



Faculty Of Business and Economics

**Enhancing the Competitiveness of Leather and Shoe Sector in Palestine
Through Triple Helix Model**

تعزيز تنافسية قطاع الجلود والاحذية في فلسطين من خلال نموذج الحلزون الثلاثي

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This Thesis was submitted in partial fulfillment of the requirements for the Master's Degree in Business Administration from the Faculty of Graduate Studies at Birzeit University, Palestine

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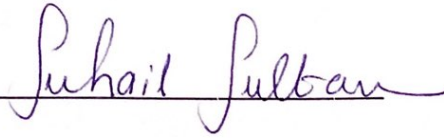
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Abstract

Competitiveness plays a crucial driving force for economic growth. The global quest for economic growth is resulting the need for Palestine as a developing country to identify the strategies need to follow in order to keep pace with the fierce competition to achieve economic growth. The fast pace of change in the world of business has made innovation at the industrial or regional level a pre-requirement for competitiveness. Innovation-driven development requires close collaboration between the three pillars of any given economy: the government, the academia, and the industry.

The main purpose of this study is to explore, in practice, the Triple Helix model in an industry with potential for growth but experiencing slugging growth, with the aim to evaluate the current Triple Helix structure and identify the elements that may hinder the sectoral growth. The research study followed the mixed-method approach, employing primary quantitative and qualitative data collection phases. For the quantitative phase, 171 questionnaires were randomly selected and distributed to the owner/manager of the selected companies working in leather and shoe sector in Hebron. SPSS statistics data analysis was used to analyze the quantitative collected data. While for the qualitative phase, eight semi-structured interviews were conducted with senior-level executives from the three spheres of the THM related to the leather and shoe sector. Content analysis was conducted on the data obtained from the interviews.

The key findings of the study reveal that the mere presence of a triple helix structure, without having well-structured of its design, does not guarantee to obtain the provision of the promised benefits. Furthermore, policy absence seems to hinder the benefits gained from a triple helix system to survive and thrive with fruitful collaborations. Overall, in order to enhance forming sustainable collaborations, there is a need to set up the rules of engagement in terms of collaboration between the three institutional spheres, which will encourage the spheres' ability to embrace enthusiastically the role of others from a perspective of collaboration, rather than resentment.

تعزيز تنافسية قطاع الجلود والأحذية في فلسطين من خلال نموذج الحلزون الثلاثي

اعداد الطالبة: رنا محمد العبيات

إشراف: د. سهيل سلطان

ملخص الدراسة

تلعب القدرة التنافسية دوراً حاسماً في النمو الاقتصادي. كما وأن السعي العالمي للنمو الاقتصادي خلق الحاجة للبحث عن الاستراتيجيات التي يجب تبنيها من أجل مواكبة المنافسة الشرسة لتحقيق النمو الاقتصادي لدى الدول النامية مثل فلسطين. إن الوتيرة السريعة للتغيير في عالم الأعمال جعلت الابتكار على المستوى الصناعي أو الإقليمي متطلباً مسبقاً للقدرة التنافسية. تتطلب التنمية القائمة على الابتكار تعاوناً وثيقاً بين الركائز الثلاث لأي اقتصاد: الحكومة والأوساط الأكاديمية والصناعة وهو ما يحرص عليه نموذج الحلزون الثلاثي.

هدفت هذه الدراسة لتقييم مدى قدرة نموذج الحلزون الثلاثي على تحسين تنافسية صناعة ذات إمكانات نمو ولكن تعاني من نمو بطيء (قطاع الجلود والأحذية الفلسطيني في الخليل) وذلك من خلال تقييم شكل هيكل النموذج في الوضع الحالي وتحديد العناصر التي تعيق أو قد تعيق نمو قطاع الجلود والأحذية الفلسطيني. وفي هذا الصدد، تم جمع البيانات الأولية على مرحلتين، الأولى كمية، قامت فيها الباحثة عشوائياً باختيار وتوزيع ١٧١ استبيان على مدراء ومالكى المنشآت العاملة في قطاع الجلود والأحذية، وقد تم استخدام تحليل البيانات الإحصائية SPSS لتحليل هذه البيانات. أما بالنسبة لمرحلة البيانات النوعية، فقد أجرت الباحثة ثمانية مقابلات شبه منظمة مع مسؤولين تنفيذيين من المجالات الثلاثة لنموذج الحلزون الثلاثي ذوي علاقة مباشرة بقطاع الجلود والأحذية. تم إجراء تحليل المحتوى على البيانات التي تم الحصول عليها من المقابلات.

