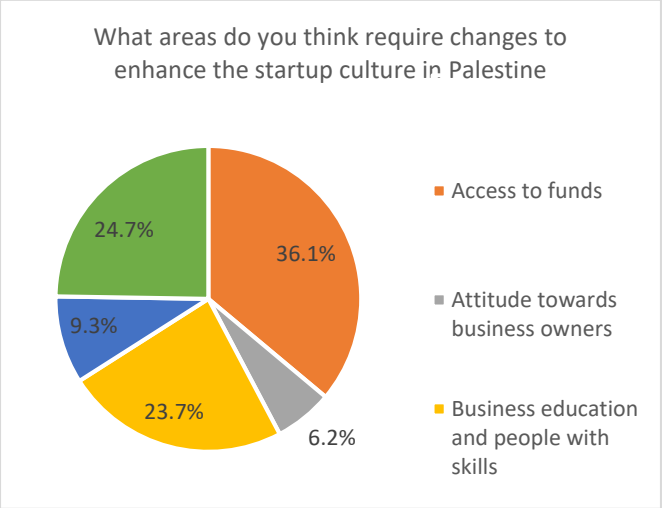

Figure 4.16: What Areas Do You Think Require Changes to Enhance the Startup Culture in Palestine

The table presents responses to the question of which areas require changes to enhance the startup culture in Palestine. The largest proportion of respondents, 36.1%, identified access to funds as the key area for improvement. This was followed by 24.7% who highlighted legal issues and regulations as a significant barrier to startup growth in Palestine. Additionally, 23.7% of respondents pointed to the need for improved business education and the development of skilled individuals. Contacts and strategic alliances were considered important by 9.3% of respondents, while 6.2% believed the attitude towards business owners needed to be addressed. These responses suggest that improving financial resources and legal frameworks are seen as the most pressing needs, while there is also a clear call for better educational and networking opportunities.

Table 4.2: Have You Tried Expanding Your Startup Beyond Palestinian Borders

	Percent
No	44.3
Yes	55.7
Total	100.0

The table presents the responses to the question of whether individuals have attempted to expand their startup beyond Palestinian borders. Of the total respondents, 44.3% reported that they have not tried expanding their startup outside of Palestine, while a majority of 55.7% indicated that they have made efforts to extend their business beyond national borders. This suggests that a significant portion of startups are seeking growth opportunities beyond Palestine, although a notable number have not yet ventured into international expansion.

If yes, What Challenges have You Faced in International Expansion

	Percent
not try yet / may be in the future	34.0
Legal Barriers	22.7
Financial Restrictions/Lack of Network/Partnerships	43.3
Total	100.0

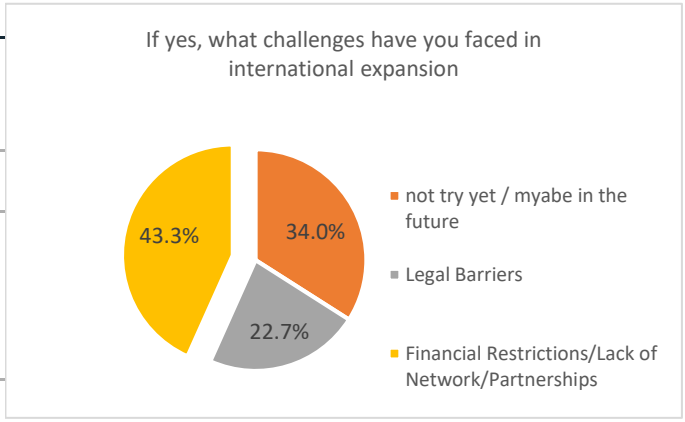

Figure 0.17: If Yes, What Challenges Have You Faced in International Expansion

The table outlines the challenges respondents have faced or anticipate facing in international expansion. Of the valid responses, 34.0% indicated that they have not yet attempted international expansion or are considering it in the future. Legal barriers were reported by 22.7% of respondents as a challenge, while the most significant challenge, reported by 43.3%, was financial restrictions, lack of network, or partnerships. This suggests that financial and strategic barriers are the primary concerns for those pursuing or planning international growth.

How do You Evaluate the Role of the Palestinian Diaspora in Supporting the Startup Ecosystem	Percent
Highly Supportive	7.2
Less Supportive	26.8
Moderately Supportive	15.5
Neutral	47.4
Not supportive at all	3.1
Total	100.0

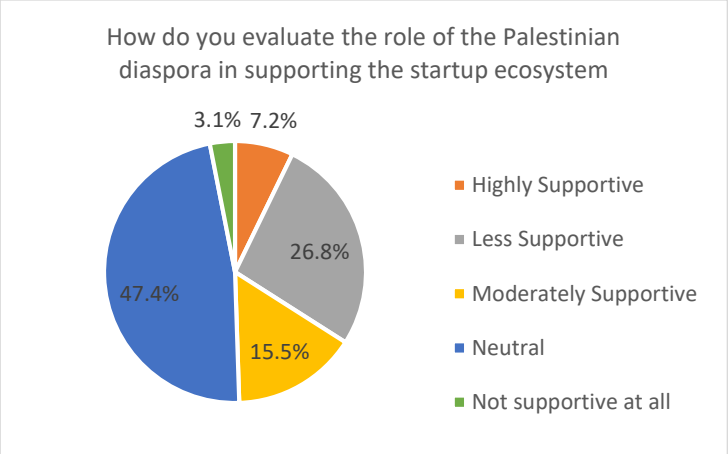

Figure 4.18: How Do You Evaluate The Role Of The Palestinian Diaspora In Supporting The Startup Ecosystem

The table presents respondents' evaluations of the role of the Palestinian diaspora in supporting the startup ecosystem. A majority of respondents, 47.4%, expressed a neutral view, neither strongly supporting nor opposing the diaspora's role. Meanwhile, 26.8% of respondents considered the diaspora to be less supportive, while 15.5% viewed it as moderately supportive. A smaller proportion, 7.2%, believed the diaspora to be highly supportive of the startup ecosystem. Only 3.1% felt that the diaspora was not supportive at all. This distribution suggests that while many respondents remain neutral, there is a notable portion who perceive the diaspora as having a positive but moderate or limited impact on supporting startups. These results suggest tat more efforts are need to connect with diaspora and get them involved in the startup ecosystem.

What Technologies does your Startup Focus on?	Percent
Artificial Intelligence and Related Technologies	61.9
Financial and Blockchain Technologies	19.6
Agritech and IoT	5.2
Specialized Niches	11.3
Others	2.1
Total	100.0

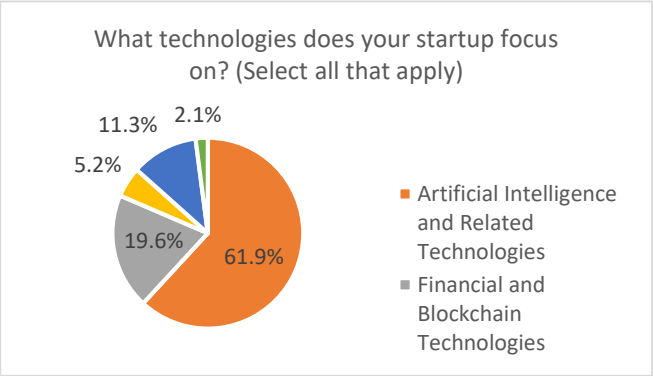

Figure 0.19: What Technologies Does Your Startup Focus On?

The table presents the distribution of technologies that startups focus on, with respondents able to select multiple options. The most common focus area is Artificial Intelligence and Related Technologies, chosen by 61.9% of respondents. Financial and Blockchain Technologies follow, with 19.6% of startups concentrating on these areas. A smaller portion of startups, 11.3%, are engaged in Specialized Niches, while 5.2% focus on Agritech and the Internet of Things (IoT). Only 2.1% of respondents selected "Others" as their focus area, indicating a relatively low interest in technology sectors outside the listed categories. This distribution suggests that AI and related technologies dominate the startup landscape, while niche and emerging sectors receive comparatively less attention.

To What Extent Do You Feel that the Use of AI or Blockchain Could Enhance the Palestinian Startup Ecosystem and Resolve Obstacles	Percent
Moderately Enhance	23.7
Neutral	28.9
No Impact	3.1
Slightly Enhance	7.2
Strongly Enhance	37.1
Total	100.0

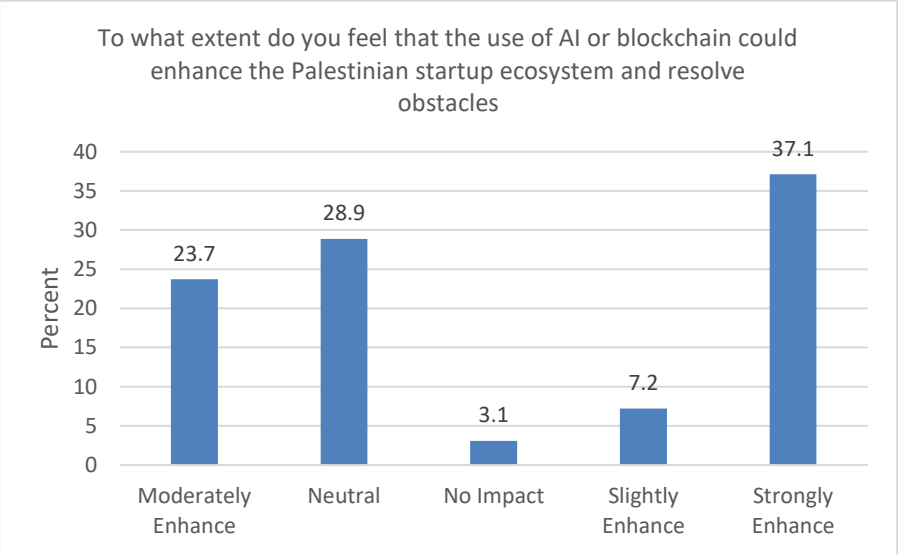

Figure 4.20: To What Extent Do You Feel that the Use of AI or Blockchain Could Enhance the Palestinian Startup Ecosystem and Resolve Obstacles

The table presents respondents' views on the potential impact of AI or blockchain in enhancing the Palestinian startup ecosystem and resolving obstacles. A significant portion of participants (37.1%) strongly believes that these technologies could have a positive effect, while 23.7% feel that they could moderately enhance the ecosystem. A smaller group (7.2%) thinks the impact would be slight. On the other hand, 28.9% remain neutral, neither agreeing nor disagreeing with the potential for improvement. Only a small percentage, 3.1%, perceive no impact from the use of AI or blockchain in this context. Overall, the data suggests a general optimism about the potential of these technologies to positively influence the Palestinian startup landscape.

What Specific Government Support Would You Like to See to Facilitate Technological Innovation in Palestine?

The responses to this open question about the specific government support needed to facilitate technological innovation in Palestine reveal a strong emphasis on financial assistance, regulatory improvements, and infrastructure development. A significant portion of respondents highlights the need for **financial support**, with suggestions ranging from **funding for startups** and **financial incentives** to **tax exemptions** and **grants** for innovative projects. Many also stress the importance of **reducing taxes**, offering **facilitated bank loans**, and ensuring **access to capital** for entrepreneurs.

In addition to financial support, several respondents emphasize the importance of **improving infrastructure**, particularly in terms of **high-speed internet access** and **technological resources** such as **digital signatures** and **fintech infrastructure**. Additionally, there are calls for **easier regulatory processes**, including **simplified licensing requirements**, the **reduction of legal barriers**, and the establishment of a **legal framework** that supports innovation and startup growth.

Many also point to the need for **educational initiatives** that embed innovation culture and provide **training sessions** to develop skills for both entrepreneurs and the broader workforce. There is a clear desire for **government commitment** to creating an environment that supports technological growth, including fostering **global networking** opportunities and reducing the **political and legal challenges** that hinder progress.

In summary, respondents generally agree that a combination of **financial, infrastructural, legal, and educational** support would be crucial for enabling technological innovation in Palestine, with a focus on making the business environment more conducive to growth and international collaboration.

Table 4.3: Are You Involved In Any Initiatives Aimed At Environmental Sustainability Through Innovation

	Percent
No	44.3
Yes	55.7
Total	100.0

The table illustrates respondents' involvement in initiatives aimed at environmental sustainability through innovation. A majority of respondents, 55.7%, reported being

involved in such initiatives, while 44.3% indicated they are not. This shows that slightly more than half of the participants are engaged in efforts focused on environmental sustainability through innovation.

Do You See a Future Where Palestine Becomes One of the Top Startup Nations? Why or Why Not?	Percent
Yes (Optimistic Responses)	48.5
No (Pessimistic Responses)	39.2
Maybe (Neutral or Conditional Responses)	12.4
Total	100.0

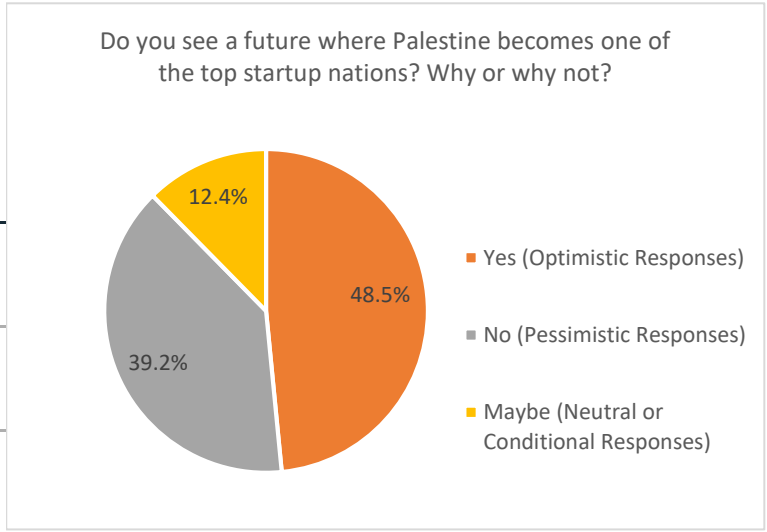

Figure 4.21: Do You See a Future Where Palestine Becomes One of The Top Startup Nations? Why or Why Not?

The table presents the responses to the question of whether respondents see a future where Palestine becomes one of the top startup nations. Among the total responses, a majority of 48.5% expressed optimism, answering "Yes," indicating a belief in the potential for Palestine to become a leading startup nation. On the other hand, 39.2% of respondents were pessimistic, answering "No," suggesting they do not foresee this possibility. A smaller proportion, 12.4%, provided neutral or conditional responses, answering "Maybe." This distribution reveals a clear divide, with optimism slightly outweighing pessimism regarding Palestine's future as a startup hub.

What Recommendations Would You Give to Improve the Current Palestinian Startup Ecosystem?

The recommendations for improving the Palestinian startup ecosystem, as outlined in the responses, highlight several key areas for development. A strong emphasis is placed on enhancing access to funding, with multiple suggestions to increase financial

support through grants, venture capital, angel investors, and government-backed programs. In addition, the importance of infrastructure development is repeatedly mentioned, particularly in terms of improving internet access, electricity, and the availability of coworking spaces. Many respondents stress the need for better government support and regulatory frameworks that facilitate entrepreneurship, alongside the provision of mentorship, training, and opportunities to connect with regional and international markets.

There is also a call for a more supportive and collaborative environment for startups, with suggestions for increased cooperation between universities, government agencies, and private sectors. Recommendations include promoting entrepreneurial education, organizing seminars, and fostering a culture of innovation. Respondents also suggest a shift towards a green economy, with an emphasis on sustainable practices and technological innovation.

To ensure long-term growth, there are calls for more targeted programs that address local market needs, as well as the establishment of research and development centers to address regional and global challenges. Strengthening connections with external markets, particularly in the EU and Gulf regions, is also seen as crucial for expanding opportunities. Overall, these recommendations underscore the need for a comprehensive approach that combines financial, infrastructural, and educational support to nurture the startup ecosystem in Palestine.

What Sort of Help Is Most Beneficial for Startups in This Region?

The table presents the responses to the question about the most beneficial types of support for startups in the region, with a breakdown of various combinations of support factors. The most commonly cited factor is the "Availability of capital," which appears in 5.2% of the responses, followed by "Training and accompanying," also at 5.2%. "Market opportunities" is another key factor, mentioned in 7.2% of responses. When combined with other factors, such as collaboration with foreign agents, facilities housing, or psychosocial/mental health support, the percentages vary across different groupings. The combination of "Availability of capital; Market opportunities; and Collaboration with foreign agents" stands out with 9.3%, suggesting that many respondents see these three factors as particularly crucial. Other combinations, such as "Training and accompanying; Market opportunities; Collaboration with foreign agents" (6.2%) and "Availability of capital; Training and

accompanying; Market opportunities" (7.2%), also received significant attention. However, single factors like "Facilities housing" and "Psychosocial/mental health support" were mentioned less frequently, each accounting for just 1.0% of the responses. Overall, the data indicates that the most beneficial support for startups is multifaceted, with capital availability, market opportunities, and training being key elements in the region's entrepreneurial ecosystem.

Analysis of the Hypotheses

Hypothesis #1: there is a significant relation between what sector does your startup operate in and for how long has your startup been operating?

Table 4.4: What Sector Does Your Startup Operate In?

		Technology and Innovation	Education and Knowledge Building	Healthcare and FinTech	Sustainability and Green Initiatives	Industry and Infrastructure	Food and Hospitality	Total
For how long has your startup been operating	1 to 3 years	44.0%	14.9%	6.7%			33.3%	20.6%
	3 to 5 years	16.0%	12.8%				33.3%	11.3%
	Less than 1 year	20.0%	8.5%	40.0%	66.7%	50.0%	33.3%	20.6%
	More than 5 years	20.0%	63.8%	53.3%	33.3%	50.0%		47.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Statistical Descriptive Analysis of the Startup Sectors Table

The table 4.3 presents the distribution of startups across six sectors based on their operational duration. Here's a descriptive analysis:

1. **Distribution by Sectors**

- **Technology and Innovation**: A relatively even distribution across the categories, with a notable proportion of startups in the **1 to 3 years** (44.0%) and **less than 1-year** (20.0%) categories. Established startups (**more than 5 years**) account for 20.0%, indicating a balanced mix of newer and older ventures.