كشفت النتائج الرئيسية للدراسة أن مجرد وجود هيكل حلزوني ثلاثي، دون أن يكون جيد التصميم، لا يضمن الحصول على فوائد النموذج المتوقعة. علاوة على ذلك، يبدو أن غياب السياسة يعيق تحقيق فوائد نموذج الحلزون الثلاثي وازدهاره من خلال التعاون المثمر. وبشكل عام، من أجل تعزيز تشكيل التعاون المستدام، هناك حاجة إلى وضع قواعد التعاون بين المجالات المؤسسية الثلاثة (الحكومة والصناعة والجامعة)، والتي بدورها ستشجع قدرة هذه المؤسسات على احتضان دور المؤسسات الأخرى من منظور التعاون بدلا من الاستياء والإحباط.

Chapter One – Introduction

1.1 Overview

A key criterion for assessing the success of countries, industries and companies is competitiveness, as it helps in improving the people's welfare and living standards and helps to acquire greater market share, higher profitability and long-term economic stability and growth. In light of this, companies must be well competitive in domestic and international markets in order to survive (Mehralian & Shabaninejad, 2014).

According to Schwab (2018), all economies must invest in broader measures of competitiveness today to sustain growth and income in the future. Porter (1998) indicates that in order to have more competitiveness, companies should employ sophisticated methods, using advanced technologies, and offer unique products and services. Furthermore, in his book "The Competitive Advantage of Nations" Porter clarifies that companies achieve competitive advantage through acts of innovation.

The key to innovation-driven development requires close collaboration between the instruments of research, technology, and finance (Etzkowitz & Zhou 2017). Etzkowitz and Leydesdorff (1995) have developed the "Triple Helix" model that comprises of an evolutionary model for collaborative relationships between the traditional three institutional spheres (university, industry and government) in which innovation is an outcome of the interaction. Triple Helix model aims to foster economic development and build up a knowledge-based society through innovation and entrepreneurship.

Most of the countries are now in transition to a knowledge-based economy, where a country's competitiveness is mainly determined by know-how and sophisticated technologies (Safiullin et al., 2014), resulting in the need to develop and implement a new model of innovative development - the model of triple helix (university, industry and government). As the model's proponents claim, "in one way or another, most countries and regions are currently trying to accomplish certain level of Triple Helix III" (Etzkowitz & Leydesdorff, 2000).

1.2 Research Significance

Triple Helix Model has been applied in developed and developing countries, however, it can be considered that the triple helix knowledge network is a newly emerging phenomenon in developing countries, which reflected in the growing supporting policies for the expansion of university-industry collaboration (Nakwa & Zawdie, 2015).

Developed economies are well prepared to take advantage of the power of information. In comparison, developing countries are battling to obtain the human and material capital they need while at the same time trying to support knowledge-based innovations (Bano & Taylor, 2015), therefore, it is crucial to recognize and understand the strategies that developing countries need to follow in order to achieve rapid growth and to meet the constant innovation of the Triple Helix model. The role of the Triple Helix model in promoting the emergence of competitiveness in emerging economies is important in this context, yet it is very poorly recognized compared to developed economies.

1.3 Research Problem

According to the Palestinian Sectoral Strategy for the Development of the National Economy (2017-2022), in spite of the challenges and obstacles facing the Palestinian economy, efforts seek to find alternatives and overcome the scarcity of resources, through the optimal use of innovation in order to achieve the sustainable economic development.

Among of the most significant keys to Palestinian economic development is the industrial sector. The industrial sector contributes to 13.2% of the Palestinian GDP of the year 2018 (PCBS, 2019). This sector occupies several areas include: the leather and shoe sector, the wood and furniture sector, textile and clothing sector, food products sector and others (PCBS, 2019).

The contribution of the leather and shoe sector to the overall Gross Domestic Product (GDP) is 0%1 of the overall Palestinian industry, which makes shoe industry one of the most important promising industries that can effectively contribute to the growth of Palestinian income in general, and its contribution to industrial production, employment and export (PCBS, 2019; Awad & Amro, 2017).