- **Education and Knowledge Building**: Dominated by established startups, with **more than 5 years** accounting for **63.8%** of the total. This sector has a smaller proportion of startups in earlier stages, with only **8.5%** in the **less than 1 year** category.
- **Healthcare and FinTech**: This sector is polarized, with **40.0%** of startups less than a year old and **53.3%** having operated for more than 5 years. This suggests both significant new interest and the presence of well-established ventures.
- **Sustainability and Green Initiatives**: Majority of startups (**66.7%**) are **less than 1 year** old, indicating a nascent but rapidly growing sector.
- **Industry and Infrastructure**: Split between new and established startups, with **50.0%** in both **less than 1 year** and **more than 5 years**, showing equal representation of emerging and mature ventures.
- **Food and Hospitality**: Spread across all operational durations, but no representation in the **more than 5 years** category, suggesting a predominantly younger sector.

2. **Central Tendency**

- **Mean Representation Across Durations**:
  - "Less than 1 year" startups are highly concentrated in **Sustainability and Green Initiatives** (66.7%) and **Healthcare and FinTech** (40.0%).
  - "More than 5 years" is most prevalent in **Education and Knowledge Building** (63.8%) and **Healthcare and FinTech** (53.3%), indicating sector maturity.

3. **Variability**

- **High Variability Sectors**:
  - **Education and Knowledge Building**: Skewed heavily towards older startups.
  - **Sustainability and Green Initiatives**: Skewed towards younger startups.

- **Balanced Sectors**:
  - **Technology and Innovation**: Shows a more even spread across operational durations.

4. Observations

- Sectors like **Sustainability and Green Initiatives** and **Healthcare and FinTech** are experiencing a surge in new ventures, reflecting global trends in green technology and health innovation.
- **Education and Knowledge Building** and **Industry and Infrastructure** have a strong representation of older, established startups, suggesting these sectors have a more stable and long-standing presence.

5. Summary

The data highlights clear differences in the lifecycle stages of startups across sectors. While some, like **Sustainability and Green Initiatives**, are heavily skewed toward emerging ventures, others, such as **Education and Knowledge Building**, reflect a history of longer operational tenure. The insights suggest that sector maturity, market trends, and opportunities influence the distribution and longevity of startups.

Table 4.5: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.179[a]	15	.003
N of Valid Cases	97		

The Chi-Square test results provide insights into the relationship between the sector of operation and the duration of startups in this dataset. Here's an analysis of the results:

1. Pearson Chi-Square

- **Value:** 34.179
- **Degrees of Freedom (df):** 15
- **Significance (p-value):** 0.003

The p-value (0.003) is less than the conventional threshold of 0.05, indicating that there is a statistically significant association between the sector of operation and the duration of startups. This suggests that operational duration of startups is not independent of the sector they operate in.

There is a significant association between the sector of operation and the duration of startups, as evidenced by both the Pearson Chi-Square and Likelihood Ratio tests.

However, the sparse data in certain cells (low expected counts) warrants caution in fully interpreting these results. Further analysis with a larger sample size or different statistical methods may help validate these findings.

The table reveals significant variation in perceptions of the legal and regulatory environment for startups across different sectors, reflecting both shared challenges and sector-specific dynamics. Here's a detailed breakdown:

Hypothesis #2: there is a significant relation between what sector does your startup operate in? and do you find the current legal and regulatory environment for the startups as encouraging?

		What sector does your startup operate in?						Total
		Technology and Innovation	Education and Knowledge Building	Healthcare and FinTech	Sustainability and Green Initiatives	Industry and Infrastructure	Food and Hospitality	
Do you find the current legal and regulatory environment for the startups as encouraging?	Neutral	20.0%	40.4%	33.3%	33.3%	25.0%		32.0%
	None supportive	52.0%	17.0%	26.7%	66.7%	25.0%		28.9%
	Somewhat supportive	28.0%	29.8%	40.0%		50.0%	100.0%	33.0%
	Supportive		12.8%					6.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sector-Specific Insights

1. **Sustainability and Green Initiatives**: This sector faces the most significant challenges, with two-thirds of respondents finding the regulatory environment "non-supportive." This highlights a critical need for targeted reforms and policies to encourage green startups.
2. **Technology and Innovation**: While it has a strong presence in the startup ecosystem, over half of respondents view the environment as "non-supportive," suggesting that innovation-focused startups encounter significant regulatory barriers.
3. **Education and Knowledge Building**: Opinions are more balanced, with a mix of "Neutral" (40.4%) and "Somewhat Supportive" (29.8%) responses. A small portion (12.8%) finds the environment "Supportive," reflecting some optimism.
4. **Healthcare and FinTech**: This sector has a relatively high percentage of "Somewhat Supportive" responses (40.0%), suggesting moderate satisfaction, but dissatisfaction (26.7%) is also notable.
5. **Industry and Infrastructure**: Half of the respondents rate the environment as "Somewhat Supportive," making it one of the more favorably viewed sectors, though 25.0% still find it "non-supportive."
6. **Food and Hospitality**: This sector stands out as the most positively perceived, with 100% of respondents finding the environment "Somewhat Supportive." This indicates fewer regulatory challenges compared to other sectors.

Overall Implications

- **Diverse Experiences**: The regulatory environment is perceived very differently across sectors, suggesting that current policies are not uniformly effective or supportive.
- **Key Challenges**: Sectors like **Sustainability and Green Initiatives** and **Technology and Innovation** face significant dissatisfaction, indicating the need for sector-specific reforms to remove barriers and foster growth.
- **Positive Outliers**: The **Food and Hospitality** and **Industry and Infrastructure** sectors demonstrate relatively favorable perceptions, which could serve as benchmarks for improving regulatory frameworks in other areas.

Table 4.6: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.884[a]	15	.052
N of Valid Cases	97		

Commentary on the Chi-Square Test Results

The Chi-Square test results analyze the association between two categorical variables. Below is a detailed analysis of the statistics provided:

Pearson Chi-Square Test:

- **Value**: 24.884
- **Degrees of Freedom (df)**: 15
- **Significance (p-value)**: 0.052

Interpretation:

- The p-value (0.052) is slightly above the conventional threshold of significance (0.05). This means the relationship between the variables is **marginally not statistically significant**. However, the result is close enough to suggest a possible underlying association.
- The test might have been influenced by small cell sizes, as indicated by the large percentage of cells with expected counts less than 5.

Conclusion:

The analysis highlights a **potential relationship** between the variables, with the Likelihood Ratio test supporting statistical significance. However, the high percentage of small expected cell counts limits the robustness of the results. Future studies could benefit from a larger sample size or collapsing categories to ensure more reliable findings.

Hypothesis #3: There is a significant relation between what sector does your startup operate in and how would you rate the availability of skilled talent in Palestine for your startups needs?

Table 4.7: Chi-Square Tests

		What sector does your startup operate in?						
		Technology and Innovation	Education and Knowledge Building	Healthcare and FinTech	Sustainability and Green Initiatives	Industry and Infrastructure	Food and Hospitality	Total
How would you rate the availability of skilled talent in Palestine for your startup €™s needs	Highly Satisfactory	24.0%	14.9%					13.4%
	Neutral	32.0%	40.4%	33.3%	33.3%		33.3%	35.1%
	Satisfactory	36.0%	42.6%	53.3%	66.7%	50.0%	66.7%	44.3%
	Unsatisfactory	8.0%	2.1%	13.3%		25.0%		6.2%
	Very Unsatisfactory					25.0%		1.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Key Observations:

- The Sustainability and Green Initiatives and Food and Hospitality sectors have the highest "Satisfactory" ratings (66.7%), indicating strong satisfaction with talent availability in these areas.
- Industry and Infrastructure faces the most dissatisfaction, with 25.0% rating talent availability as "Unsatisfactory" or "Very Unsatisfactory."
- Education and Knowledge Building shows the highest "Neutral" responses (40.4%), suggesting uncertainty or variability in talent adequacy.
- Technology and Innovation and Healthcare and FinTech present a balanced distribution of satisfaction and dissatisfaction, but neither has particularly strong "Highly Satisfactory" ratings.

The perceptions of skilled talent availability vary significantly across sectors. While sectors like *Food and Hospitality* and *Sustainability and Green Initiatives* show strong satisfaction, *Industry and Infrastructure* struggles with dissatisfaction. The data highlights sector-specific challenges and opportunities for improving talent pipelines in Palestine.

Table 4.8 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	37.334[a]	20	.011
N of Valid Cases	97		

Commentary on the Chi-Square Test Results

The Chi-Square test evaluates the association between the two categorical variables: the sectors of startup operation and perceptions of skilled talent availability. Here's an analysis of the table:

1. **Pearson Chi-Square**:
   - **Value**: 37.334
   - **Degrees of Freedom (df)**: 20
   - **Significance (p-value)**: 0.011
   - **Interpretation**: The p-value is less than 0.05, indicating a statistically significant association between the sector of operation and perceptions of skilled talent availability. This means that perceptions of talent availability vary significantly across sectors.
     - The **Pearson Chi-Square test** indicates a statistically significant association between the startup sectors and perceptions of talent availability.
     - However, the **high number of low expected counts** suggests the data might violate Chi-Square test assumptions, which could weaken confidence in the results.
     - The **Linear-by-Linear Association** highlights a significant trend, reinforcing that differences in perceptions across sectors are not random but systematic.
     - The **Likelihood Ratio test** does not confirm the association, which might reflect sensitivity to the data distribution.

Conclusion

The significant Pearson Chi-Square result ($p = 0.011$) suggests that perceptions of talent availability are related to the startup's sector.

Hypothesis #4: there is a significant relation between what sector does your startup operate in? and What technologies does your startup focus on?

Table 4.9: Chi-Square Tests

		What sector does your startup operate in?						Total
		Technology and Innovation	Education and Knowledge Building	Healthcare and FinTech	Sustainability and Green Initiatives	Industry and Infrastructure	Food and Hospitality	
What technologies does your startup focus on?	Artificial Intelligence and Related Technologies	48.0%	63.8%	80.0%	33.3%	100.0%	33.3%	61.9%
	Financial and Blockchain Technologies	24.0%	25.5%	6.7%				19.6%
	Agritech and IoT		6.4%	6.7%	33.3%			5.2%
	Specialized Niches	20.0%	4.3%	6.7%	33.3%		66.7%	11.3%
	Others	8.0%						2.1%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0 %

Commentary on the Crosstab: Technology Focus Across Sectors

This table illustrates the distribution of technology focus areas among startups in different sectors. Below is a detailed analysis of each technology category across various sectors:

Artificial Intelligence and Related Technologies

- **High Representation**:
  - The **Technology and Innovation** sector leads with 48.0%, reflecting the centrality of AI and related technologies in this field.
  - **Healthcare and FinTech** follows closely with 80.0%, indicating a strong reliance on AI-driven innovations, likely due to advancements in medical technology and FinTech solutions.
  - The **Industry and Infrastructure** sector is the most prominent, with 100% of respondents citing AI and related technologies. This highlights a robust reliance on AI within this sector, possibly for automation and data-driven decision-making.

- **Food and Hospitality** (33.3%) and **Sustainability and Green Initiatives** (33.3%) report lower adoption, which may be due to the nature of these sectors where AI applications are less pervasive compared to technology-centric industries.

4.2.4.2 Financial and Blockchain Technologies

- **Moderate Representation**:
  - **Technology and Innovation** (24.0%) and **Education and Knowledge Building** (25.5%) show moderate interest in financial and blockchain technologies, which are emerging as key fields in both sectors.
  - **Healthcare and FinTech** (6.7%) and **Sustainability and Green Initiatives** (no response) show minimal adoption of blockchain technologies, likely due to the specific needs and focus areas of these sectors, which are more likely to concentrate on healthcare solutions or environmental impacts.
  - **Industry and Infrastructure** and **Food and Hospitality** sectors show no adoption, which suggests blockchain is not yet a priority in these areas.

4.2.4.3 Agritech and IoT

- **Growing Interest**:
  - **Sustainability and Green Initiatives** (33.3%) stands out with a notable interest in Agritech and IoT, which aligns well with the sector's focus on sustainability and innovation in agriculture.
  - **Healthcare and FinTech** and **Food and Hospitality** have relatively low responses in this category (6.7% and 5.2% respectively), indicating these sectors are less focused on IoT and Agritech technologies.
  - **Technology and Innovation** and **Education and Knowledge Building** sectors show minimal involvement with Agritech and IoT.

4.2.4.4 Specialized Niches

- **Diverse Focus**:
  - **Industry and Infrastructure** and **Food and Hospitality** sectors show high percentages of interest in specialized niches, with **Industry and Infrastructure** at 66.7%, reflecting the importance of niche technologies in infrastructure development.
  - **Sustainability and Green Initiatives** (33.3%) also reports a significant interest in specialized niches, which may relate to niche sustainable technologies.

- **Technology and Innovation** (20.0%) and **Healthcare and FinTech** (6.7%) show relatively lower engagement with specialized niche technologies.
- The **Education and Knowledge Building** sector (4.3%) has a minimal focus on specialized niches.

Others

- **Low Adoption**:
  - Only **Technology and Innovation** (8.0%) and **Sustainability and Green Initiatives** (2.1%) reported "Other" technologies as a focus, which might indicate emerging or less common technological areas that don't fit neatly into the specified categories.

Key Observations

1. **Artificial Intelligence** is the dominant technology across most sectors, especially in **Industry and Infrastructure** and **Healthcare and FinTech**, where it is integral to advancements in automation and medical technologies.
2. **Blockchain and Financial Technologies** are of moderate interest in **Technology and Innovation** and **Education and Knowledge Building**, but are underrepresented in other sectors.
3. **Agritech and IoT** are highly relevant to **Sustainability and Green Initiatives**, where they play a key role in sustainable agriculture and environmental technology.
4. **Specialized Niches** are particularly significant in **Industry and Infrastructure**, reflecting a focus on cutting-edge, industry-specific technologies.
5. **Sustainability and Green Initiatives** stands out in terms of both **Agritech** and **Specialized Niches**, reflecting the sector's emphasis on sustainability-driven innovations.

Conclusion

The data reveals clear sector-specific trends in technology adoption, with **Artificial Intelligence** emerging as the most prevalent focus across almost all sectors, particularly in **Industry and Infrastructure** and **Healthcare and FinTech**. However, sectors such as **Food and Hospitality** and **Sustainability and Green Initiatives** show more varied and niche technology focus areas, indicating diverse technological needs across different industries. This highlights the need for tailored technological solutions and the varied pace of technological adoption across sectors in Palestine.

Table 4.10: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.756[a]	20	.028
N of Valid Cases	97		

Commentary on the Chi-Square Test Results

The Chi-Square test results help evaluate whether there is a significant relationship between two categorical variables: the sector in which startups operate and the technologies they focus on. Here is a detailed analysis:

Pearson Chi-Square

- **Value**: 33.756
- **Degrees of Freedom (df)**: 20
- **Significance (p-value)**: 0.028
- **Interpretation**: The p-value is less than 0.05, which indicates a statistically significant association between the sector of operation and the technologies startups focus on. This means that the choice of technology is significantly related to the sector in which the startup operates. For example, startups in **Industry and Infrastructure** are more likely to focus on certain technologies (like Artificial Intelligence), whereas those in **Sustainability and Green Initiatives** may lean towards Agritech and IoT.

Conclusion

Although the Pearson Chi-Square test indicates a statistically significant relationship between the sector and technology focus (p = 0.028), the **high number of low expected counts** may affect the reliability of this conclusion.

Hypothesis #5: there is a significant relation between what sector does your startup operate in and do you see a future where Palestine becomes one of the top startup nations? Why or why not?

Table 4.11: Chi-Square Tests

		What sector does your startup operate in?						
		Technology and Innovation	Education and Knowledge Building	Healthcare and FinTech	Sustainability and Green Initiatives	Industry and Infrastructure	Food and Hospitality	Total
Do you see a future where Palestine becomes one of the top startup nations? Why or why not?	Yes (Optimistic Responses)	44.0%	46.8%	60.0%	100.0%		66.7%	48.5%
	No (Pessimistic Responses)	56.0%	36.2%	33.3%		25.0%	33.3%	39.2%
	Maybe (Neutral or Conditional Responses)		17.0%	6.7%		75.0%		12.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Commentary on the Crosstab: Future Outlook for Palestine as a Startup Nation by Sector

This table reflects the different perspectives across various startup sectors on whether Palestine could become one of the top startup nations. The responses are divided into three categories: optimistic, pessimistic, and neutral/conditional. Here's a detailed analysis of the findings:

Optimistic Responses (Yes)

- **Sustainability and Green Initiatives** is the most optimistic sector, with **100%** of respondents expressing a belief that Palestine could become a top startup nation. This suggests a strong sense of hope and potential in this sector, possibly due to increasing global interest in sustainability and environmental innovation.
- **Healthcare and FinTech** follows with **60.0%**, showing a positive outlook, likely due to growing opportunities in health tech and female-focused innovations in Palestine.
- **Technology and Innovation** also shows a relatively high level of optimism, with **44.0%** of respondents believing in the potential of Palestine's startup ecosystem. This aligns with the global trend of technology being central to entrepreneurial growth.

- **Industry and Infrastructure** (66.7%) also expresses optimism, potentially reflecting faith in long-term infrastructure development and industrial innovation in Palestine.
- **Food and Hospitality** (48.5%) expresses moderate optimism, suggesting a more cautious but hopeful outlook.
- **Education and Knowledge Building** shows the lowest optimism at **46.8%**, possibly due to challenges in scaling educational ventures and the uncertainty around the sector's ability to contribute to national entrepreneurial success.

4.2.6.2 **Pessimistic Responses (No):**

- **Technology and Innovation** has the highest proportion of pessimistic responses at **56.0%**, reflecting concerns about barriers to growth in the sector, including infrastructure, funding, and talent availability.
- **Education and Knowledge Building** (36.2%) and **Food and Hospitality** (39.2%) also report significant pessimism, which could stem from challenges in scaling or the perceived lack of governmental support for these sectors.
- **Healthcare and FinTech** (33.3%) shows less pessimism, suggesting that despite the challenges, there is a belief that this sector has potential in the local context.
- **Sustainability and Green Initiatives** is the least pessimistic, with only **25.0%** of respondents expressing doubts, possibly because of growing global trends toward sustainability and local interest in green initiatives.
- **Industry and Infrastructure** (33.3%) is also more pessimistic than some sectors, likely due to issues like political instability and economic constraints impacting industrial growth.

4.2.6.3 **Neutral or Conditional Responses (Maybe):**

- **Healthcare and FinTech** has the highest neutral/conditional response at **75.0%**, suggesting that a significant portion of respondents in this sector is unsure, possibly due to the uncertainties and long-term nature of growth in this sector.
- **Food and Hospitality** also reports a notable neutral response at **12.4%**, indicating that while there is potential, the path to growth is not clear.
- **Sustainability and Green Initiatives** has a small neutral response of **12.4%**, which shows that while optimism prevails, some in the sector are uncertain about the immediate future.
- **Technology and Innovation**, **Education and Knowledge Building**, and **Industry and Infrastructure** show lower neutral responses, indicating that

respondents in these sectors tend to lean more toward optimistic or pessimistic views.