There have been many initiatives that was directed to enhance the sector's competitiveness, and in general, these initiatives were built on the basis of tripartite collaborations between university, government and the industry. For example, the Cluster of Leather and Shoe Industries was established as a French-funded project, in partnership with the Hebron Chamber of Commerce and Industry, Palestine Polytechnic University and the Ministry of National Economy in 2013, through this project, a professional diploma program were established as a joint project between

the PPU and the cluster, also a development center that is specialized in leather and shoe sector were established as a joint project between five parties from the university, industry and government (Cluster 2015).

Also, a value chain developing project for the shoe industry in Hebron has been implemented in 2019 as a partnership with UNIDO, the Ministry of National Economy and the Palestinian Leather Industries Union. This project help in creation of 400 jobs and a significant improvement in quality and competitiveness (PFLI, 2019).

Despite all these accomplishments, this sector still shows low-levels of competitiveness (Interview, on Oct. 10, 2019). In an interview with the director of the Leather and Shoe Cluster (Held in October 2019, for the purpose of problem definition), he mentioned that all these activities and initiatives are beneficial but not sufficient. Most of these initiatives are not sustainable, as soon as the funding ends, some parties begin to shift their priorities away from these projects. He described the condition of the sector as a patient who is taking the medication (projects) in order to stop the symptoms without addressing the real problems (Interview, on Oct. 10, 2019).

Furthermore, Hajhamd (2017) showed that the current degree of collaboration between industry, government, and university in the Palestinian industrial sector doesn't affect the performance of the industrial firms and their ability to achieve new innovations positively, and it is not efficient and failed to attain product innovation in the industrial sector.

To go further and to get deeper understand of the current situation of the leather and shoe sector in Palestine, this research aims to explore whether the current collaborations within the sector confirm the existence of the triple helix model and what hinders its effectively application. Also, it tends to recognize the institutional elements within the current collaboration structure that could impede the growth of the sector or contribute negatively to the sectoral growth. And finally, it will provide a proposed model that clarifies how the triple helix model can enhance the sector's performance and competitiveness.

1.4 Research Objective

This study provides the Triple Helix Model as a non-conventional solution that can help to enhance the performance of the leather and shoe sector and, therefore, enhance its contribution to the industrial GDP.

First, it addresses the extent to which the THM can provide a solid conceptual basis for the enhancement of the competitiveness, focusing on the leather and shoe sector in Palestine. It also identifies some of the challenges that hinder its development.

In other words, this study explores and investigates the extent to which the triple helix model can be applied in Palestine, and what is required to apply it successfully in a developing country such as Palestine.

Finally, the research ends up with some recommendations and provide a proposed model that clarifies how the triple helix model can enhance the Palestinian leather and shoe sector performance and competitiveness.

1.5 Research Question

All of the above, can lead to the research central question:

“To What Extent Triple Helix Model Can Improve the Competitiveness of Leather and Shoe Sector in Palestine?”

Research Sub-questions

Specifically, this research addresses the following research questions:

1. To what extent Triple Helix Model is applied to leather and shoe sector?
2. What is the level of Competitiveness of leather and shoe sector?
3. How Triple Helix Model can enhance the leather and shoe competitiveness?

1.6 Conceptual Framework

Triple Helix

This research will adopt an analytical approach developed by Li et al. (2018). This approach is based on assessing the collaborations between the three Triple Helix actors (industry, government and university) in three steps. First, it investigates the collaborations between the industry and university through several aspects (e.g. adopting research projects, trust the universities ability to develop programs and products, etc..). Second, it moves to investigate the industry-government collaborations also through evaluating several aspects (e.g. funding research, tax deduction for innovations, enhance exports and fight poor quality imports, etc..). Finally, it investigates the inter-firm collaborations within the industry itself, it evaluates the collaborations with industry suppliers, distributors, marketers, competitors and it also adds to them the collaboration with the financial institutions

such as banks and insurance companies that are considered important to the sectoral growth.

This approach was chosen since it used firms as a unit of analysis instead of using the entrepreneurial university as most of the previous literature (Li et al., 2018). This is what the research aims to measure, as it aims to measure the relationships between institutions working in the leather and shoe sector with other Triple helix actors (government and universities).

Balance Scorecard

The Balanced Scorecard technique (Kaplan and Norton, 1992) has been used in this study to assess the competitiveness of the firms operating in the leather and shoes sector.

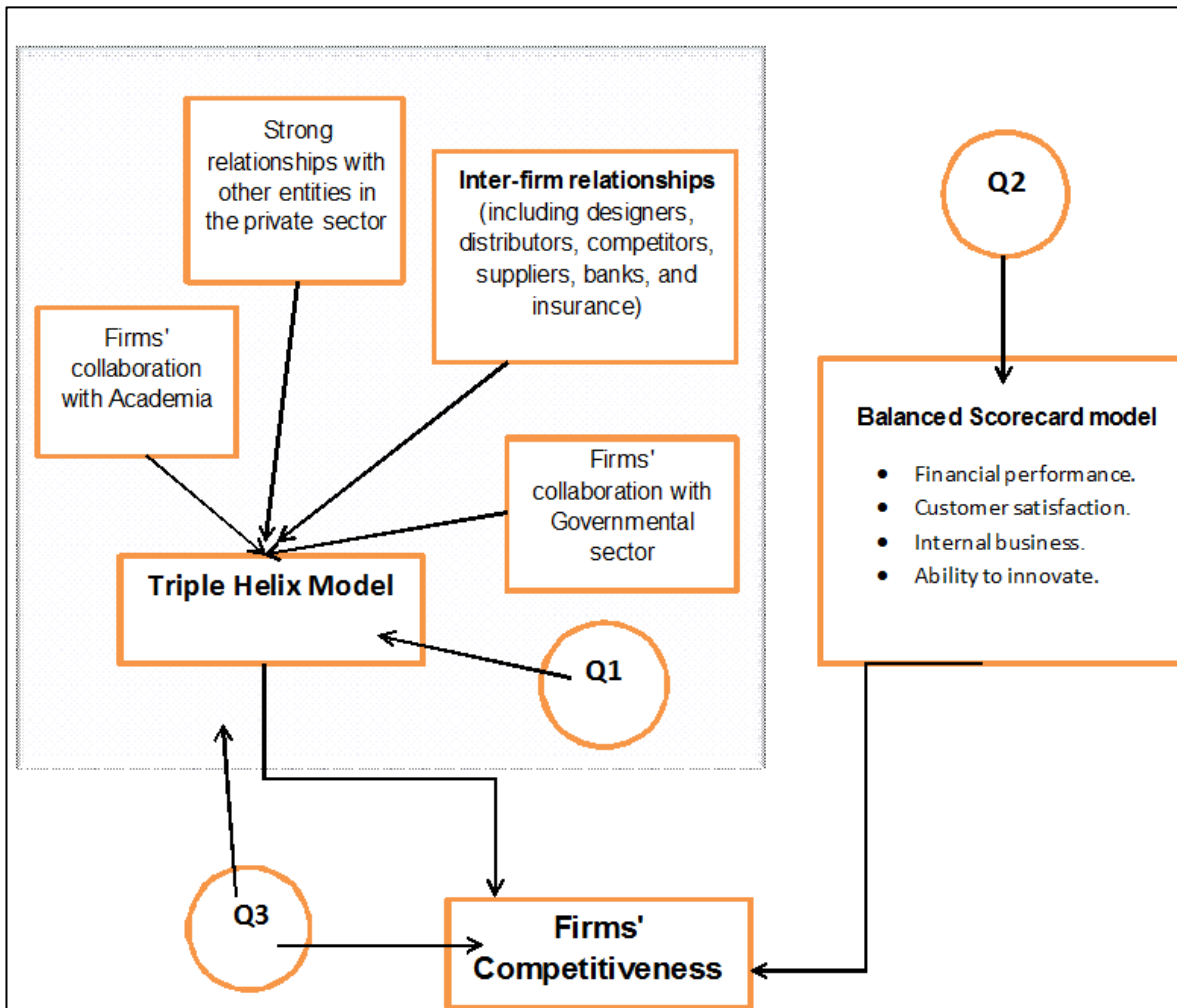
(Kaplan & Norton, 1992) introduced this measurement card in their study "The balanced scorecard Measures that Drive Performance". They clarified that the traditional financial indicators should be complemented by operational measures relating to customer satisfaction, internal processes and innovation capacity. They suggested four main parts: first, "financial one" how to look at the participants. Second, "clients" how the participants look at us. Third, "internal operations" what must we be good at? Fourth, "learning and growth" can we continue to improve and create value?. Kaplan and Norton (1992) also mentioned that each measurement measures several indicators (mentioned in Chapter Two) that all come together and provide an overview of the firm's performance.