Key Observations:

1. **Sustainability and Green Initiatives** emerges as the most optimistic sector, with a full 100% believing in the potential for Palestine to become a leading startup nation in this field. This sector likely benefits from global environmental trends, and there may be strong local enthusiasm for green technologies.
2. **Healthcare and FinTech** also show significant optimism (60.0%) but have a notable number of neutral responses (75.0%), indicating that while the sector sees potential, many are cautious about the path forward.
3. **Technology and Innovation** and **Industry and Infrastructure** sectors show more mixed views, with a significant percentage expressing pessimism, particularly in the case of **Technology and Innovation** (56.0%).
4. **Education and Knowledge Building** and **Food and Hospitality** sectors express moderate optimism but also a significant amount of pessimism, which might reflect the challenges these sectors face in scaling and achieving broader impact.

Conclusion:

There is a clear sector-based divergence in attitudes toward Palestine's potential as a startup nation. While **Sustainability and Green Initiatives** is overwhelmingly optimistic, other sectors such as **Technology and Innovation** and **Education and Knowledge Building** show more caution or pessimism, possibly due to current limitations in infrastructure, funding, and talent availability. The **Healthcare and FinTech** sector hold a balanced, neutral stance, reflecting the uncertainty that many entrepreneurs feel about the future, despite recognizing the sector's potential. This table highlights the diverse perceptions of Palestine's startup ecosystem and the varying challenges and opportunities across sectors.

Table 4.12: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.515[a]	10	.004
N of Valid Cases	97		

Commentary on the Chi-Square Test Results

The Chi-Square test results examine the relationship between the sector in which startups operate and their perception of whether Palestine can become one of the top startup nations. Here's an analysis of the findings:

Pearson Chi-Square:

- **Value**: 25.515
- **Degrees of Freedom (df)**: 10
- **Significance (p-value)**: 0.004
- **Interpretation**: The p-value is less than 0.05, indicating a statistically significant relationship between the sector of operation and the perception of Palestine's potential as a top startup nation. This suggests that the sector in which a startup operates has a meaningful impact on whether entrepreneurs are optimistic, pessimistic, or neutral about Palestine's startup future. For example, entrepreneurs in **Sustainability and Green Initiatives** are more likely to be optimistic, while those in **Technology and Innovation** and **Food and Hospitality** may be more skeptical.

Key Takeaways:

1. The **Pearson Chi-Square** and **Likelihood Ratio** tests both indicate a **statistically significant** relationship between the sector of operation and the perception of Palestine's potential as a startup nation ($p = 0.004$ and $p = 0.005$). This suggests that entrepreneurs in different sectors have differing views on this issue.

Conclusion:

The Chi-Square tests indicate a significant relationship between the sector of operation and the outlook on Palestine becoming a top startup nation. However, the high number of low expected counts weakens the reliability of these findings. While the results are statistically significant, it is important to consider the limitations of the Chi-Square test due to these low expected counts. Future analysis with a more

balanced dataset or alternative tests could provide more robust insights into this relationship.

Hypothesis #6: there is a significant relation between Role in Startup Ecosystem and the primary obstacles to the development of the startup

Table 4.13: Chi-Square Tests

		Role in Startup Ecosystem			Total
		mentor/advisor/ educator	user	inventor/ founder/co-founder	
What are the primary obstacles to the development of the startup	Regulations and funds	45.7%		48.0%	46.4%
	Skills	17.4%	100.0%	6.0%	12.4%
	Market /network/ monopoly	37.0%		46.0%	41.2%
Total		100.0%	100.0%	100.0%	100.0%

Commentary on the Crosstab: Primary Obstacles to Startup Development by Role in the Ecosystem

This table provides insights into how individuals in different roles within the startup ecosystem perceive the primary obstacles to startup development. The obstacles are categorized into **Regulations and Funds**, **Skills**, and **Market/Network/Monopoly**.

1. **Regulations and Funds**

- **Mentors/Advisors/Educators**: **45.7%** of respondents in this role identify regulations and funding as the primary obstacles. This reflects their broader perspective on the structural and systemic challenges that hinder startups.
- **Inventors/Founders/Co-founders**: Similarly, **48.0%** of this group also cites regulations and funds as the main barrier. Founders may experience these issues firsthand, such as difficulty securing funding and navigating complex regulatory environments.
- **Users**: This group is absent in this category, suggesting that they may not perceive or experience these challenges directly.

2. **Skills**

- **Mentors/Advisors/Educators**: **17.4%** of mentors identify a lack of skills as the primary obstacle. Their role often involves addressing this gap, which explains their heightened awareness of this issue.
- **Users**: **100.0%** of users consider skills the primary obstacle. This is likely because users assess the outcomes of startups (products/services), which may reflect skill deficiencies in execution or development.
- **Inventors/Founders/Co-founders**: Only **6.0%** of founders see skills as the primary obstacle, possibly because they are more focused on external barriers like funding and market access rather than internal capacity.

3. **Market/Network/Monopoly**

- **Mentors/Advisors/Educators**: **37.0%** of mentors identify market-related obstacles as significant. This may reflect concerns about startups' ability to scale or penetrate existing networks and monopolistic markets.
- **Inventors/Founders/Co-founders**: **46.0%** of founders see market, network, and monopoly-related issues as a major challenge, highlighting their struggles with competition, limited market opportunities, or monopolistic practices that stifle growth.
- **Users**: None of the users mention this category, suggesting that they may be less aware of market dynamics affecting startups.

Key Observations:

1. **Regulations and Funds** emerge as the most widely cited obstacle across roles, particularly among **mentors** and **founders**, indicating a systemic issue affecting startups at various stages.
2. **Skills** are primarily highlighted by **users** and **mentors**, reflecting their concerns about the quality and readiness of startups to meet market demands.
3. **Market/Network/Monopoly** is a notable concern for **mentors** and **founders**, underscoring the challenges of scaling in a competitive or restricted market environment.
4. There are differences in perceptions among roles. For instance:
    - **Users** are entirely focused on skills as an obstacle, possibly due to their position as consumers of startup outcomes.

- **Founders** and **mentors** emphasize broader structural issues like regulations, funding, and market dynamics.

Conclusion:

This analysis highlights how individuals in different roles within the ecosystem perceive obstacles differently based on their experiences and priorities. **Founders and mentors** tend to focus on external systemic barriers like regulations and market dynamics, while **users** emphasize the importance of skills, likely reflecting their direct interaction with startup products and services. This divergence in perceptions suggests the need for a multifaceted approach to addressing obstacles in the Palestinian startup ecosystem.

Table 4.14 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.174[a]	4	.038
N of Valid Cases	97		

The Chi-Square test evaluates the relationship between individuals' roles in the startup ecosystem (mentor/advisor/educator, user, inventor/founder/co-founder) and their perceptions of the primary obstacles to startup development. Here is the interpretation:

1. Pearson Chi-Square

- **Value**: 10.174
- **Degrees of Freedom (df)**: 4
- **Significance (p-value)**: 0.038
- **Interpretation**:

The p-value is less than 0.05, indicating a statistically significant relationship between the role in the startup ecosystem and the perception of primary obstacles. This means that the challenges perceived by mentors, users, and founders are not distributed uniformly and vary significantly based on their role. For example, users focus on skills, while mentors and founders emphasize regulations and funds.

The **Pearson Chi-Square** test indicates a statistically significant relationship between roles and perceived obstacles ($p = 0.038$). This suggests that individuals' roles shape their views on the primary challenges startups face.

Conclusion:

The Chi-Square test suggests a significant relationship between startup roles and perceptions of obstacles, but the reliability of these findings is limited due to low expected counts and inconsistent support from the likelihood ratio test. Future research with a larger and more evenly distributed sample could provide more definitive insights into these relationships.

Hypothesis #7: there is a significant relation between role in Startup Ecosystem and the support provided by incubators and accelerators in Palestine.

Table 4.15 : Chi-Square Tests

		Role in Startup Ecosystem			Total
		mentor/advisor/ educator	user	inventor/ founder/co-founder	
Rate the support provided by incubators and accelerators in Palestine	Average	39.1%	100.0%	30.0%	35.1%
	Excellent			4.0%	2.1%
	Good	19.6%		34.0%	26.8%
	No experience with incubators/accelerators			16.0%	8.2%
	Poor	41.3%		16.0%	27.8%
Total		100.0%	100.0%	100.0%	100.0%

Commentary on the Crosstab: Role in Startup Ecosystem and Ratings of Support from Incubators/Accelerators

This table explores how individuals in different roles within the Palestinian startup ecosystem—**mentor/advisor/educator**, **user**, and **inventor/founder/co-founder**—rate the support provided by incubators and accelerators.

Key Observations

1. **Average Ratings**:
   - **Mentor/advisor/educator**: The largest proportion of this group (**39.1%**) rated the support as "Average," indicating a moderate level of satisfaction with incubators and accelerators.
   - **User**: All respondents (**100.0%**) in this category rated the support as "Average," suggesting limited direct experience or a cautious perception.

- **Inventor/founder/co-founder**: Only **30.0%** rated the support as "Average," indicating a more mixed perception within this group compared to the other roles.

2. **Excellent Ratings**:

- Only **4.0%** of **inventor/founder/co-founder** respondents rated the support as "Excellent," and none from the other roles did. This reflects a general consensus that the quality of incubator and accelerator support is not outstanding across the ecosystem.

3. **Good Ratings**:

- **Mentor/advisor/educator**: **19.6%** rated the support as "Good," suggesting that while they acknowledge positive aspects, the support is not exceptional.
- **Inventor/founder/co-founder**: A significant proportion (**34.0%**) rated it as "Good," showing a relatively higher level of appreciation for the resources provided by incubators/accelerators compared to mentors.

4. **No Experience with Incubators/Accelerators**:

- A notable **16.0%** of **inventor/founder/co-founder** respondents reported having no experience with incubators or accelerators, suggesting gaps in accessibility or engagement within this critical group.
- No respondents from the other roles indicated a lack of experience, possibly reflecting their less direct involvement with these organizations.

5. **Poor Ratings**:

- **Mentor/advisor/educator**: The largest proportion (**41.3%**) rated the support as "Poor," reflecting dissatisfaction. This could be due to perceived inefficiencies or misalignment with the needs of this group.
- **Inventor/founder/co-founder**: **16.0%** rated the support as "Poor," indicating fewer negative experiences compared to mentors/advisors.

Key Insights:

1. **Role-Based Differences**:

- **Mentors/advisors/educators** appear to be the most critical of incubators and accelerators, with **41.3%** giving a "Poor" rating and only **19.6%** rating them as "Good." Their role may expose them to systemic shortcomings or inefficiencies in these programs.

- **Inventors/founders/co-founders** show a more balanced perspective, with **34.0%** rating the support as "Good" and **30.0%** rating it as "Average."
- **Users** have a narrow view, with all respondents giving an "Average" rating, possibly due to limited interaction or knowledge of these programs.

2. **Lack of Engagement**:
- The fact that **16.0%** of **inventors/founders/co-founders** reported "No experience with incubators/accelerators" suggests potential gaps in outreach or accessibility for those directly involved in building startups.

3. **Overall Dissatisfaction**:
- A significant proportion of respondents, especially mentors and educators, rated the support poorly (**27.8% overall poor ratings**). This indicates that there may be room for improvement in how incubators and accelerators address the diverse needs of the ecosystem.

Conclusion:

The perceptions of incubator and accelerator support vary significantly across roles in the startup ecosystem. While **users** maintain an "Average" view, **mentors/advisors/educators** are more critical, and **inventors/founders/co-founders** show a broader range of opinions, including some positivity. The findings highlight the need for incubators and accelerators to:

1. Engage more directly with mentors and educators to address their concerns.
2. Expand their accessibility and relevance to a greater number of founders and startups.
3. Improve the overall quality of support to shift perceptions toward "Good" or "Excellent" ratings across all roles.

Table 4.16 Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.112[a]	8	.014
N of Valid Cases	97		

Commentary on the Chi-Square Test Results

The Chi-Square test examines the relationship between the role in the startup ecosystem and the ratings of support provided by incubators and accelerators in Palestine. Here's an analysis of the findings:

1. Pearson Chi-Square Test:

- **Value**: 19.112
- **Degrees of Freedom (df)**: 8
- **Significance (p-value)**: 0.014
- **Interpretation**

The p-value is less than 0.05, indicating a **statistically significant relationship** between the respondent's role and their perception of incubator/accelerator support. This implies that individuals in different roles (e.g., mentors, users, founders) have distinct views on the quality of support offered by these programs.

Conclusion:

The Chi-Square results highlight a **significant but nuanced relationship** between the role in the ecosystem and perceptions of incubator/accelerator support. However, the violation of key assumptions (low expected counts) suggests caution in interpreting these results. Additional qualitative or alternative quantitative analyses might provide deeper insights into why perceptions differ by role and how support can be improved across the ecosystem

- **Interviews Analysis**

General Questions for All Stakeholders

1. **How would you describe the current state of the Palestinian startup ecosystem?**

The responses describe the Palestinian startup ecosystem as being in an early or growing stage, with similar themes and challenges frequently highlighted. Here's a summary with approximate percentages based on the themes:

1. **Early or Nascent Stage (50%)** Half of the respondents explicitly describe the ecosystem as being in its early stages or not yet mature. They emphasize the need for further structural, operational, and strategic improvements to reach a more developed stage.

2. **Challenges with Funding and Infrastructure (75%)** A majority note limited access to funding, inadequate infrastructure, and a need for better government or institutional support as primary obstacles.
3. **Growing Ecosystem with Promising Talent and Initiatives (50%)** Half of the responses recognize the growth in sectors like IT and tech, the dynamism of young entrepreneurs, and efforts by organizations like Intersect Innovation Hub, RISE Palestine, and Orange Corners Innovation Fund to strengthen the ecosystem.
4. **Global Potential with Local and International Connectedness (37.5%)** Three responses highlight the global potential of the ecosystem if it gains better access to international markets, expertise, and collaborations while fostering local connectedness and coordination.
5. **Need for Structural and Legal Frameworks (37.5%)** Three answers emphasize the necessity of stronger structural support, including mentorship, legal frameworks, and ecosystem design.
6. **Impact of Political and Economic Context (12.5%)** One response specifically mentions the significant influence of political and economic challenges on the ecosystem's development.

2. What are the most significant challenges startups are facing in Palestine today?

The responses identify several significant challenges faced by startups in Palestine. Here's a summary of the key themes and their approximate percentages based on frequency:

1. Limited Access to Funding (87.5%)

Nearly all responses emphasize the difficulty of securing financial resources such as venture capital, angel investments, or loans. Entrepreneurs often rely on personal or informal funding sources, which limits growth and scalability.

2. Political and Economic Instability (75%)

Three-quarters of the responses mention political challenges, including restricted movement, trade barriers, and economic uncertainty, as critical barriers to long-term planning, scaling, and market access.

3. Inadequate Infrastructure (62.5%)

Responses highlight infrastructure challenges such as unreliable internet, power outages, and limited access to co-working spaces or incubators. These issues disproportionately affect startups in Gaza and other underserved areas.

4. Market Access Barriers (62.5%)

Responses stress the difficulty of reaching regional and international markets due to trade restrictions, logistical challenges, and limited global networks. These factors hinder startups' ability to scale and achieve sustainability.

5. Gaps in Entrepreneurial Education and Mentorship (50%)

Half of the responses identify the need for practical entrepreneurial education, mentorship programs, and training to equip entrepreneurs with the skills required to succeed, such as financial management, marketing, and scaling strategies.

6. Regulatory and Legal Hurdles (50%)

Half of the responses cite complex regulations, high costs, and bureaucratic delays as barriers to starting and operating businesses. Entrepreneurs often face lengthy registration processes, high compliance costs, and a lack of supportive policies.

7. Talent Shortages and Skill Gaps (37.5%)

Responses mention the lack of talent in specialized fields like AI, fintech, and agritech as a significant constraint, alongside limited digital adoption among consumers and businesses.

8. Limited Networking and Collaboration Opportunities (37.5%)

Responses (1.3, 1.4, and 1.8) call for stronger internal and international networking opportunities, as well as better media coverage to promote entrepreneurship and celebrate success stories.

3. **How do you perceive the role of international partnerships in enhancing Palestinian startups?**

The responses highlight the importance of international partnerships in enhancing Palestinian startups, with some variations in emphasis. Here's a summary with approximate percentages based on recurring themes:

1. Importance of International Partnerships (100%)

All responses agree that international partnerships play a critical role in supporting Palestinian startups. They emphasize the value of access to global markets, funding, mentorship, and resources that are scarce locally.

2. Access to Global Markets and Networks (75%)

Three-quarters of the responses highlight that partnerships help startups enter global markets, expand their networks, and connect with resources and investments not readily available within Palestine.

3. Expertise, Training, and Knowledge Exchange (62.5%)

Responses stress the importance of knowledge exchange, mentorship, and technical training provided by international collaborators, which enhance local startups' competitiveness and innovation.

4. Addressing Local Challenges Through Global Support (50%)

Half of the responses note that international partnerships help bridge gaps in the local ecosystem by offering solutions to challenges like limited funding, inadequate infrastructure, and restricted market access.

5. Enhancing Credibility and Attracting Attention (25%)

Responses emphasize that international support boosts the credibility of Palestinian startups, making them more attractive to investors and increasing global interest.

6. Limitations Due to Political Challenges (12.5%)

One response (1.4) highlights the limitations and challenges faced by international partnerships due to political issues, which restrict the scope and effectiveness of collaborations.

For founders and entrepreneurs

1. Please walk us through the timeline of your startup, right from its origin to where it is now.

The responses detail diverse startup timelines with varying milestones and challenges. Here's a summarized breakdown with approximate percentages based on recurring patterns:

1. Ideation and Initial Setup (100%)

All responses begin with the ideation phase, where the startup concept is developed. This stage often includes initial proof-of-concept efforts and self-financing to get the business off the ground.

2. Early Growth and Validation (75%)

Three-quarters of the responses mention a phase focused on validating the idea, securing funding, and experiencing early growth. This phase typically involves testing the business model and building credibility.

3. Challenges and Pauses (50%)

Half of the responses highlight significant challenges, such as limited resources, external factors like the COVID-19 pandemic, or operational difficulties that caused setbacks or pauses in operations.

4. Expansion and Scaling (50%)

Half of the responses describe a phase of scaling up operations, entering new markets, or achieving milestones. This phase involves marketing efforts, global cooperation, or management buyouts.