Kaplan and Norton (1992) clarified that the traditional financial measures should be complemented by operational measures about customer satisfaction, internal

processes, and innovation capacity. They also explained the importance of the measurement card of parallel performance to avoid differences between the parts or contents. This study provides the managers with an overall pattern in order to apply the Enterprise's strategic objectives into connected performance measurements.

Figure 2.2. Show the study conceptual framework. As this study is focusing on assessing the networking aspects of the Triple Helix model brings it closer to the neo-institutional approach. Neo-institutional approach focuses on networking and exchanges between various organizations and institutions (Etzkowitz, 2008).

Figure 1.2: Triple Helix Model and Competitiveness as a Conceptual Framework



Source: Author

1.7 Research Scope

Leather and Shoe sector distributed in different geographical locations of the West Bank. But it is mainly concentrated in Hebron Governorate. The economic entities of this sector are divided between shoe factories, tanneries and workshops for other leather industries.

This study focuses on the industry, government and academic institutions that is involved in the leather and shoe sector and located in Hebron Governorate.

This study took place during the academic year 2019/2020. Data collection have been conducted between Dec. 2019 and Jan. 2020. Quantitative and qualitative data were collected from senior level stakeholders how own an institutions that operating and relative to the leather and shoe sector.

1.8 Research Structure

This research is organized into five chapters as the following:

- **Chapter One:** This chapter starts with an introduction to the research context, followed by research significance, problem statement, research objectives, questions, scope and the used conceptual model.
- **Chapter Two:** addresses literature review which describes the Triple Helix model, competitiveness and the Palestinian leather and shoe sector with a look at the global leather and shoe experiences.
- **Chapter Three:** This chapter describes in detail the research designs, methodology, population, sampling, data collection instruments, data analysis techniques, and validity and reliability.
- **Chapter Four:** This chapter contains a detailed discussion of the research findings. it illustrates the data analysis of both quantitative and qualitative collected data in a manner that is consistent with the literature review presentation and allowing to answer the research questions.
- **Chapter Five:** This chapter contains an overview of the main findings of this research, it also provides a proposed model and recommendations for the research stakeholders and finally recommendations for future work.

Chapter Two – Literature Review

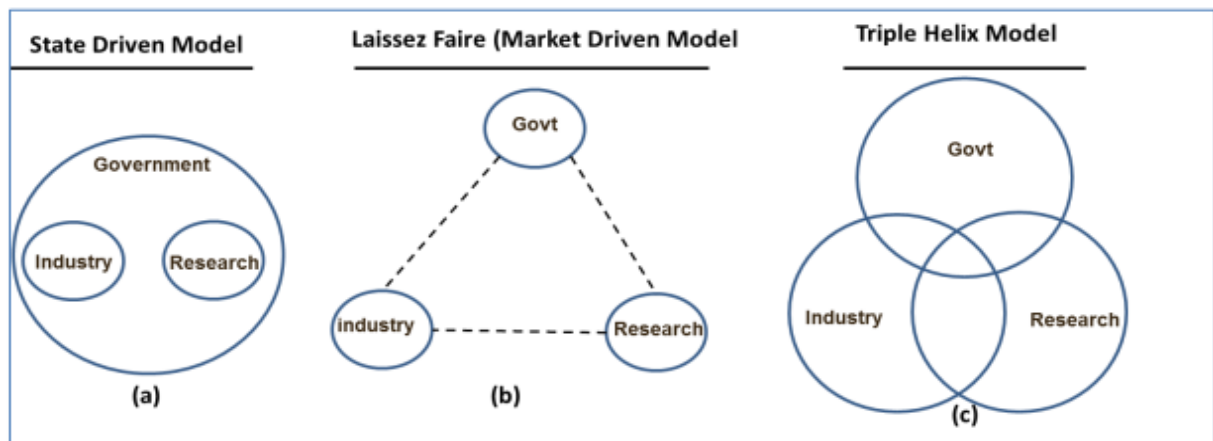
2.1 Triple Helix Model

2.1.1 Background

The triple helix interactions between industry, university and government is a universal model for the development of a knowledge-based society, through innovation and entrepreneurship (Etzkowitz & Zhou 2017). Originally developed by Etzkowitz and Leydesdorff (1995, 1997) to understand the dynamic interactions between industry, university and government (in the form of "taking the role of the other"), which fosters innovation, entrepreneurship and economic growth. This model enables the analysis of multiple reciprocal relationships among the institutional (public, private and academic) spheres at different stages of knowledge capitalization and thus changing institutions generating knowledge (Leydesdorff & Etzkowitz, 1998).

According to Etzkowitz (2003), the evolutionary process in the Triple Helix requires a shift from the 'statist' stage in which government controls academia and industry; to the 'laissez-faire state' of the relation between the three institutional spheres of 'arms-length', where each sphere operates apart from others, and each guided by its mission, and finally to the hybrid stage in which each institutional sphere maintains its own distinct features and at the same time takes other spheres' roles as well.

Figure 2. 1 Triple Helix system evolutionary process



Source: Etzkowitz (2003).

Over the last two decades, a substantial body of the Triple Helix literature has been established which could be viewed through dual complementary approaches “neo-institutional” and “neo-evolutionary”.

The neo-institutional approach functions as an operationalization of an innovation environment (regional, national, etc.) by defining its key institutional actors: university, industry, and government. It also focuses on networking and exchanges between various organizations and institutions. Neo-institutional perspective indicates that the development of an economic system is enhanced in a situation of increasing significance of knowledge and innovation, when major institutional actors (university, industry, and government) begin to "take the role of one another" during internal transformation (Etzkowitz, 2008), while stimulating interrelations between them, and thus establishing trilateral interactive relations. This overlay of communications becomes as important to the system dynamics as the original knowledge infrastructure between universities, industry, government, and bilateral relations.

On the other hand, the neo-evolutionary perspective looks from a different angle to the same issues. Leydesdorff (2010) argues that, when it comes to the aggregate level (region, nation, etc.), it becomes harder to match the institutional actors (university, industry, and government) with their one-to-one functions. Therefore, instead of distinguishing between Triple Helix of institutions, Leydesdorff and Meyer (2006) suggest focusing on Triple Helix of functions: wealth generation (or knowledge exploitation), knowledge creation (novelty), and normative regulation. The aim of the neo-evolutionary perspective is to study possible synergies between these functions, which are supposed to enhance knowledge base development in the national (or regional) innovation system.

Overall, we can conclude that the triple helix model clarifies the relationship of collaboration between industry, university and government, where each provides one or more competencies for the development of modern innovation. Also, the neo-evolutionary perspective is different from the neo-institutional one in its vision but complementary when it comes to practical application. While neo-evolutionary one puts functions forward instead of institutions, and it is concerned with mechanisms of evolution and exchange between the three functions of the helices. The neo-institutional one is focusing on networking and exchanges between various organizations and institutions which became important to the system dynamics as the base of original knowledge infrastructure.

2.1.2 Contributions and Key enabling conditions for Triple Helix

Safiullin et al., (2014) mentioned that implementation of this model contributes to the establishment of a favorable environment for innovation, as it promotes the development of its components, due to the involvement of all participants resource

model, the combination of which creates a synergistic impact due to the increase in innovative activity which is achieved as a result of the transaction costs and innovation risks reduction.

Also, Gachie (2019) stated that the key benefits gained by the existence of sustainable collaboration between the three spheres could include:

- Networking and access to industry partners.
- Access to labs and facilities throughout the industry.
- Prospects for the conversion of journal publications and research into commercial value in terms of products and services.
- Opportunities to implement effective policies to tackle problems affecting all parties that are important for sustainable national growth in the business sector.

In order to get sustainable collaborations, Ranga and Etzkowitz (2015) identify some key enabling conditions for triple helix such as the university competencies, industry's absorptive potential, supportive infrastructure, and institutional entrepreneurs. In a similar vein but a different perspective, Cai et al. (2015) treat the development of the triple helix as an institutionalization process involving four stages: (i) realization of needs; (ii) intra-organizational transformation; (iii) inter-organizational interactions and (iv) institutionalization. So, they identified seven institutional logics aligned with the development of an ideal model of Triple Helix.

2.1.3 Triple Helix Approaches

Triple Helix usually requires a prime mover (Gatune et al., 2018), note that any of the three nodes can be the triple helix driver. Some examples of a regional development

initiative driven by triple helix under the leadership of the different nodes are described below:

Private Sector Driven

(Horlings, 2014) discuss that Netherlands' Eindhoven region is a great example of cooperation between Triple Helix. With Phillips as the lead firm working closely with the university and local government to drive innovation and build a strong knowledge industry cluster. The region has established an Institute for Triple Helix Cooperation, Brainport, to ensure the smooth functioning of the system. Brainport supports and coordinates government, university and industry cooperation. As a result, Eindhoven is now one of the Netherlands ' most vibrant and resilient regions.