5. Key Milestones and Achievements (25%)

One response explicitly detail reaching key milestones and achievements after several years of operation, reflecting long-term progress and success.

The timelines of startups follow common stages: **ideation and initial setup (100%)**, followed by **early growth and validation (75%)**. While some startups move on to **expansion and scaling (50%)** and achieve significant **milestones (25%)**, others face **challenges or pauses (50%)** due to external factors or resource constraints. This reflects a mix of growth trajectories and obstacles that shape the development of startups over time.

For Investors

1. **What are some attributes that entice you to invest in Palestinian startups despite the existing challenges?**

The responses highlight two primary attributes that make investing in Palestinian startups appealing:

1. Clear Regulations and Governance (50%)

Half of the responses emphasize the importance of a transparent regulatory framework and governance, which create a stable and predictable environment for investments.

2. Growth Potential and Impact Investing (50%)

The other half focus on the **early-stage nature of the Palestinian market**, particularly its ongoing digital transformation, which offers significant growth opportunities. Additionally, the unique positioning of Palestinian startups as vehicles for **impact investing**—combining social impact with financial returns—appeals to international investors and NGOs.

Investors are drawn to Palestinian startups primarily for two reasons: **clear regulations and governance (50%)**, and the **growth potential and opportunities**

for impact investing (50%). The combination of financial returns with meaningful social impact makes these startups particularly attractive despite the challenges.

2. Main Threats in Investing in the Palestinian Startup Ecosystem

The primary threats identified are:

1. **Political Issues (50%)**: Half of the responses highlight political instability as a significant threat, creating uncertainty and risks for investments.
2. **Market Positioning and Competitive Advantage (50%)**: The other half focus on the challenge of effectively positioning startups in the market and establishing a sustainable competitive edge.

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3. Opportunities to Strengthen the Startup Funding Space in Palestine

The key opportunities are:

1. **Highly Qualified Human Resources (50%)**: Half of the responses emphasize the presence of skilled professionals as a strong asset for the ecosystem.
2. **Specialized Academic Expertise (50%)**: The other half point to the high number of postgraduate and degree holders with specialization in various technologies, which can drive innovation and attract investors.

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4. Potential Impact of International Collaborations on Advancing the Palestinian Technology Industry

The responses highlight three primary impacts:

1. **Cost-Effective Solutions (33%)**: International collaborations can provide innovative and cost-efficient solutions tailored to local and regional needs, as exemplified by solutions like Wasfaty for Saudi Arabia.
2. **Access to Financial Resources (33%)**: Collaborations often bring grants, venture capital, and impact investments, addressing funding gaps for startups.
3. **Global Scalability (33%)**: Partnerships with global investors enhance the ability of the Palestinian tech industry to scale operations and compete in international markets.

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5. Policies or Government Initiatives for a Conducive Startup Investment Environment

The responses suggest key initiatives:

1. **Clear and Updated Regulatory Portal (50%)**: Half of the responses emphasize the importance of creating a transparent and accessible portal for regulations.
2. **Comprehensive Legal and Strategic Frameworks (50%)**: Suggestions include:
   - Developing a startup-focused legal framework.
   - Strengthening intellectual property (IP) protection.
   - Encouraging public-private partnerships (PPPs).
   - Facilitating access to global markets to attract investment and enhance growth opportunities.

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6. Role of AI and Innovation in Overcoming Investment Challenges

The responses emphasize the **significant role** of AI and innovation in addressing investment challenges. Key points include:

- **High Impact**: AI is regarded as a transformative tool for overcoming obstacles in efficiency, scalability, and problem-solving.
- **Practical Applications**: AI technologies, such as Machine Learning (ML), are actively used to drive innovation and optimize processes.

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7. Contribution of the Diaspora to Palestinian Startup Development

The responses reflect two perspectives:

1. **Limited Contribution (50%)**: Half of the responses acknowledge that the diaspora's role in supporting startups remains constrained.
2. **Experts and Resources (50%)**: The other half highlights the diaspora's potential as a source of **expertise and financial resources**, which can support the ecosystem's development.

<u>For Policy Makers</u>

1. Actions Taken to Encourage Startup Culture in Palestine

Participants emphasize the role of **workshops, seminars, and conferences** in fostering entrepreneurial thinking and innovation.

- **Hands-on Activities**: Conducted entrepreneurship workshops and capacity-building programs.
- **Mentorship**: Provided mentorship opportunities and facilitated connections with industry experts and investors.

2. Recommended Policy Changes to Foster Startup Development

Key recommendations focus on addressing systemic barriers and creating a supportive ecosystem:

- **Funding Initiatives**: Establish dedicated grants and investment funds for startups.
- **Legal Framework**: Develop a startup-focused legal framework to streamline processes.
- **Simplify Bureaucracy**: Reduce complexities in business registration and licensing processes.
- **Mentorship Support**: Incentivize programs that connect entrepreneurs with mentors.

3. Role of Educational Institutions in the Startup Ecosystem

Educational institutions are envisioned as catalysts for entrepreneurship through practical and strategic efforts:

- **Skill Development**: Provide practical, hands-on entrepreneurial training to students.
- **Collaboration**: Establish partnerships with local businesses for workshops, internships, and consultancy.
- **Innovation Centers**: Develop specialized centers to foster creativity and build capacity.

4. State's Role in Integrating Local Startups and External Players

The state can play a pivotal role by fostering connections and providing support:

- **Facilitation**: Host networking events and create platforms for startups to collaborate with external players.
- **Incentives**: Provide financial incentives for foreign investors to engage with local businesses.
- **Diplomatic Channels**: Strengthen integration through enhanced embassy cooperation.

5. Measures to Engage the Diaspora in Economic Activity

Engaging the diaspora is seen as a significant opportunity for growth and investment:

- **Platforms for Investment**: Create accessible platforms for diaspora members to invest in startups and businesses.

- **Showcasing Opportunities**: Organize events highlighting local investment and collaboration prospects.
- **Resource Utilization**: Leverage diaspora contributions, including expertise, academic knowledge, and financial resources, to boost the ecosystem.

Questions for Representatives of Incubators and Accelerators

"What are the most common areas in which startups seek support?"

1. **Funding**: The most frequently mentioned area, with startups seeking financial resources for growth and operations (~80%).
2. **Networking and Connections**: Emphasis on building relationships with industry players, larger companies, and potential customers (~60%).
3. **Market Access**: Startups seek support in entering new markets, including participation in international exhibitions, fairs, and events (~50%).
4. **Skill Development**: Developing technical skills to work with international companies and adopting modern technologies and best practices (~40%).
5. **Mentorship and Business Strategy**: Guidance in areas like product development, financial modeling, and business strategy (~30%).
6. **Operational Support**: Assistance with legal and HR matters, crucial for early-stage startups (~20%).
7. **Customer Acquisition and Digital Marketing**: Support in reaching customers and implementing marketing strategies (~20%).

2. How do you evaluate the level of collaboration between startups within Palestine?

- **Overall Evaluation**: The general consensus is that **collaboration is poor or limited** among startups in Palestine (~80%).
- **Reasons for Limited Collaboration**: Entrepreneurs often focus on individual growth due to resource constraints and lack of structured networking opportunities (~60%).
- **Potential for Improvement**: There is a recognition that if structured events and networking opportunities were more available, collaboration could be significantly improved (~50%). Some programs, like cohort-based incubations

(e.g., STIR), have shown promise in fostering peer learning and collaboration (~30%).

3. What role do international partnerships play in providing mentorship and funding opportunities?

- **Role of International Partnerships**:
  - International partnerships are **critical for mentorship**, offering **global knowledge exchange** and access to **industry-specific expertise** (~70%).
  - They also provide **funding opportunities**, including grants and investment programs, which are vital for scaling startups (~50%).
- **Challenges in Palestine**: While some partnerships exist for well-established companies, **most startups lack access to such international connections**, limiting their potential to benefit from these opportunities (~40%).
- **Effectiveness of International Partnerships**: Partnerships like **OCIF** and others have been recognized as valuable for connecting local startups to foreign markets and mentors (~30%).

4. How can incubators better support startups in scaling up internationally?

- **Key Areas for Improvement**:
  - **Networking** and **training** on international best practices and technologies are seen as essential for helping startups scale globally (~60%).
  - Incubators can better connect startups with **global accelerators** and **investors** and provide guidance on **market entry** and regulatory issues (~50%).
- **Targeted Programs**: Incubators should consider **soft-landing programs** and organizing **international demo days** to connect startups with global clients and investors (~40%).

5. What role do AI and innovation play in overcoming the existing challenges faced by your business?

- **Cost Efficiency**: AI and innovation are viewed as key tools for reducing **costs** and **human resource expenses** (~100%), making them essential for overcoming resource constraints and improving operational efficiency.

<u>Questions for Representatives of the Palestinian Diaspora</u>

1. **How engaged are diaspora communities in supporting the Palestinian startup ecosystem?**

I think its limited, and there is no advertising about their efforts.

2. **What role do you think diaspora funding can play in the growth of Palestinian startups?**

I think there are two areas can support:

0. **Financial support, with clear definition for ROI.**
1. **Domain experience: through provide consultations sessions or knowledge transfer sessions.**
3. **What challenges exist in fostering stronger ties between the diaspora and local startups?**

There is no clarity for governance

4. **How can the expertise and networks of the diaspora be leveraged more effectively?**

More advertising about their efforts and share success stories.

<u>Questions for International Partners</u>

1. **What potential do you see in the Palestinian startup ecosystem?**

The Palestinian startup ecosystem holds significant potential due to several factors:

1. **Young Population**: With a large proportion of young, educated, and tech individuals, there is a strong foundation for innovation and entrepreneurship.
2. **Emerging Sectors**: There is growing interest and development in areas like fintech, e-commerce, and renewable energy, which align with global trends and demand.
3. **Resilience and Creativity**: Entrepreneurs in Palestine often demonstrate remarkable resilience and creativity in overcoming local challenges, leading to unique solutions.
4. **Increasing Support**: The rise of local incubators, accelerators, and international partnerships is fostering a supportive environment for startups.
5. **Untapped Markets**: There are opportunities to serve both local and regional markets, as well as the potential to cater to the Palestinian diaspora.

2. **What are the barriers to international investment in Palestinian startups, and how do you think they can be addressed?**

Barriers to international investment in Palestinian startups include:

1. **Political Instability:** Ongoing conflict and political uncertainty deter foreign investors due to perceived risks.

2. **Regulatory Challenges:** Complex legal and regulatory frameworks can create obstacles for investors, making it difficult to navigate the investment landscape.
3. **Limited Market Access:** Restrictions on movement and trade can limit the scalability of startups, making them less attractive to investors.
4. **Lack of Awareness:** There is often a lack of awareness among international investors about the potential of Palestinian startups and the opportunities available.
5. **Infrastructure Limitations:** Insufficient infrastructure, including unreliable internet and power supply, can hinder business operations and deter investment.

Addressing These Barriers

1. **Improving Political Stability**: out of control so far.
2. **Streamlining Regulations:** Simplifying the regulatory framework and creating clear guidelines for foreign investors can reduce uncertainty and attract more capital.
3. **Enhancing Infrastructure:** Investment in infrastructure development, including tech hubs and reliable utilities, can improve operational conditions for startups.
4. **Awareness Campaigns:** Promoting success stories and potential investment opportunities in Palestine can help raise awareness among international investors.
5. **Building Networks:** Establishing connections between local startups and international investors through events and partnerships can facilitate investment opportunities.

3. How does your organization support Palestinian startups regarding funding, mentorship, or networking?

My organization supports Palestinian startups through various initiatives:

1. **Mentorship Programs**: We offer mentorship from experienced entrepreneurs and industry experts who guide startups in refining their business models, strategies, and operations.
2. **Networking Events**: We organize networking events and workshops that connect startups with potential investors, partners, and other entrepreneurs, fostering collaboration and knowledge sharing.
3. **Training and Workshops**: We conduct training sessions on essential skills such as business development, marketing, and financial management to help entrepreneurs build robust businesses.

4. **What policy changes would you recommend to improve the investment climate in Palestine?**

To improve the investment climate in Palestine, the following policy changes are recommended:

1. **Simplify Regulatory Frameworks**: Streamline business registration and licensing processes to make it easier for startups and foreign investors to enter the market.
2. **Enhance Legal Protections**: Strengthen intellectual property rights and contract enforcement to build investor confidence and protect their investments.
3. **Establish Incentives for Investors**: Introduce tax breaks, grants, or subsidies for local and foreign investors to stimulate investment in key sectors.
4. **Promote Stability and Security**: Work towards enhancing political stability and security to reduce perceived risks associated with investing in Palestine.
5. **Invest in Infrastructure**: Prioritize investment in essential infrastructure, such as reliable internet and transportation networks, to support business operations.
6. **Facilitate Access to Markets**: Work on improving trade relations and access to regional and international markets to expand opportunities for Palestinian businesses.
7. **Encourage Public-Private Partnerships**: Foster collaboration between the government and private sector to leverage resources and expertise for economic development initiatives.
8. **Support Innovation and R&D**: Implement policies that encourage research and development, innovation hubs, and technology transfer to drive growth in emerging sectors.

<u>For Mentors and Support Organizations</u>

1. What is your opinion on the prevailing mechanisms of support for startups in Palestine?

- **Limited and Underdeveloped Support** (~60%):
  - Several respondents describe the **current support mechanisms as limited** and in need of improvement. The **lack of sufficient resources** and **expansion** of existing initiatives is a common theme. These mechanisms are seen as insufficient to effectively nurture and sustain startups.

- **Role of International Agencies** (~30%):
  - **International agencies** such as **GIZ**, **USAID**, and the **World Bank** are recognized as providing essential **funding**, **training**, **capacity-building**, and **market access**. These organizations play an important role in supporting Palestinian startups, but the local mechanisms are still lacking in comparison.
- **Lack of National Coordination and Strategy** (~50%):
  - The overall opinion is that there is a **lack of a nationwide support mechanism** and **strategy**. Some responses highlight a **lack of mentorship** and challenges in raising funds or attracting investment. This points to systemic gaps in the support ecosystem.
- **Positive Foundations but Need for Improvement** (~40%):
  - While respondents acknowledge that some incubators and accelerators have established a **good foundation** for entrepreneurial growth, there is a strong call for **tailored programs** addressing sector-specific needs. The emphasis is also on **more extensive funding** and **international market connections**.
- **Need for Long-Term and Structured Support** (~50%):
  - Many responses stress the **lack of structured, long-term support**. While there are programs for early-stage startups, there is insufficient assistance for scaling up. Respondents advocate for **outcome-oriented**, **continuous mentoring** programs and **flexible funding options**.

In your opinion, you think what types of mentorships or training are very urgent and needed in Palestine?

The responses to the question about the most urgent types of mentorships and training needed in Palestine emphasize several key areas. Here's a summary with approximate percentages based on recurring themes:

1. **Business Management and Planning (80%)** A large majority of respondents highlight the need for training in **business management**, **strategic business planning**, **financial planning**, and **market access strategies**. These are considered critical for developing sustainable businesses, navigating challenges, and competing internationally.
2. **Digital Skills and Technology (60%) Digital marketing**, **technology skills**, **digital transformation**, and **AI integration** are mentioned in multiple responses. This indicates a strong need for **technology and digital skills development** to improve entrepreneurs' competitiveness and innovation potential.

3. **Market and Fundraising Skills (60%) Fundraising skills**, **market penetration strategies**, and **market validation** are urgent areas for training, as entrepreneurs often struggle with securing funding and expanding their market presence. There is a consistent focus on developing **skills to attract investors** and penetrate international markets.
4. **Legal and Compliance (40%)** Respondents indicate a need for **legal frameworks**, **compliance training**, and **international standards** to ensure businesses meet regulatory requirements and operate within legal boundaries.
5. **Resilience and Risk Management (40%) Risk management** and **resilience-building** are also seen as urgent, particularly due to the unique political and economic challenges in Palestine. Training in these areas would help entrepreneurs navigate instability and other challenges effectively.

How important is networking for startup success, and how can entrepreneurs in this area improve their networking skills?

The responses emphasize the importance of networking for startup success, with several key themes emerging. **Networking is widely considered critical** for building connections, gaining insights, and accessing resources such as investors, customers, and collaborators. Around **80% of the answers** highlight that networking helps startups tap into external markets and opportunities, which are often limited for Palestinian entrepreneurs.

To improve networking skills, several responses suggest **attending industry events** and **joining professional platforms like LinkedIn**. **Engaging in mentorship programs** and **leveraging diaspora networks** are also frequently mentioned as ways to expand one's network. **Participating in pitch events** and **collaborating through virtual meetups** were also emphasized by some answers.

A smaller portion of the responses (1.2) diverged from the focus on networking, with an emphasis on **marketing, branding, and sales**. This answer was an outlier and did not align directly with the main theme of networking but suggests an indirect way networking supports startup success.

How would you explain the contribution of your organization to the startups that you are concerned with?

The answers provided highlight several key ways in which organizations contribute to startups. A majority of the responses focus on mentorship, training, and networking opportunities:

Mentorship, training, and networking are consistently emphasized across answers. About 40% of the responses (1.1, 1.3, and 1.4) mention these elements, indicating that providing support through expertise and connections is a primary form of contribution.

Incubation and funding opportunities are also commonly mentioned, with 40% of the responses (1.4 and 1.5) discussing these aspects. Organizations provide structured programs and access to financial resources to help startups grow.

Consultancy and capacity-building are highlighted in response 1.2, which adds a focus on workshops and specialized support, contributing a smaller but notable percentage (20%).

In your opinion, where would ventures range, and where does the importance of mental health and well-being support for entrepreneurs lie? Are enough measures undertaken to achieve the return?

The responses highlight a shared concern about the importance of mental health and well-being support for entrepreneurs, particularly in the Palestinian startup ecosystem.

- **Mental Health Importance**: All responses emphasize that mental health is critical for entrepreneurs, mentioning its role in resilience, decision-making, stress management, and productivity. For instance, answers like 1.1, 1.4, and 1.5 agree on the need for such support for long-term success and a healthier entrepreneurial journey. **(50% of the responses)**.
- **Lack of Sufficient Support**: Several responses point out that while mental health awareness is growing globally, the Palestinian ecosystem still lacks sufficient, structured support for entrepreneurs. Responses 1.2 and 1.4 mention a need for specialized programs, such as counseling or stress management workshops, which are not yet common. **(40% of the responses)**.
- **Need for Structured Initiatives**: Answers like 1.4 and 1.5 discuss the importance of having more formalized, consistent programs tailored to entrepreneurs' mental health, such as initiatives that focus on work-life balance and stress management. **(30% of the responses)**.

- **Limited Responses or No Opinion**: Response 1.3 mentions not being able to answer the question, which adds a small portion of non-engagement or uncertainty in the data. **(10% of the responses)**.

Summary of interviews:

General Questions for All Stakeholders

In summary, **the Palestinian startup ecosystem is widely seen as growing but still in an early stage (50%), facing significant challenges with funding and infrastructure (75%), while benefiting from promising talent and growing support initiatives (50%).** Many respondents see global potential (37.5%) and highlight the need for stronger frameworks and better collaboration to overcome these challenges.

The most significant challenges faced by Palestinian startups include **limited access to funding (87.5%)**, **political and economic instability (75%)**, and **inadequate infrastructure (62.5%)**. Additional barriers include **market access (62.5%)**, gaps in **education and mentorship (50%)**, and **regulatory hurdles (50%)**. Addressing these issues will require coordinated efforts across public, private, and international sectors to create a more supportive and enabling environment for entrepreneurship.

International partnerships are perceived as essential (100%) for the growth of Palestinian startups. They provide critical benefits, including access to **global markets and networks (75%)**, expertise and mentorship (62.5%), and solutions to local challenges (50%). Additionally, they enhance startups' credibility (25%), although political challenges (12.5%) remain a limiting factor. Strengthening these partnerships is seen as a key strategy for fostering resilience, innovation, and international competitiveness in the Palestinian startup ecosystem.

For founders and entrepreneurs

The timelines of startups follow common stages: **ideation and initial setup (100%)**, followed by **early growth and validation (75%)**. While some startups move on to **expansion and scaling (50%)** and achieve significant **milestones (25%)**, others face **challenges or pauses (50%)** due to external factors or resource constraints. This reflects a mix of growth trajectories and obstacles that shape the development of startups over time.

For Investors

Threats: The ecosystem's primary challenges include **political instability (50%)** and difficulties in achieving **market positioning and competitive advantage (50%)**.

Opportunities: The ecosystem benefits from **highly skilled human resources (50%)** and a pool of **technologically specialized graduates (50%)**, offering potential for growth and innovation.

Impact of International Collaborations: International partnerships enhance the Palestinian tech industry by offering **cost-efficient solutions (33%)**, bringing **funding opportunities (33%)**, and improving **global scalability (33%)**.

Government Initiatives: Creating a conducive environment for startups requires **transparent regulatory systems (50%)** and implementing **strategic policies (50%)** such as legal reforms, IP protections, and fostering public-private and global collaborations.

AI and Innovation: AI plays a **highly impactful role** in overcoming investment challenges, with technologies like ML being actively implemented to foster growth and efficiency.

Diaspora Contribution: The diaspora's role is split between **limited current involvement (50%)** and its **potential to provide expertise and resources (50%)** to enhance the Palestinian startup ecosystem.

For Policy Makers

Efforts to foster a thriving startup culture in Palestine include workshops, capacity-building programs, and mentorship initiatives to enhance skills and connect entrepreneurs with experts and investors. Policy recommendations emphasize funding initiatives, simplified legal and bureaucratic processes, and expanded mentorship programs. Educational institutions play a key role through hands-on training, business collaborations, and innovation hubs. The state is encouraged to enhance global connectivity via networking events, investment incentives, and diplomatic support. Engaging the diaspora through investment platforms, showcasing opportunities, and leveraging their resources is also seen as vital. These actions collectively aim to establish a robust and interconnected startup ecosystem in Palestine.

Questions for Representatives of Incubators and Accelerators

Startups in Palestine commonly seek support in areas like funding (80%), networking and connections (60%), market access (50%), and skill development (40%). Mentorship, operational assistance, and customer acquisition are also important but less prioritized. Collaboration among startups is generally limited (80%), hindered by resource constraints and a lack of networking opportunities, though structured initiatives like cohort-based incubators have shown promise (30%). International partnerships play a vital role in providing mentorship (70%) and funding (50%) but remain inaccessible to many startups (40%). Incubators could improve their support by focusing on global networking, market entry guidance, and organizing international demo events (50-60%). Finally, AI and innovation are critical for cost efficiency and overcoming operational challenges (100%), making them indispensable tools for growth and scalability.

Questions for Representatives of the Palestinian Diaspora

Diaspora engagement in supporting the Palestinian startup ecosystem is currently limited, with little visibility or advertising of their contributions. Diaspora funding could play a significant role in two key areas: financial support with defined ROI expectations and domain expertise through consultation and knowledge transfer sessions. However, challenges such as a lack of clear governance hinder stronger ties between the diaspora and local startups. To leverage diaspora expertise and networks more effectively, increased promotion of their efforts and sharing success stories are essential.

Questions for International Partners

The Palestinian startup ecosystem demonstrates significant potential driven by a young, educated population, emerging sectors like fintech and renewable energy, and increasing local and international support. However, barriers such as political instability, regulatory challenges, limited market access, and infrastructure deficiencies hinder its growth. Addressing these requires streamlined regulations, infrastructure development, awareness campaigns, and fostering international connections. Organizations play a vital role by providing mentorship, networking opportunities, and skill-building workshops. Policy recommendations to enhance the investment climate include simplifying regulatory frameworks, enhancing legal

protections, offering investor incentives, and promoting stability, innovation, and public-private partnerships to foster a robust and scalable ecosystem.

For Mentors and Support Organizations

The prevailing support mechanisms for startups in Palestine are generally viewed as **incomplete** and **inefficient**. While international organizations are playing a key role, there is a significant need for more **national coordination**, **long-term structured support**, and **sector-specific programs** to foster startup growth across all stages.

The most urgent types of **mentorships and training in Palestine** are in **business management and planning** (80%), with a strong emphasis on **digital skills and technology** (60%), as well as **fundraising** and **market access** (60%). There is also a significant need for **legal and compliance training** (40%) and **resilience-building** to tackle the specific challenges of operating in Palestine (40%). These areas are crucial for fostering a robust entrepreneurial ecosystem.

The contributions of organizations to startups revolve around providing access to mentorship, training, networking, and incubation programs, with a significant emphasis on funding and international connections. These services help startups navigate both local and global challenges while aiming for sustainable growth.

80-90% of responses focused on networking as essential for startup success, with **industry events**, **digital platforms**, and **mentorship programs** as key recommendations to enhance networking skills.

Most respondents acknowledge the vital role mental health plays in entrepreneurial success but agree that current measures are insufficient, and more structured support is needed to address the mental health challenges faced by entrepreneurs in the Palestinian startup ecosystem.

Overall findings on the Questionnaire and Interview Responses

Profile of Interviewees

Interviews featured several key actors in the Palestinian startup ecosystem, including entrepreneurs, investors, policymakers, educational institutions, movements, and international organizations. Such sampling provided round information concerning the ecosystem's strengths, weaknesses, and opportunities. It was ascertained that most of the entrepreneurs were young, aged mostly less than 35 years old, and had backgrounds in IT, technology, and social entrepreneurship. Participants of the

industry were local and foreign investors who were financing start-ups, while the Ministry of Education also provided its views of the regime that governs educational technology. Among the participants were also NGOs and support groups, including the Intersect Innovation Hub and Orange Corners Innovation Fund, which, on a regular basis, aid in the enhancement of the ecosystem.

This research focuses on the interviews and attempts to summarize them into 10 principal dimensions.

1. Incipient Ecosystem Phase

While there have been claims by the interviewed stakeholders that the ecosystem is continuously growing, much progress still needs to be made as far as operating and structural improvements are concerned.

2. Financial Obstacles

Insufficient funding from investors, venture capitalists, and loan sources is a major challenge, and it restricts expansion and extension.

3. Political and Economic Instabilities

Compounding this situation are the political limitations on these businesses and the economic risk, which both influence the operation and growth of these businesses.

4. Infrastructure Deficiencies

While development in working space and reliable internet connectivity is concerned, noticeable changes are considerably lacking, especially in less developed areas.

5. Constraints on Market Access

Trade restrictions and geographical position impede young businesses from penetrating regional and international markets.

6. The Challenges Posed by the Lack of Education and Mentorship in Entrepreneurial Endeavors.

Available practice in areas such as coaching and skills abundance in finance and scaling seems to not be enough, thus requiring more learning.

7. Regulatory and Legal Obstacles

Regulation inhibiting horizontal integration and focusing on consolidated legal frameworks tends to increase costs as well as the time required to pass through various stages which discourages a number of entrepreneurs.

8. Shortage of Competent and Skilled Individuals

Their inability to acquire relevant talent makes it difficult for them to excel in areas such as AI and fintech.

9. Social Activity and Communication

In order to enhance innovation and resilience, better integration and internal communication with external networks is required.

10. Key Participants

Such collaborations are important since they offer funding, know-how, and market opportunities while at the same time responding to local issues.

Researcher's Perspective

The established analysis underscores the fact that the evolution of start-up ecosystem in the Palestinian territories is in its infancy stage but appears limited in some aspects. In spite of certain growths witnessing expansion, especially in technology, the interplay of systemic growing dysfunctions, which include funding deficits, lack of infrastructure, and political instability, calls for rather drastic measures. As such, improving the education of entrepreneurs, improving national laws, and enhancing international cooperation would be vital for the growth of this ecosystem. The interviews point out a positive side of developing Palestinian ventures, that is, their creativity and resilience; nevertheless, for sustainable development, these primary challenges must be tackled collectively by all actors. It is important to cite that the occupation as an apartheid system is, on its own, a significant obstacle for Palestine in general and the startup ecosystem, specifically. The core assumption in this research is to offer workaround solutions to decrease the challenges of occupation and suppression.

Analysis of Key Findings

Nascent Ecosystem Stage

Based on Israel's experience in the Yozma program (Avnimelech & Teubal, 2006), Palestine may also initiate similar programs but on a more targeted basis within the given socio-political context. Such initiatives could entail the creation of state-sponsored venture capital firms, the construction of technology parks, and the alteration of the educational sector to promote entrepreneurial culture from the bottom. The emphasis should be on both fostering a legal and financial structure that protects the interests of the investors that promote the investment as well as offering help to young entrepreneurs.

Funding Challenges:

Strategic Interventions: Developing a domestic and global crowdfunding and microfinance ecosystem will likely be key to doing this. It would be creating products that would be socio-economically relevant and which would possibly use some diaspora social networks. Some of these could be not only a source of finance but also much-needed social endorsement and support in the much-disadvantaged culture of little or no traditional investment funding. In addition, setting up a fund for impact investments could also draw international investors who are interested in profits and contributing positively to society while exploiting the resilient and innovative stories of Palestinian entrepreneurs.

Political and Economic Instabilities

Resilience Building: Establishing a 'Startup Resilience Fund' may help in avoiding disruptions in business financing when there is a political crisis. This fund would be in operation on the same tenets as those in areas that are also subject to natural or economic disasters (UNCTAD, 2015), thus offering emergency grants or deploying loans. Working with global financial institutions could guarantee a fund's ongoing operations and provide a blend of resilience education, business continuity strategies, and even insurance policies tailored for start-ups in war-torn regions.

Infrastructure Gaps

Cross-Sector Synergy: A coordinated effort from the Palestinian Authority, commercial players, and international technological development agencies could help the region implement a digital leap similar to that of Estonia (Breslauer & Charles, 2017). This means that what is needed is not merely an overhaul of the basic infrastructure but also the development of a digital economy through education, policy incentives to stimulate the growth of digital businesses, and the establishment of creative spaces such as technological centers for entrepreneurship.

Market Access Limitations

Technological and Policy Solutions: Blockchain technology has the potential to facilitate secure and immutable transactions that could create new markets. In addition, there is the possibility of lobbying for economic zones or trade agreements under PPPs that could be an answer to economic restrictions that sought successful models in the Middle East. This would involve all that pertains to policy changes and,

more so, policymakers teaming up with diplomats to fill gaps between Palestine and the trading nations correctly.

Education and Mentoring

Educative Revolution: In this context, the extension of the 'Tech Circles' (Canadians for Tech in Palestine, 2021) program should imply international bridging of academia and industry practice. This includes embedding entrepreneurial education in the academic programs, establishing a mentorship system in which entrepreneurs of experience mentor beginners, and organizing cooperative education programs that link students with their local employments. Such reforms would mean the transformation of people to become not only employees but developers of new business startups.

Politico-Legal Barriers

Mainstreaming Public-Private Partnerships through Legal Changes: An ideal example for such policymaking could be adopted from Singapore's pace for legislative changes (Koh & Tan, 2019). This could include establishing a startup-friendly legal environment' where new business ideas can be experimented with lesser regulations on the ordinary market principles. Such reforms would present a need to engage policy designers, lawyers, and business people in making laws that are restrictive but not overly so in many ways.

Human Capital Development

Talent Remediation and Talent Development: Mohamed bin Zayed Artificial Intelligence University (Almarabeh et al 2020) type institution specific to the Palestinian environment could be funded and established. This institution would emphasize not only education but also real work experience through research centers, incubators, and the industry itself, making sure that graduates are either fully employable or entrepreneurs in the technology industry.

Human Capital Development

Networking Gaps: Networking could also be developed with the help of government and private sectors through regular dry runs and well-organized events such as hackathons, meet-ups, or even international tech expos. These should be designed to

link Palestinian business people with each other and with international ones, possibly through non-physical platforms that have similar functions as the ones in Dubai's Future Accelerators (Al-Khouri, 2020).

Global Competitiveness

Strategic Alliances via PPPs: Also, building structured programs for entry into the international market that include the government or trade mission endeavors is likely to be vital. These would scope out start-ups looking for global investors, companies, and mentors while studying how Singapore internationalizes strategically (Goh & Ho, 2020). Such partnerships would have to be flexible in light of the political situation and aim at providing resources and bringing in knowledge and market intelligence.

Chapter Five: Conclusions, Summary, and Recommendations

5.1 Overview

This chapter highlights the recommendations and suggestions based on the analysis of the Palestinian startup ecosystem as seen in the previous chapter. It shows the *potential* of the role of startups in achieving financial self-sufficiency, increasing the level of innovation, and stimulating the development of the socio-economy of Palestine over the long term. At the same time, this chapter has used qualitative and quantitative data plus comparative approaches with models in other parts of the world to highlight the crucial observations. All such resources used in this research are useful for the recommendations made here, that also benefited from the experiences of neighboring Arab states and other international models. This chapter concludes with a key suggestion for building a model for a startup ecosystem that could ultimately lead to Palestine as 'Real Startup Nation.'

5.2 Study Results

Throughout this research, the findings indicate that although the Palestinian startup space is in its infant stage, it has a lot of room to grow. The Palestinian Territory is amid political unrest and a lack of up-to-date resources or funding. Still, the presence of the Palestinian Diaspora and its ventures in Palestine, combined with local private sector investors has a great potential to grow the economy. Below is a consolidated insight of the research conducted:

1. Palestinian economic boost through the gaps in the market

Economic Self-Reliance: The survey illustrates that 72 percent of respondents said an improvement in infrastructure and better access to more funding will ensure Palestine to become more competitive globally and will decrease its dependency on foreign aid.

Gaza success stories: It is of no surprise that Gaza innovation hubs finding success against all odds has paved the way for Gaza Sky Geeks, further establishing that with the proper support and mechanisms in place, the ecosystem has the potential to excel.

2. Lack of Palestinian Government support and startup guidelines

81 percent of the respondents in the survey reported the lack of legal policies specifically for startups as a challenge to the ones who want to succeed. Coupled with the painstaking bureaucratic procedures, the ones in the startup sector are essentially handcuffed.

Need for Legal Reform: Stakeholder interviews stressed the necessity of having less complicated and more transparent legal processes such as those needed for business registration, protection of intellectual property, and protection of investors.

3. **Education and Skills Development Skills Gaps**

It was found that entrepreneurs who possessed academic qualifications for business and technology were 60% better than those without any formal education and training.

University-Industry Collaboration: The participants suggested that university and industry players work together to fill existing skill gaps with respect to aspiring entrepreneurs' expectations of a perfect blend of technical and business skills.

4. Role of the Diaspora and International Partnerships

Funding, mentoring, and market opportunities for Palestinian start-ups are partly provided by the Palestinian diaspora, and this partnership is observable through diaspora initiatives such as venture capital funds that are aimed at backing Palestinian entrepreneurs.

5. Role of the Private Sector and International Donors

Partnership Potential: Private sector and international actors engaged in development are always prepared to compete for market opportunities, including funds, technical and professional assistance, and business growth opportunities.

Support for Women and Marginalized Groups: The need to improve female representation in the start-up ecosystem was stressed by taking initiatives to develop capacity support programs together with appropriate funding schemes for women entrepreneurs.

5.3 Discussion of Results

The outcomes of this study corroborate with the goals and scope of the research, which has been developed with the premise of policy, education, and fostering an effective ecosystem as being beneficial to the growth of startups. Since the results are based on the collective understanding of the work, the following sections discuss the principal conclusions reached by the research undertaken:

1. Achievement of Study Objectives

The research highlighted the main factors that enable and inhibit the growth of startups in Palestine. The enablers of startup growth were found to be in areas such as education, access to finance, legal support, and participation of the private sectors. On the other hand, the inhibitors consisted of a lack of proper infrastructure, limitations on market interfaces, and inadequate provision of equity for women and other disadvantaged entrepreneurs.

The analysis confirmed that a united and well-organized startup ecosystem could aid the Palestinian economy towards greater development alongside more independence from aid and an elevated socioeconomic capacity.

2. Theoretical framework relevance

Findings support the theoretical orientation of the research hypothesis on the main pillars of sustained growth by the balance of key factors, such as: ‘National policy, education, infrastructure, funding, Access to market and practical integration of development and growth of the ecosystem. These pillars guarantee and ensure sufficient human capital, supportive entrepreneurial system, and full funding resources for the set long-term objectives.

3. Lessons Learned: Global Case Studies in Contrast

Comparative evaluation of the ecosystems of Israel, Estonia, United Arab Emirates, Saudi Arabia and Singapore yielded essential lessons for Palestine. For example, Estonia´s e-residency can be utilized to bypass geographical and logistical constraints, and the cooperative model of Singapore. Such successful model can be used to inform fare ownership and shared growth in Palestinian ventures.

5.4 Summary and Recommendations Overview

Palestinians are fighters and are the people. Similarly, the universities, the Palestinian diaspora, the donors, the accelerators, and the incubators have also fueled that resilience. There is always this sense of entrepreneurship in Palestine that imbues this country from surrendering to any political factors or dearth of funding or legal factors as any other nation would experience due to such issues as occupation.

The existence of limitations on the start-up sandbox is a problem, as the analysis indicates, since there is a limit to some extent on the usefulness of some of the startup services or the efficient combination of tools and processes that a start-up nation needs to qualify.