University Driven

The best example of university-driven triple helix is the highly successful high technology clusters around Stanford University and MIT in the US and Cambridge and Oxford Universities in the UK (Gatune et al., 2018). Universities are now at the center of regenerating regions by attracting knowledge-intensive businesses around their strong research base and the ready supply of skilled people (Rodrigues and Melo, 2013), universities can form cornerstones of regional clusters.

Government Driven

Thailand has established a competitive poultry industry using the triple helix model (Klomklieng et al., 2012). Through it's sought to be a bridge between basic R&D and R&D development. It has established regional networks in a particular region that work with a university. Through this network, this cluster has succeeded in supporting the development of 8 previously imported products for the poultry

industry. This saw product manufacturers' incomes increased by 20% and product sales by 10%.

In general, we can conclude that the Triple Helix theory provided an alternative form of collaborative innovation by getting together organizations that have a vested interest in the sector's development but do not hold the same motives. It introduced the collaboration among the three institutional spheres of government, academia and industry, all guided by various motivators, for innovation. Industry is driven by the attractive investment returns enabled by investing in a growing sector. Academia is driven by an industry that is eager and capable of commercializing innovations that have been developed and generated by academia, as well as being enthusiastic about them. Also, government is driven by the expansion of its economic base by promoting growth in the industry so these sectors can contribute to its fiscal situation.

2.1.4 Challenges to build Triple Helix

(Gatune et al., 2018) has analyzed several Triple Helix cases and have ended up with some major challenges that might be faced when Triple Helix has to be applied such as:

- Persistence of old mindsets: The overlap of boundaries is the secret to the triple helix systems ' performance, as pointed out. The quality and quantity of the relationships that are built across the spheres are therefore crucial.
- Mistrust: Bringing together the three spheres means addressing tensions and conflicts of interest as well. Therefore, there is also a need for convergence and interest confluence (Etzkowitz & Leydesdorff, 2000).

- Governance: Management of the Triple Helix system could be a challenge due to the lack of expertise to run the created Triple helix organization. The key is to understand clearly how the elements link formally and informally to support the innovation, then to pursue policies that will strengthen the linkages that are valuable to the relationship (Smith and BagciSen, 2010).
- Leadership: Moving from competitive regions (zero-sum game) to collaborating regions (win-win, value creation game), forming regional consortia to merge and enhance strengths, and then 'local champions' and leaders can be identified to promote and manage the change.
- Political challenges: Governments consist in most cases of politicians seeking re-election, and thus typically lack the ability and willingness to address long-term growth priorities and short-term horizons (Joosten, 2014; Hira, 2013). Also, policymakers often do not have a complete understanding of market behavior, knowledge-building strategies, and technical possibilities, so when policies planned, they may fail (Bleda & Del Rio, 2013; Bathelt et al., 2017).

2.1.5 Triple Helix Critique

Every economic theory has its criticisms, and Triple Helix theory is not different from the norm. One of the main criticisms of the model is that it is very abstract (Cooke, 2005). Others have criticized the triple helix model for paying little attention to the social context, and the lack of 'socio-cognitive' micro-foundations to guide its empirical growth (Shinn, 2002; Brännback et al., 2008; Martynovich, 2011). While Hira (2013) argued that Triple Helix neglects the human element of the entrepreneur and how he/she can develop and spread ideas and represents the main drivers of innovation in the initial case.

Another critique is that the Triple Helix model does not take into account the national context that affects the three institutional actors (Shinn, 2002). This seems to be relevant to Balzat and Hanusch (2004) point, in which they argued that this model did not consider the differences in innovation systems of different nations.

Tuunainen (2002) has demonstrated, through a case study, that universities are much more resistant to change than the Triple Helix model suggests. He referred this to the (1) challenges in developing hybrid university-industry systems for technology transfer and/or marketing; (2) property rights conflicts; and (3) the impact of successful development of an entrepreneurial university is not significant as the model argues.

2.2 Competitiveness

2.2.1 Definition

Competitiveness is a multidimensional concept means different to different people depending on the goal and level. It can be looked at three different but interrelated levels: Country (macro-level), Industry (meso-level), and Firm (micro-level)(Ajitabh, 2008). Man et al. (2002) pointed out, whatever the levels of focus are, competitiveness is ultimately concerned with the long-term performance of the subject in relation to its competitors, as a result of being competitive.