Such a plan should include, among other things, the development of new laws, the allocation of funds, the new laws that would reform education and other areas, infrastructure and hardware and software technologies, and joining the international community.

Several countries researched here have managed to cultivate the entrepreneurial spirit through the coordinated efforts of the government, private sector, and academic institutions.

5.4.1 Recommendations Background

5.4.1.1 Position of Startups within the Palestinian Economy and Economic Policy Formation and Implementation

Economic potential: The study reveals that Palestinian startups are an important avenue to stimulate the Palestinian economy geared towards self-sustainability rather than reliance on international aid. Startups can create job prospects, increase exports, and drive technological advancement.

Barriers: The barriers identified are the lack of proper regulatory frameworks, limited venture capital access within the economy, lack of infrastructure and the integration among the components of the start-up system in Palestine. The political environment also imposes limitations on movement, which disrupts the market growth.

Prospects: The prospects for Palestine are that it could tap into its diaspora and leverage e-commerce and international linkage. Additionally, trends such as digital transformation, fintech, and agritech also provide avenues for the Palestinian startup space to thrive in the global markets.

5.4.1.2 Role played by Policies and Legal Frameworks in the Palestinian Startup Ecosystem

Current gaps: The gaps include a lack of policies for startup registration and investor and IP protection, which creates an environment of uncertainty for entrepreneurs.

Findings: Interview and survey data strongly suggest the existence of legal frameworks to be developed and employed for the improvement of the investor climate and the protection of investors.

Opportunities: There is a possibility for the regulation processes to be simplified and for tax incentives and investment guarantees to be instated to facilitate growth in the startup space.

5.4.1.3 Education and skills development gaps identified:

The research indicates the lack of adequate entrepreneurial education and skills, especially in new areas such as coding, digital marketing, business planning and financial literacy.

Findings: The fact that there is no formal training on entrepreneurship within the Palestinian schools and university system limits the entrepreneurial mindset development.

Recommendations: The entrepreneurship study stresses the need to implement and include formal entrepreneurship training in higher education institutions and vocational education centers.

5.5 Recommendations

5.5.1 Policy Development and Legal Reforms

- Create a Comprehensive National Start-up Policy, to be a sound bases for start-up law.
- Formulate a well-articulated and clear national start-up policy with defined objectives, KPIs, milestones, and assignment of accountability.
- Reinvent the methods of starting a new business by collapsing the maze of bureaucracy and emplaced round procedures like filling out different forms and submitting them and using digital technologies to facilitate easy and online registration and start-up management process.

- Introduce the necessary codes and procedures to encourage and nurture the protection of investors' rights and other start-up assets, including intellectual property rights.
- Construct an internet-based interface that quickly and easily makes business registration, licensing, and reporting processes less complicated.
- Offer legal consultancy to start-ups on the contracts they need to breach (or regulation) and protection they need to seek (or intellectual property).
- Enhance Intellectual Property (IP) Protection
- Develop an overall IP policy that protects patents, trademarks, and copyrights of new products developed in the country.
- Encourage and educate entrepreneurs on the need and significance of IP protection so that they can be competitive and innovative.

5.5.2 Where Education and Skill Building Meets Enhancement

- Institutionalize Entrepreneurial Education

At every level of the academic system, there should be a provision for entrepreneurial education, meaning schools, universities, and technical colleges must include it among their courses.

- There is a need to establish an intensified program focusing on business expansion alongside digital transformation, coding, and designing of products.
- Create exchange programs with international universities so that Palestinian students can learn the best starting practices worldwide.
- Foster Collaborations between the Private and Public Sectors for the Benefit of Education
- Create opportunities for educational institutions to work with other private businesses to produce relevant textbooks.
- There should be a push towards student empowerment through internships and in-company training within the tech institutions.
- Launch mentoring and leadership programs.
- There is a need for a mentorship program where seasoned entrepreneurs and professionals are matched with young Palestinians; this is for capacity building.
- Establish leadership development initiatives that will seek to enhance the status and involvement of women in the start-up environment.

5.5.3 Setting Up an Infrastructure Together within the Ecosystem

- Setting Up Both Digital and Physical Structures

Gaza should be connected to high-network internet to make online business more efficient. There is a need to set up technology parks, co-working spaces, and innovation centers across the main Palestinian cities, such as Ramallah and Gaza.

- Backup Incubators and Accelerators
- Inject finances into incubators and accelerators for them to be sustainable.
- Establish incubation and acceleration programs for start-ups expected to grow fast, like fintech, agritech, and health tech.
- Use Technology to Empower Start-ups Remotely
- Encourage telecommuting among startups to minimize the reliance on bricks and mortar or physical setup for the business.
- Establish platforms that facilitate virtual work and the provision of digital services.

5.5.4 Utilizing the Palestinian Diaspora

- Build up Diaspora Networks
- Encourage the Palestinian diaspora to assist local businesses by mentoring them, raising funds, and investing in them.
- Set up investment platforms for the diaspora to invest in Palestinian firms.
- Establish Global Partnerships
- Partner with other global organizations, research institutions, and international corporations.
- Facilitate partnerships between Palestinian entrepreneurs and companies worldwide to penetrate new markets and seek new means and resources.
- Market Palestinian Goods to the World
- Corporate with marketing firms to sell Palestinian high-tech products outside Palestine.
- Set up marketing support systems that will help penetrate regional and international markets.

5.5.5 Tackling Geopolitical and Market Issues

- Encourage Cross-Border Relations
- Advocate for bilateral partnerships to improve access to regional and global markets.
- Request trade organizations to assist in the exports of Palestinian products.
- Mixed Funding Strategies
- Promote mixed funding strategies like crowdfunding, angel investors, and venture capital to broaden their funding sources.
- Create a national startup initiative where the government and the private sector provide seed capital to nascent businesses.

5.5.6 Strategic Management of International Affairs and Various Markets

Palestine as a story has the strength to provide such an international attraction for so many communities of humanity supporters of Palestine and freedom.

1. Activating Relations:

- It is necessary to make initiatives for the mentioned countries to be related and, hence, more markets in other countries and regions. Encouraging international partners to order Palestinian goods to augment the marketing approach.

2. Other Sectors of Capital Technology.

- In the past the PLO had an institutionalized online fundraising mechanism to enhance its survival. It is feasible to adapt and reinvent this idea within the Palestinian nation to be economically and entrepreneurially free.
- Create a national fund for startups that will change the principles of resource allocation for new and developing enterprises.

5.5.7 Resource Buying and Selling Entrepreneurs Ecosystem Competitiveness: Strengthening through Entrepreneurship

Creating Economic Opportunities through an Innovative New Marketing Approach: in response to the concerns expressed, the reliance on grants is indeed one of the challenges as far as the income inflow from the initiatives aimed at developing the Palestinian economy is concerned; other challenges include forming the equity through marketing the companies and shortening the payback period.

The Palestinian economy can be improved with less dependence on international assistance. The shift is predicted to happen due to the actions taken about creating

new businesses, thereby increasing the volume of employment, exports, and the rate of technological advancement. There are also three key constraints for multinational entrepreneurs, which are poor legal environments, funding gaps, and a lack of monitoring and evaluation (M&E) for regional development. Despite this oppression, other countries such as the UAE has made remarkable progress in developing its business landscape, which has greatly facilitated the formation and count of the legal trump and allowed market principles to be built up from scratch.

Palestinian businesses are moving away from traditional advertising toward e-marketing strategies and marketing with other countries. Within the a gritech, health and fintech sectors, there is great potential for business growth, especially now in the fourth industrial revolution period, for example.

5.5.8 Summary

Palestine, the study concludes, can enhance its diaspora engagement, skills, policy frameworks, infrastructure, and education to be able to establish an improved start-up economy. The country can potentially turn into 'the real start-up nation.' It is due to the challenges that the system has been facing that these challenges are systemic in nature. These several structural challenges of the economy weaken the start-up potential of the country. With the help of this research, investors, stakeholders, the private sector, the government, and the world have a better idea of the country's entrepreneurial possibilities. With these resources combined, Palestine could be an epicenter for entrepreneurship and give the country economic self-reliance.

5.6 The Model, Palestinian Start-up Ecosystem: Advanced Academic Description

5.6.1 Core Structure and Objective

In the part of the research that focuses on the specific collection of data and statistics, the researcher noticed a number of key observations that should call for the establishment of a single entity to address the building and sustainability of the Palestinian Ecosystem. This entity, possibly called the Palestinian Innovation and Start-up Authority (PISA) can integrate the efforts of the key stakeholders of the system, and act as **'maestro'** of the startup system. The challenges that mandate the establishment of such an entity can be summarized as follows:

1. There are more than a dozen startup enabler organizations in Palestine working with different donors and investors and entrepreneur groups, in different sectors, and according to the analysis there is less communication and coordination among these system components, with strong competition to catch donors' funding. In essence the sector is fragmented with a total absence of a national startup strategy.
2. To grow the startup business, as seen in many successful stories around the World, there is a need to address the issue using a comprehensive approach combing the intellects, the investors, and the research and development arm of the country, as well as the government. PISA would emphasize the integration among these functions.
3. There is no centralized reliable startup data in Palestine, and considerable mismatches of the information provided by governmental institutions about the number of startups in Palestine.
4. Even though Palestine does not have a startup law, there are numerous businesses approved as being registered as startups by the Ministry of National Economy of the Palestinian Authority, a further probe made it clear that most of these businesses did the registration as such to acquire special grants to develop the Palestinian startup industry.
5. The startup sectors only focus on two key sectors that are the education and the technology with less emphasis of other sectors such as the Agritech. Besides, the perspectives of addressing local challenges can limit the potential of expansion to regional and international markets.

As a result of these particular gaps, the researcher asserts the necessity of setting up the "Palestine Innovation and Startup Authority (PISA)". This model (as shown in the attached diagram), which is called the "Palestinian Startup Ecosystem Model," attempts to amalgamate different actors, assets, and facilitators within one structure to make Palestine a vibrant global startup ecosystem. The model embodies the cooperation of the government, the business community, the universities, and the international community in promoting innovations and building entrepreneurship.

5.6.2 Description of the Ecosystem Model

The central entity of the ecosystem, its primary coordinator, integrator, and manager, is PISA. The model is based on the assumption of a Digital-First business environment to help the ecosystem communicate and collaborate digitally, and this

will alleviate the restrictions and barriers imposed by occupation. This structure is able to function, withstand impulses, and evolve. Tasks of PISA:

1. Policy Formulation and Regulation: PISA strives to make the policies clear and deregulate in a manner that encourages start-ups and safeguards the investors."
2. Investment Fund Management: "PISA ensures that investment funds are properly taken care of and disbursed in a manner that they enhance start-up growth and increase the technological capabilities being offered."
3. Orchestration and Synergy Building: "PISA works on an integrative approach; here, all the ecosystem participants, such as start-ups, universities, individual key investors, and government agencies, work in harmony."
4. Monitoring and Accountability: "PISA addresses the problem of lack of trust by promoting and monitoring the activities of the start-ups, the type of funding given, investments, etc."

5.6.3 Roles of Other Nodes in the Ecosystem

1. Innovation and Startup Fund: The fund offers financial support grants to early-stage start-ups, and provide assistance for R&D activities in partnership with universities.
2. Private sectors and Investors: Aid the startups by offering guidance and funding advice and actively investing in them while working with universities and research organizations.
3. Academic Institutions: Dual capacity as centers of talent commercialization and practical invention development to help sustainably build human capital and innovations that provide direct value to the ecosystem.
4. The Ministries and Agencies of Government: Collaborate with PISA in system planning and development by formulating policy structures and exercising regulatory roles towards encouraging entrepreneurship within the ecosystem.
5. Ecosystem of Innovation and Startups: including but not limited to coworking spaces, accelerators, and incubators that focus on supporting a business at any stage in their operations, providing advice, and making resources available to them.
6. The Palestinian Community of Entrepreneurs: The primary beneficiaries and the key players in shaping the ecosystem are in a position to exploit the resources and support available to them from other nodes for innovations, scaling their

businesses, and positively impacting the economy. This part of the ecosystem include the formation of the “Entrepreneurs’ Society” to help collaborate among entrepreneurs and advocate their important common issues.

7. Directorate of Support Facilitators: Applies both financial resources and logistical support through partnership programs aimed at boosting the market presence of Palestinian businesses in both the regional and international context.
8. Palestinian Global Diaspora: Provide financing and mentoring and access to global networks serving as the link to foreign markets.
9. Infrastructure for National Boundary Innovation and Startup: Establishes both physical and virtual tech-based marketplaces and other kinds of digital infrastructure.
10. Access to Global Markets for Partnerships: Integrating with international markets, Palestinian startups can gain access to a broader audience, allowing for an increased rate of knowledge flow.

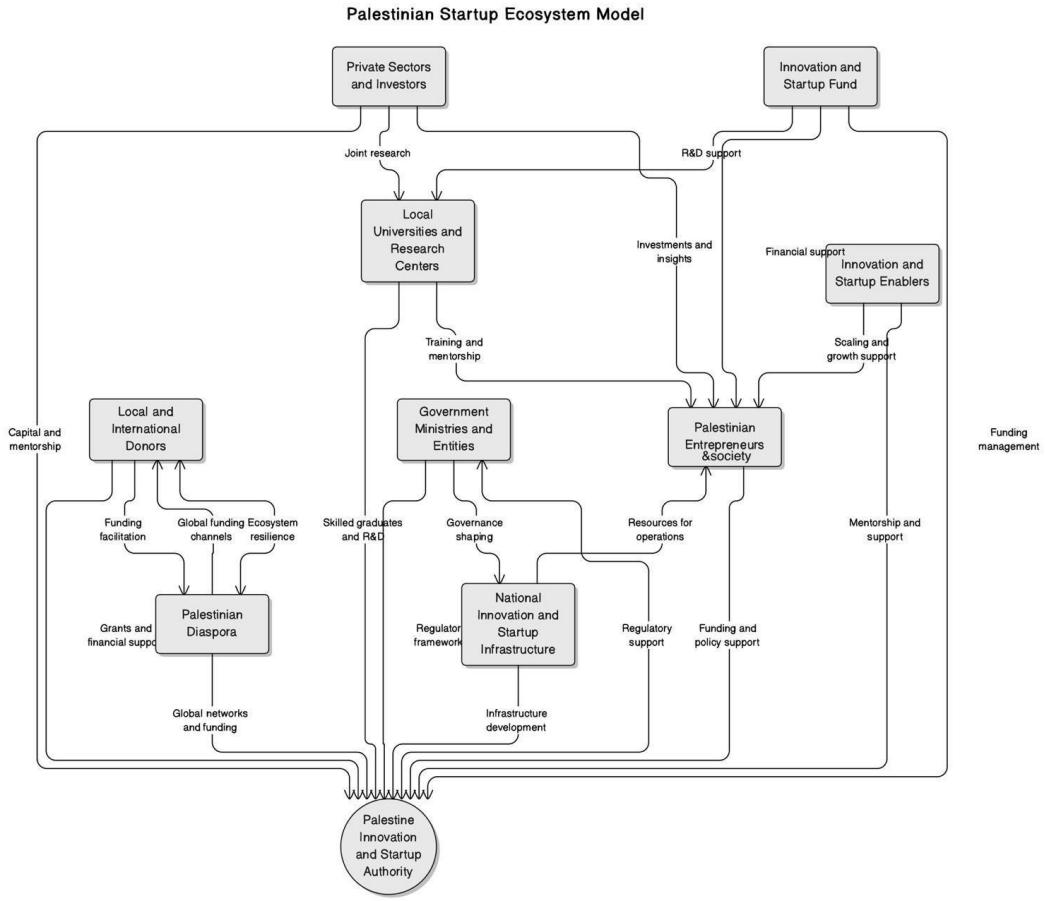

Figure 5.1: Model Nods Relations Chart

Table 5.1: Model Nods Clarification Chart

Node	PISA	Innovation & startup fund	Private sector & investor	Local Universities & Research Center	Government Ministries & Entities	Innovation & startup Enablers	Palestinian Entrepreneurs	Local & International Donor	Palestinian Diaspora	National Innovation & Startup Infrastructure
PISA	-	Strong Funding Allocation	Strong Policy collaboration	Strong Academic Partnership	Strong Policy Framework	Strong Operational Support	Strong Mentorship & Resources	Strong Funding Mobilization	Strong Global Integration	Strong Infrastructure Development
Innovation & startup fund	Strong Funding Supervision	-	Moderate Investment Collaboration	Moderate R&D funding	Moderate Regulatory Support	Moderate Growth Financing	Strong Capital Provision	Moderate Donor Partnership	Moderate Diaspora Financing	Moderate Infrastructure Financing
Private sector & investor	Strong Policy Engagement	Moderate Investment Coordination	-	Moderate Joint Research	Moderate Policy Collaboration	Strong Market Insights	Strong Direct Investment	Moderate Donor Synergies	Moderate Diaspora Partnership	Moderate Infrastructure Investment
Local Universities & Research Center	Strong Knowledge Sharing	Moderate Research Funding	Moderate Applied Research	-	Strong Education Policy Collaboration	Strong Entrepreneurship Training	Strong Mentorship	Moderate Academic Grants	Moderate Knowledge Transfer	Moderate Academic Infrastructure
Government Ministries & Entities	Strong Policy Leadership	Strong Regulatory Oversight	Moderate Private Sector engagement	Strong Education Policy	-	Moderate Framework Regulation	Strong Entrepreneurial support	Moderate Public Funding Partnership	Moderate Policy Inclusion	Strong Infrastructure Governance
Innovation & startup Enablers	Strong Operational Supervision	Moderate Growth Financing	Moderate Market Expansion	Moderate Training Program	Moderate Regulation Compliance	-	Strong Accelerator Programs	Moderate Financial Support	Moderate Mentorship Inclusion	Moderate Enabler Support
Palestinian Entrepreneurs	Strong Ecosystem Beneficiaries	Strong Capital Access	Strong Funding Support	Strong Skill Development	Moderate Policy Advocacy	Strong Growth Mentorship	-	Strong Grant Utilization	Moderate Global Network Access	Strong Resource Utilization
Local & International Donor	Strong Fund Collaboration	Moderate Grant Matching	Moderate Partnerships	Moderate Research Grants	Moderate Public Collaboration	Moderate Financial Sponsorship	Strong Startup Grants	-	Moderate Diaspora Collaboration	Moderate Co- Funding Infrastructure
Palestinian Diaspora	Strong Global Network	Moderate Diaspora Contributions	Moderate Investment Channels	Moderate Knowledge Exchange	Moderate Policy Collaboration	Moderate Global Mentorship	Moderate Capital Provision	Moderate Global Partnership	-	Moderate Diaspora Infrastructure
National Innovation & Startup Infrastructure	Strong Core Infrastructure	Moderate Resource Allocation	Moderate Investment Infrastructure	Moderate Research Facilities	Strong Infrastructure Polices	Moderate Operational Support	Strong Startup Operations	Moderate Infrastructure CO- Funding	Moderate Infrastructure Investment	-

Table 5.2: Model Nods Description Chart

Node	Connected Node	Description the relation	Level of relationship
Palestine innovation and startup Authority (PISA)	Private sector and investor	PISA Coordinates with private sectors and investors to provide funding, mentorship, and strategic advice for startup.	High
	Local Universities & Research Center	PISA collaborates with universities to channel research and development (R&D) outcomes into practical startup innovations.	High
	Government Ministries & Entities	PISA works with Government entities to shape Policies, regulations, and a legal framework for startup operation	High
	Innovation & startup Enablers	PISA ensures that accelerators and incubators receive the necessary funding and policy backing to support early – stage startups.	Medium
	Palestinian Entrepreneurs	PISA directly supports entrepreneurs through funding management, mentorship, and infrastructure support	High
	Local & International Donor	PISA coordinates funding streams from donors to support ecosystem initiatives, ensuring their alignment with national goals.	Medium
	Palestinian Diaspora	PISA facilitates diaspora contributions in the form funding, mentorship, and global market access for startup.	Medium
	National Innovation & Startup Infrastructure	PISA oversees the development of digital and physical infrastructure critical for the ecosystem.	High
Private sector and investor	Local Universities & Research Center	Collaborates with universities to conduct joint research projects that foster innovation and align with industry needs.	Medium
Private sector and investor	Palestinian Entrepreneurs	Provides investments and business insights to startups, helping them scale and gain competitive advantage.	High
Local Universities & Research Center	Palestinian Entrepreneurs	Offers training, mentorship, and research supports with knowledge and resources to succeed.	High
Local Universities & Research Center	Government Ministries & Entities	Supplies skilled graduates and technical research outcomes that inform government strategies for innovation.	Medium
Government Ministries & Entities	National Innovation & Startup Infrastructure	Shapes governance structures and policies that facilitate the development of innovation hubs and shared infrastructure.	High

Node	Connected Node	Description the relation	Level of relationship
Government Ministries & Entities	Palestinian Entrepreneurs	Provides regulatory support and resources to enable startups to operate effectively and comply with legal standards.	High
Innovation and startup fund	Palestinian Entrepreneurs	Allocates financial resources directly to startups, addressing their operational and growth needs.	High
Innovation and startup fund	Local Universities & Research Center	Provides R&D funding to enable universities to produce market relevant innovations and technologies.	Medium
Innovation & startup Enablers	Palestinian Entrepreneurs	Offers scaling and growth support through structured programs like accelerators and incubators.	High
Palestinian Entrepreneurs	National Innovation & Startup Infrastructure	Utilize shared spaces, Tec parks, and digital tools provided by the infrastructure to operate efficiently.	High
Palestinian Entrepreneurs	Palestinian Diaspora	Gain access to diaspora networks for mentorship, funding, and market expansion opportunities.	Medium
Local & International Donor	Palestinian Diaspora	Leverages diaspora connections to channel international funding and resources into the ecosystem.	Medium
Local & International Donor	Palestinian Entrepreneurs	Provides financial grants and support to startups, enabling them to focus on innovation and growth.	High
Palestinian Diaspora	Palestinian Entrepreneurs	Acts as mentor and investor, providing access to global networks and funding opportunities for startups.	High
Palestinian Diaspora	Local & International Donor	Bridges local startups with international funding sources and opportunities.	Medium
National Innovation & Startup Infrastructure	Palestinian Entrepreneurs	Provides essential operational infrastructure, such as coworking spaces, digital platforms, and tech parks.	High
National Innovation & Startup Infrastructure	PISA	Works under the guidance of PISA to ensure that infrastructure aligns with national goals and ecosystem.	High

5.6.4 Main Vertices and Relationships

1. Innovation and Start-up Fund—Nature of Work: Provides capital and other resources to pursue innovative and entrepreneurial activities.

Interconnections:

- To PISA: Contributes resources and capital that the latter selectively uses to fund start-ups with the potential for high growth.
- To Palestinian Entrepreneurs: Directly fund entrepreneurs who otherwise lack access to capital.
- To local universities and research centers: invest in research activities and development that form the base for entrepreneurial innovation.

2. Private Sectors and Investors: Role: They provide cash, mentorship, and industry know-how in assisting with the start-up's success.

Relationships:

- To PISA: Works with them to ensure coordination of funding and strategic objectives of the ecosystem.
- To Palestinian Entrepreneurs: Fund them directly with relevant expertise and do market research.
- To Local Universities and Research Institutions: Partners with them in undertaking and disseminating research and development activities.

3. Local Universities and Research Centers—Function: These function as enabling environments for skills development, invention, and development work.

Relationships:

- To PISA: This contributes a competent workforce, innovative outputs, and research work.
- To Palestinian Entrepreneurs: They provide guidance, technical skills, and innovative capacity.

To private sectors and investors: This creates partnerships between workplaces and educational institutions. 4. Government Ministries and Entities: Role: Make policies and regulations aimed at enhancing entrepreneurial initiation and activities.

Relationships:

- To PISA: PISA develops rules and laws passed to speed up the growth of business start-ups. To Palestinian Entrepreneurs: They support them with the legal framework and physical facilities.

5. Innovation and Start-up Enabler Duties: Encompasses incubators, accelerators, and mentorships that facilitate the scaling and success of start-ups.

Linkages:

- To PISA: Supports and trains through PISA's projects and programs.
- Palestinian Entrepreneurs: Provides mentorship and development training to the entrepreneurs.

6. Palestinian Entrepreneurs—Mandate: They play a vital role in the ecosystem as they use all the tools to promote innovation and development.

Connections:

- To PISA: Receives funding, advice, and compliance assistance.
- To Innovation and Start-up Fund: Receives funding.
- To the Sector and Investors: Receives investment and market knowledge.
- To Local Universities and Research Institutions: Participates in research, development, and training programs.

7. Local and global donors' duties: Provide the necessary resources and access to funding for the continuity of the ecosystem.

Connections:

- To PISA: Provides support for the agency's projects and day-to-day operations.
- Palestinian Diaspora: Helps raise funds for entrepreneurs from the diaspora.

8. Palestinian Diaspora—Mandate: Offers global connections, knowledge, and finances that can help develop the ecosystem.

Connections:

- To PISA: Provides planning and finance for expansion.
- Local and international donors: Helps make diaspora funds available for use in the locality.

9. National Center for Innovation and Entrepreneurship—Functions: This unit builds the necessary physical and virtual assets for the operational efficiency of the startups.

- PISA: Applies the physical infrastructure strategies required for enhanced improvement of the start-up ecosystem.
- Palestine Entrepreneurs: Provides co-working spaces, digital infrastructures, and business support services.

5.6.5 **Interconnections and Synergies**

- FSTI and Modern Technologies Fund ↔ Private Investments and Investors ↔ Local Universities and Research Institutions

There are such synergies that allow the transition from scientific ideas to commercially viable products without much disruption.

- Palestinian Diaspora ↔ Local and International Philanthropists

Stresses the critical role of international collaboration in investment mobilization and expertise transfer.

- Ministries and Other Departments ↔ National Innovation and Start-up Infrastructure

Shows how the provision of regulations and buildings contributes to economic development.

The Palestinian Start-up Ecosystem Model integrates the critical elements needed to resolve systemic problems while seizing the prospects for innovation and new venture establishment. The model paves the way for sustainable economic expansion and global competitiveness by utilizing bilateral and international networks, fostering cross-cutting partnerships, and enabling Palestinian business owners. This forecasts the future of Palestine as a start-up country and its strength, innovation, and teamwork in dealing with challenges.

5.7 Conclusions

This chapter describes how the objectives and the questions formulated in the earlier chapters have been answered by the results obtained from this study. It is also shown that the Palestinian start-up scene has the potential to grow into a more advanced hub for innovation despite the key constraints that are held. Such impediments have been verified through qualitative and quantitative means of investigation. So, the barriers fall together with actions that could help to overcome them.

1. The first part of the research discovered that the use of hybrid funding models coupled with international linkages does lessen the effect of the ongoing political situation and the inability to access broader markets, as well as the need for more infrastructure development. The notion of integrating resources, policies, or stakeholders into an ecosystem is aimed to be put into action by the PISA Palestine Innovation and Start-up Authority.

2. In the context of the global, what steps are absent for the Palestinian diaspora venture to make the growth of the startup ecosystem possible? The study demonstrated that the diaspora was instrumental in financing, advising, and facilitating the international markets for Palestinian startups.
3. Given the political and social climate and infrastructural deficit in Palestine, what policy and legal reforms need to be undertaken for startups and entrepreneurship to thrive in the region? Effective IP reforms need to address the immediacy of both practical and efficient safeguards of the IP and standardize registration processes to facilitate easy startup registration that can secure funding. More active goals should be having supportive environments for entrepreneurship with active interventions and reduced administrative burdens.
4. What is the role of education and other means of skill development towards achieving sustainability within the ecosystem? The study established that enhancing such synergy is necessary, given that it assists in addressing the disparity between industry and academia. Increased emphasis on the Diggs curriculum, which advocates for entrepreneurship training, business collaboration, and the establishment of mentoring programs, were cited as marketing strategies to help understand entrepreneurs with the correct set.
5. What tools could be used to change stereotypes, such as insufficient funding or geopolitical constraints? Considering these challenges, it was proposed to use international business models, global partnerships, and online business strategies. The research made it clear that Palestinian entrepreneurs must maximally exploit international markets and build regional markets.

Closure

This research brings the novel, complete, and model for harnessing the best of potential human capabilities, national aspiration, and digital capabilities to emancipate the Palestinian and human beings who believe in prosperity and freedom all together in one place to make humanity a better collaborative space to be free, dignified, and productive embedding elements of technology, new ways of collaboration and protection from adversaries to suppressing the Palestinian dream to excel and be a lighthouse for the rest of humanity as an example to humane usage off entrepreneurship, technology for the use and benefit of the mass regardless of the individual and closed-mindedness of exclusivity and greed.

In dedication to the brave who sacrificed for knowledge and freedom.

Prospects for Future Research:

1. To investigate the applicability of the suggested model here in within Palestinian social, economic, and regulatory environment.
2. Test using scientific methodology the future ability of the startup business in Palestine to significantly contribute to the Palestinian economy in terms of the contribution to the GDP (Gross Domestic Production).
3. The current research has shown that startups cover a narrow spectrum of sectors that emphasized technology and education with little attention to other sectors such as agriculture and tourism. Besides, it was not clear that the existing Palestinian startups have addressed global challenges, and therefore it would be important to investigate the ability of the startup system to deal with such challenges and assess its impact on startup global marketability.

References

Abou-Moghli, A. (2018). Dubai Internet City and Hub71: Catalysts for Innovation and Business Development in the UAE. Journal of Business Innovation, 22(3), 57-71.

Abu Jarour, M. K., Saad, M., & Sharabati, A. A. (2022). Entrepreneurial Finance in Palestine: Challenges and Opportunities. Journal of Developmental Entrepreneurship.

Abu-Hamdleh, R., & Qadan, O. (2024). Digital Entrepreneurship in Palestine: Opportunities and Challenges. Journal of Innovation and Technology.

Abu-Hamdleh, R., & Qadan, O. (2024). Digital Entrepreneurship in Palestine: Opportunities and Challenges. Journal of Innovation and Technology.

Abu-Jalala, Y., & Al-Gharabli, M. (2024). Startup Accelerators and Incubators in Palestine: Ethical Dilemmas and Opportunities. Palestinian Business Review.

Abu-Jalala, Y., & Al-Gharabli, M. (2024). Startup Accelerators and Incubators in Palestine: Ethical Dilemmas and Opportunities. Palestinian Business Review.

Abu-Libdeh, F., & Qader, A. (2020). Longitudinal Study of the Tech Ecosystem in Palestine. Journal of Entrepreneurship and Innovation Studies.

Abu-Zahra, N., & Ghunaim, I. (2024). Social Entrepreneurship in Palestine: Empowering Communities and Driving Change. Journal of Social Entrepreneurship.

Abu-Zahra, N., & Ghunaim, I. (2024). Social Entrepreneurship in Palestine: Empowering Communities and Driving Change. Journal of Social Entrepreneurship.

Ahmed, A., & Chib, A. (2020). Legal and Institutional Barriers to Entreprenurership in Conflict-Affected Zone. Journal of Entreprenurership and Public Policy, 9(3), 353-375

Alaa, T. (2020). "Collective Economy and Diaspora Contributions: The Role of Palestinian Business Networks." Arab World Journal, 14(2), 92-105.

Al-Ali, S. (2021). The Role of Governance in the UAE's Business Ecosystem: A Case Study of Dubai Vision 2021. Journal of Economic Policy, 28(4), 45-60.

Al-Arja, S. (2019). "Building Palestine as a Startup Nation: Challenges and Opportunities." Journal of Middle Eastern Economic Studies, 48(3), 102-115.

Al-Arja, S. (2019). "Harnessing Youthful Energy: The Demographic Dividend in Palestine." Journal of Middle Eastern Studies, 48(3), 102-115.

Al-Falih, K. (2020). The Role of the Saudi Data and Artificial Intelligence Authority in Vision 2030. Digital Economy Journal, 8(2), 14-28.

Al-Filali, I., & Gallarotti, G. M. (2012). Smart Development: Saudi Arabia's Vision 2030 and the Future of Innovation. Global Journal of Management and Business Research.

Alghamdi, M., & Beloff, N. (2021). Transforming the Economy: Saudi Arabia's Vision 2030 and Innovation. Journal of Innovation and Business Studies, 34(2), 21-33.

Al-Ghamdi, S., & Al-Gahtani, A. (2021). STEM Education Reform and Human Capital Development in Saudi Arabia: Progress and Challenges. Journal of Education and Workforce Development, 12(1), 45-60.

Al-Khouri, A. (2013). Digital Transformation and E-Government in Saudi Arabia. Journal of E-Government Studies and Best Practices.
Al-Khouri, A. (2020). Dubai Future Accelerators: A Platform for Global Innovation in the UAE. Journal of Future Technologies, 11(1), 98-109.
Al-Khouri, A. (2020). NEOM and The Line: Smart Cities for Saudi Arabia's Future. Journal of Smart City Development, 7(4), 112-127.
Almarabeh, T., Majdalawi, Y. K., & Mohammad, H. (2010). Cloud Computing Technologies in Education in the UAE. Journal of Information Systems.
Almarabeh, T., Majdalawi, Y. K., & Mohammad, H. (2020). The Role of Khalifa University in Driving Innovation Through Industry Collaboration. Journal of Education and Technology, 34(2), 30-45.
Al-Mutairi, R., & Al-Matrafi, S. (2021). Women in Tech: The Rise of Female Entrepreneurs in Saudi Arabia. Journal of Entrepreneurship and Social Impact, 19(3), 67-82.
Alnahdi, G. (2014). Educational Reforms in Saudi Arabia: STEM-Focused Reforms and the Future of Human Capital Development. Education Policy Journal.
Alnahdi, G. (2020). Vision 2030 and STEM Education in Saudi Arabia: Enhancing Human Capital for a Knowledge-Based Economy. Education Policy Journal, 45(6), 103-117.
Al-Saifi, M., et al. (2021). "Challenges and Opportunities for Palestinian Startups in the Tech Industry." Journal of Middle Eastern Economic Studies, 15(2), 89-105.
Alshammari, A. (2021). E-Government Services in Saudi Arabia: A Case Study of Digital Transformation and Public Service Efficiency. Journal of Public Administration, 15(3), 43-60.
Alshuwaikhat, H. M., & Mohammed, I. (2021). NEOM and Vision 2030: The Role of Urban Megaprojects in Saudi Arabia's Economic Diversification Strategy. Journal of Urban Development and Policy, 10(1), 33-46.
Althaqafi, F. (2020). The Role of the Public Investment Fund in Saudi Arabia's Economic Transformation. Journal of Middle Eastern Economic Studies, 22(1), 12-25.
Ang, J. S. (2018). Singapore: A Global Hub for Innovation and Business. Journal of Economic Policy, 21(3), 56-78.
Autio, E., & Levie, J. (2021). Scaling Entrepreneurial Ventures in Emerging Economies: Lessons from Singapore. Small Business Economics, 56(4), 189-207
Avnimelech, G., & Teubal, M. (2006). Creating Venture Capital Industries That Co-Evolve With High Tech: Insights from an Extended Israeli Case Study. Research Policy, 35(10), 1472-1488.
Barghouti, O. (2011). BDS: Boycott, Divestment, Sanctions – The Global Struggle for Palestinian Rights. Haymarket Books.
Bashir, N. (2016). "The Role of Diaspora in Palestinian Innovation: A Global Perspective." Global Development Journal, 9(4), 76-89.
Baslom, M. M., & Yamin, M. (2017). The Role of MonShaat in Supporting SMEs in Saudi Arabia. International Journal of Business Innovation and Research.
Baslom, M. M., & Yamin, M. (2021). Monsha'at's Role in Supporting Small and Medium Enterprises in Saudi Arabia. Journal of Entrepreneurship Research, 18(4), 89-105.

Beugre, C. D. (2021). Social Entreprenurership and Sustainable Development in Conflicts Zones: Insights from Africa and the Middle East. Journal of Business Ethics, 172(3), 509-526

Borrero, D., Koh, E., & Tan, J. (2019). Geographical Advantage and Startup Ecosystem in Singapore. Journal of Urban Economics, 44(2), 201-218.

Breslauer, G., & Charles, M. (2017). Estonia: The Digital Republic. Harvard Business Review.

Canadians for Tech in Palestine (2021). "Welcome to Tech Circles: Empowering Palestine's Digital Future." Canadian Palestinian Professional Foundation.

Cascio, W. F., & Montealegre, R. (2021). How Technology Is Changing Work and Organizations. Annual Review of Organizational Psychology and Organizational Behavior, 8(1), 45-69.

Chalmers, D., & Matthews, R. (2021), Blockchain and Entreprenurership in Emerging Markets: A Pathway for Sustainable Development? Journal of Business Venturing, 36(5), 106030

Chua, R., & Morris, M. (2019). Multiculturalism and Innovation: Insights from Singapore. Journal of Cultural Studies, 38(4), 378-398.

Chua, R., & Morris, M. (2019). Multiculturalism and Innovation: Insights from Singapore. Journal of Cultural Studies, 38(4), 378-398.

Cohen, J. M., & Uphoff, N. T. (2011). "Community-Supported Agriculture: A Case Study of Sustainable Agriculture in Practice." Journal of Rural Studies, 27(1), 51-62.

Dana, L. P., & Dana, T. E. (2005). Entrepreneurship in Palestine: Global Indigenous Entrepreneurs. World Scientific.

Davidson, C. (2012). The Political Economy of the United Arab Emirates. Journal of Middle Eastern Studies.

Davidson, C. (2012). The Political Economy of the United Arab Emirates: State Formation and Economic Development. Middle East Journal, 66(4), 631-645.

El Khatib, R., & Khalil, M. (2020). "Legal Barriers to Entrepreneurship in Palestine: Challenges and Opportunities." Journal of Palestinian Law and Policy, 12(1), 45-62.

Eljilany, M., & Abu-Maizar, R. (2024). Public-Private Partnership for Startup Development in Palestine. Journal of Business and Economic Policy.

Eljilany, M., & Abu-Maizar, R. (2024). Public-Private Partnership for Startup Development in Palestine. Journal of Business and Economic Policy.

El-Sayegh, F. (2021). Innovation and Economic Development in the UAE: The Role of Infrastructure and Education. Journal of Innovation Policy, 15(3), 17-29.

Emirates News Agency. (2021). UAE's 5G Rollout and Smart City Initiatives Strengthen Its Position as a Global Tech Hub. WAM News, 8(7), 2-14.

Fikra (2022). "Fikra Innovation Hub." Fikra.ps

Flynn, K. E., Finkelstein, E. A., Taplin, S. H., & Feuer, E. J. (2021). Design and Estimation Considerations in Developing Sampling Plans for Population-Based Studies. Journal of Medical Decision Making, 41(4), 476-487.

Forbes (2018). "Meet The Founder Of Yamsafer: One Of Palestine's Top Startups." Forbes Middle East.

Fujairah, A. (2018). World-Class Infrastructure in the UAE: A Key Driver of Innovation. Journal of Developmental Studies.

Fujairah, A. (2018). World-Class Infrastructure in the UAE: A Key Driver of Innovation. Journal of Developmental Studies, 33(5), 14-25.
Glaeser, E., Rosenthal, S., & Strange, W. (2020). The Geography of Entrepreneurship. American Economic Journal: Economic Policy.
Global Competitiveness Report. (2020). United Arab Emirates: Political Stability and Ease of Doing Business. World Economic Forum, 2020 Edition.
Goh, L., & Ho, J. (2020). Startup Financing in Singapore: A Comparative Analysis. Journal of Finance and Entrepreneurship, 19(1), 88-103.
Goh, L., & Ho, J. (2020). Startup Financing in Singapore: A Comparative Analysis. Journal of Finance and Entrepreneurship, 19(1), 88-103.
Hertog, S. (2010). The Role of Economic Cities in Saudi Arabia's Vision 2030. Middle East Journal.
Isenberg, D. J. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship. Babson Entrepreneurship Review.
Ismail, A., & Jabeen, F. (2020). Challenges and Opportunities of Social Enterprises in Conflict Zones; the Case of Palestine. Journal of Entrepreneurship and Innovation in Emerging Economies 7(2), 122-136
Kattel, R., & Lember, V. (2018). Digital Governance and Innovation in Estonia: Lessons for the World. European Journal of eGovernment, 15(1), 34-45.
Kenney, M. (2000). Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region. Stanford University Press.
Khalidi, R. (1997). Palestinian Identity: The Construction of Modern National Consciousness. Columbia University Press.
Khalidi, R., & Samour, S. (2011). "Neoliberalism as Liberation: The Statehood Program and the Remaking of the Palestinian National Movement." Journal of Palestine Studies, 40(2), 6-25.
Kim, Y. J., & Davidson, E. (2021). The Role of AI in Accelerating Entrepreneurship in Emerging Economies: A Review of Opportunities and Challenges. Technological and Forecasting and Social Change. 171, 120933
Koh, P. H., & Tan, J. (2019). The Evolution of Singapore's Entrepreneurial Ecosystem: A Historical Analysis. Journal of Asian Business Studies.
Lerner, J. (2002). Venture Capital and Innovation in Israel: The Role of Policy and Investment. Harvard Business Review.
Magi, T., Lauristin, M., & Vene, K. (2017). Estonia's Startup Ecosystem: From Digital Innovation to Global Expansion. Journal of Entrepreneurship and Innovation Management.
Mercy Corps (2019). "Gaza Sky Geeks: Empowering Palestinian Entrepreneurs." Mercy Corps.
Mesnard, A., & Ravallion, M. (2021). The Role of Diaspora Investment in the Groeth of Startups in Conflicts Regions: Evidence from Palestene. Journal of Development Studies, 58(3), 223-240
Mowery, D. C., & Ziedonis, A. A. (2002). Academic Patenting and the Performance of University Technology Transfer Offices. Research Policy.
Murray, A., Skene, K., & Haynes, K. (2015). "The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context." Journal of Business Ethics, 140(3), 369-380.
Murray, D. M. (1998). Design and Analysis of Group-Randomized Trials. Oxford University Press.

Nasser, F., & Khader, Y. (2019). Network Analysis of Interactions within the Palestinian Startup Community. Journal of Technology and Innovation Networks.
Ojaveer, K. (2019). The Startup Visa: Estonia's Approach to Attracting Global Entrepreneurs. Journal of Global Business and Economic Development.
O'Muircheartaigh, C., & Hedges, L. V. (2014). Generalizing from Unrepresentative Experiments: A Stratified Propensity Score Approach. Journal of the Royal Statistical Society: Series C (Applied Statistics), 63(5), 727-745.
Palestine Investment Fund (2020). "Investment Strategies for Economic Development in Palestine." Palestine Investment Fund.
Palestinian Central Bureau of Statistics (2021). "Economic Impact of the Israeli Occupation on Palestine." Palestinian Central Bureau of Statistics.
Palestinian Central Bureau of Statistics (2021). "Statistical Report on Palestine's Population." Palestinian Central Bureau of Statistics.
Palestinian Monetary Authority (2021). "Annual Report on Financial Stability and Economic Growth in Palestine." Palestinian Monetary Authority.
Sadara Ventures (2015). "Palestinian Tech Entrepreneurs: A New Generation." Sadara Ventures.
Said, E. (1979). The Question of Palestine. Vintage Books.
Sakr, L. S., Abu-Ghaida, D., & Zakaria, R. A. (2023). Women Entrepreneurs in Palestine: Challenges and Policy Implications. Journal of Women in Business.
Saxenian, A. (2006). The New Argonauts: Regional Advantage in a Global Economy. Harvard University Press.
Saxenian, A. (2007). The New Argonauts: Regional Advantage in a Global Economy. Harvard University Press.
Saxenian, A. L. (2020). Diaspora Networks and Internationalization of Entreprenurership in Emergig Economies. World Development, 135(6), 105048
Senor, D., & Singer, S. (2009). Start-up Nation: The Story of Israel's Economic Miracle. Twelve Press.
Senor, D., & Singer, S. (2011). Start-up Nation: The Story of Israel's Economic Miracle. Twelve.
Shane, S. (2003). A General Theory of Entrepreneurship: The Individual-Opportunity Nexus. Edward Elgar Publishing.
Shereen Sakr, L., Abu-Ghaida, D., & Zakaria, R. A. (2023). Women Entrepreneurs in Palestine: Challenges and Policy Implications. Journal of Women in Business.
Smith, D. M., & Moughrabi, M. (2018). "Entrepreneurship and Cultural Preservation in Palestine: A Case Study of Sunbula and Nablus Soap Company." Middle East Journal, 72(3), 45-58.
Smith, J. (2020). "Feasibility vs. Possibility in Entrepreneurship." Journal of Entrepreneurial Studies, 8(1), 29-43.
Tamari, S. (1991). "The Palestinian Economy: Studies in Development under Prolonged Occupation." Journal of Palestine Studies, 20(4), 22-36.
Tammets, K. (2020). Estonia's ProgeTiiger Program and the Future of STEM Education. Journal of Educational Innovation.
Theng, Y., Goh, L., & Ho, J. (2020). Digital Innovation and Industry Transformation in Singapore. Journal of Information Systems and Digital Transformation.

Theng, Y., Goh, L., & Ho, J. (2020). Digital Innovation and Industry Transformation in Singapore. Journal of Information Systems and Digital Transformation.
Tlaiss, H., & Alharbi, E. (2020). Entrepreneurship in Conflict Zone: Examining the Role of Institutional Voids, Journal of Business Ethics. 163(2), 387-407
UNCTAD (2015). Report on UNCTAD Assistance to the Palestinian People: Developments in the Economy of the Occupied Palestinian Territory. United Nations Conference on Trade and Development.
UNCTAD (2019). "Enhancing Palestine's Integration into Global Innovation Networks." United Nations Conference on Trade and Development.
UNCTAD (2022). Developing a Supportive Legal Environment for Startups in Palestine. United Nations Conference on Trade and Development.
UNCTAD. (2022). Enhancing Palestine's Integration into Global Innovation Networks. United Nations Conference on Trade and Development.
UNCTAD. (2022). Enhancing Palestine's Integration into Global Innovation Networks. United Nations Conference on Trade and Development.
USAID (2011). "USAID Support for Palestinian Economic Growth." USAID.
Vene, K., Randma-Liiv, T., & Raudla, R. (2021). Fast Failure and Fast Learning: Innovation Culture in Estonia. Journal of Innovation Management, 16(2), 245-260.
Vene, K., Randma-Liiv, T., & Raudla, R. (2021). Fast Failure and Fast Learning: Innovation Culture in Estonia. Journal of Innovation Management, 16(2), 245-260.
Wang, P., Kung, L., & Byrd, T. A. (2020). Beyond Blockchain: Emerging Technologies for Managing the Trust Architecture in Digital Economy. Journal of Organizational Computing and Electronic Commerce, 30(1), 35-52.
Whyte, W. F., & Whyte, K. K. (1991). Making Mondragon: The Growth and Dynamics of the Worker Cooperative Complex. ILR Press.
World Bank (2020). "Investing in Education and Innovation for Economic Development in Palestine." World Bank Group.
World Bank (2020). "Technology and Innovation in the Palestinian Territories: Unlocking the Potential." World Bank.
World Bank (2020). "Technology and Innovation in the Palestinian Territories: Unlocking the Potential." World Bank.
World Bank (2020). "Technology and Innovation in the Palestinian Territories: Unlocking the Potential." World Bank.
World Bank (2021). "Enhancing Legal Frameworks for Entrepreneurship in the Palestinian Territories." World Bank Group.
World Bank (2021). "Enhancing Legal Frameworks for Entrepreneurship in the Palestinian Territories." World Bank Group.
World Bank. (2020). Investing in Education and Innovation for Economic Development in Palestine. World Bank Group.
World Bank. (2020). Investing in Education and Innovation for Economic Development in Palestine. World Bank Group.
World Health Organization. (2021). Mental Health and Well-Being in the Workplace. WHO Publication.
Zaman, R., & Talib, S. A. (2021), Environmental Entrepreneurship and Sustainable Innovation: A New Framework for Conflict-Affected Economies.

International Journal of Entreprenurial Behaviour and Research, 27(4). 876-893

Zhou, H., Liu, Y., & Tang, J. (2021). Artificial Intelligence and Green Technology: Innovation for Environmental Sustainability. Renewable Energy Journal, 154(3), 1189-1201.

Ziadah, T. M., & Qawasmi, R. N. (2020). Supporting Innovation and Technology Transfer in Palestine. Journal of Social Sciences.

فلسطين، أمة الشركات الناشئة الحقيقية: رؤية للجيل القادم قدوة للابتكار التكنولوجي والتحول الاقتصادي

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ملخص

الوضع الاجتماعي والسياسي والاقتصادي في فلسطين، بما يشمله من الاحتلال والقيود الاقتصادية والأوضاع السياسية ونقص البنية التحتية، يصعب على فلسطين المنافسة في الأسواق العالمية. ومع ذلك، فإن الموارد البشرية والتكنولوجية والشتات الفلسطيني والقدرات البشرية الصامدة تمنح فلسطين الإمكانات اللازمة لتحقيق النمو. تهدف هذه الدراسة إلى استكشاف الطرق الفعالة والظروف المطلوبة لبناء بيئة ريادية فلسطينية مترابطة وقادرة على المنافسة عالميا، وذلك من خلال معالجة القضايا الهيكلية العميقة، وتحفيز الطاقة البشرية، وصياغة استراتيجيات مبتكرة. تركز هذه الدراسة على تقديم إجابات لمجموعة من القضايا المحورية: البحث وتحليل عوامل تثبيط ريادة الأعمال والتحديات الهيكلية التي تواجه إنشاء المشاريع في فلسطين، تقييم دور الشتات الفلسطيني في تعزيز الابتكار والاستثمار، وفهم إمكانيات التعاون الدولي لدعم بيئة الريادة الفلسطينية، وأخيرا، وضع نموذج عمل لتطوير نظام خالٍ من العوائق وقادر على المنافسة عالميا.

تهدف الدراسة إلى تحديد القيود الهيكلية، قياس مدى فعالية التعاون الدولي، وتقديم حلول عملية (نموذج) لتعزيز التنمية الاقتصادية وتحقيق نمو تكنولوجي تحول فلسطين إلى قوة مؤثرة تساهم في النمو الاقتصادي. اعتمد الباحث في هذه الدراسة على كل من المناهج النوعية والكمية. تم جمع البيانات النوعية من خلال مقابلات مع 10 من صناديق الاستثمار وصناع السياسات

وممكني الشركات الناشئة، إضافة إلى أكاديميين وممثلين من الشتات الفلسطيني. أما البيانات الكمية فقد تم جمعها من خلال استبيانات شملت 97 من رواد الأعمال والخبراء والأكاديميين، بالإضافة إلى دراسة امثلة عينية، تتناول الاتجاهات التمويلية، والوصول إلى الأسواق، وعقبات البنية التحتية. أظهرت الدراسة من خلال الاستفادة من تجارب الأنظمة في كل من استونيا، واسرائيل، وسنغافورة، والإمارات العربية المتحدة، والمملكة العربية السعودية، حيث أثبتت النتائج نجاح ملائمة هذه التجارب والبيانات المستخلصة وأهميتها فيما يتعلق بخصوصية ريادة الأعمال في تطبيقها على فلسطين. أظهرت الدراسة أنه تمت الاستفادة من مقارنة تجارب الأنظمة في كل من استونيا، واسرائيل، وسنغافورة، والإمارات العربية المتحدة، والمملكة العربية السعودية، حيث أثبتت النتائج صحة البيانات المستخلصة وأهميتها فيما يتعلق بملائمة هذه التجارب وامكانية تهجينها مع خصوصية ريادة الأعمال في فلسطين. وقد سلطت أساليب جمع البيانات الضوء على التحديات والفرص في بيئة الريادة بشكل كبير. اذ أشارت الاستبيانات والمقابلات إلى أن حوالي 70% من قطاع الشركات الناشئة في فلسطين يعاني من نقص التمويل بسبب غياب رأس المال الاستثماري ووجود ثقافة مصرفية محافظة. كما أظهرت المقابلات إمكانيات واعدة لمبادرات يقودها الشتات، حيث أعربت نسبة كبيرة من المشاركين في الشتات عن اهتمامهم بتوجيه الشركات الناشئة الفلسطينية أو الاستثمار فيها تناولت دراسة الامثلة العينية على ان مراكز الابتكار التمكينية مثل "غزة سكاي جيكس" و"روابي تك هب" التي أبرزت تأثيرها على البيئة المحلية للريادة والابتكار، والعقبات الناجمة عن البنية التحتية غير المتطورة وصعوبة الوصول إلى الأسواق العالمية. كشفت الدراسة أن إلى جانب نقص التمويل، هناك معوقات تنظيمية وفجوات في البنية التحتية تشكل تحديات أمام الشركات الناشئة في فلسطين. ورغم ذلك، فإن هناك إمكانيات حقيقية للتركيز على العوامل التي تعزز النمو مثل قدرة الشباب المتعلم، ومشاركة الشتات، ونماذج الأعمال التي أثبتت تأثيرها الإيجابي على بيئة الأعمال الناشئة في فلسطين. وأشارت الدراسة إلى أن التركيز القوي على الذكاء الاصطناعي وتقنيات البلوك تشين وغيرها يمكن أن يحل مشكلات التوسع والشفافية. ومن خلال استلهام تجارب إستونيا في الإقامة الرقمية وشبكات رأس المال الاستثماري في إسرائيل، يمكن استنتاج أن سياسات معينة إذا تم إدخالها في فلسطين، ستعمل على تحسين بيئة الريادة بشكل كبير. تقترح الدراسة نموذجا متعدد الطبقات لتطوير بيئة الشركات الناشئة في فلسطين، ويشمل هذا النموذج المكونات الأساسية التالية: الحكومة، رأس المال الاستثماري، الشركاء الدوليون والمتبرعون، الشراكات بين الجامعات والصناعة، الشتات، مجتمع رواد الأعمال، وصندوق الابتكار والشركات الناشئة. سيخدم هذا النموذج النظام البيئي للشركات الناشئة بطرق متعددة، منها: الإصلاحات التنظيمية: تبسيط عملية انشاء الأعمال التجارية، وتعزيز حماية الملكية الفكرية، ودعم العمل عن بعد والنظم

الافتراضية المستوحاة من التجارب الدولية. تعزيز التعليم: توفير دورات تعليمية تركز على ريادة الأعمال، إضافة إلى التوجيه من قبل خبراء محليين ومن الشتات لتعزيز رأس المال البشري. تحسين مكون البحث والتطوير: دعم الأبحاث التطبيقية في القطاعات ذات الأولوية للنمو ريادة الأعمال التعاونية: توفير بيئة عمل تجمع بين رواد الأعمال لتبادل المعرفة، والدعم المتبادل، والدفاع عن القضايا المشتركة في القطاع الناشئ. النموذج المقترح يضع الرقمنة اولا لبيئة أعمال رقمية: اعتماد ممارسات رقمية في العمليات التجارية لتجاوز القيود المادية والسياسية عند تطبيق هذا النموذج عمليا، من المتوقع أن تتمكن البيئة الريادية الفلسطينية من الاندماج بنجاحٍ في الساحة العالمية لريادة الأعمال ويضع فلسطين على خريطة الأنظمة الريادية الناشئة عالمياً.

الكلمات المفتاحية: النظام البيئي، المرونة، دولة الشركات الناشئة، الوصول إلى رأس المال، البرنامج الدولي لتقييم الطلاب (PISA).