At the macro level, Schwab (2011) defined competitiveness as “the set of institutions, policies, and factors that determine an economy's level of productivity, and its ability to generate wealth and investment returns, and to determine economic growth potential”. While at the meso-level, Ajitabh (2008) mentioned

that industry acts as an important bridge between nations and firms. Ketels (2006) described industrial competitiveness as a company or industry's ability to meet the challenges posed by foreign competitors.

In regards to micro-level, Najib and Kiminami (2011) defined firm competitiveness as *“The degree to which a firm can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its employees and owners.”*

2.2.2 Competitiveness Measurements

There have been some major efforts to measure and evaluate competitiveness at the national level, those are: Institute for Management Development (IMD)'s World Competitiveness Yearbook, WEF's Global Competitiveness Index (GCI) and the Institute of Industrial Policy Studies (IPS)'s National Competitiveness Report (Ajitabh, 2008; Cetindamar & Kilitcioglu, 2013). They are considered as a great measuring and benchmarking tools for the competitiveness of nations (Cetindamar & Kilitcioglu, 2013).

The "Cluster approach" and "collective efficiency theory" have been used to analyze the competitiveness at the industry level (Ajitabh, 2008). Porter (2000) illustrated three aspects in which clusters influence competitiveness: (1) raising the number of recent industries and firms; (2) increasing the capacity of participants to innovate and grow, and (3) developing business forms to promote innovation and extend clusters.

According to Barney (2002), competitive firm performance is assessed by both objective and subjective parameters. Objective one is investment, market share,

profit and revenue, but subjective considerations tackle the credibility of consumers or clients, vendors, rivals and quality enhancement. There have been many frameworks and models that can help to evaluate and measure the competitiveness at the firm's level such Balanced Scorecard (BSC), Assets-Processes-Performance Framework (APP), Value Curve (CV) and many others.

In general, we can conclude that each level of competitiveness has its single measurements that should assure sustainability through the generation of competitive potential and the management of the competitive process. This research tends to measure the competitiveness at the firm's level, as the researcher believes that firms are the corner and the center of any industry, their performance will be reflected in the competitiveness measures.

2.2.3 Balance Scorecard

The Balanced Scorecard technique (Kaplan and Norton 1992) was used in this analysis to assess the competitiveness of the firms operating in the leather and shoes sector. This measurement tool was chosen because it is used to define and optimize various internal business roles, the resulting external impact, and for evaluating organizations and providing feedback that encourages continuous learning and improves (Quesado et al., 2018).

(Kaplan & Norton, 1992) introduced this measurement card in their study "The balanced scorecard Measures that Drive Performance". They clarified that the traditional financial indicators should be complemented by operational measures relating to customer satisfaction, internal processes and innovation capacity. They suggested four main parts: first, "financial one" how to look at the participants.

Second, "clients" how the participants look at us. Third, "internal operations" what must we be good at? Fourth, "learning and growth" can we continue to improve and create value?.

Kaplan and Norton (1992) clarified that the traditional financial measures should be complemented by operational measures about customer satisfaction, internal processes, and innovation capacity. They also explained the importance of the measurement card of parallel performance to avoid differences between the parts or contents. This study provides the managers with an overall pattern in order to apply the Enterprise's strategic objectives into connected performance measurements.

Kaplan and Norton, (1996) added that each perspective should contain up to five objectives and quantifiable indicators such as:

- The Customer perspective: the Customer perspective defines the value proposition used by targeted customers to generate sales and loyalty. Khan & Halabi (2009) also covers indicators such as customer satisfaction, new customer retention, new customer growth, customer response time, market share and cost-effectiveness.
- The Internal Business Process perspective: This perspective describes the processes that generate and deliver a value proposition to the consumer (Kaplan & Norton, 1992) some of the key performance indicators are process change and supplier cooperation.
- The Learning and Growth perspective: this perspective emphasizes innovation, creativity competency and ability, and refers to the intangible assets that are essential to the strategy. The aims of this perspective are to

identify the jobs (human capital); the systems (information capital) and the organizational climate (organizational capital) needed to support internal processes (Kaplan and Norton, 1992).

- The Financial perspective: this perspective describes the strategy's tangible results in traditional finance terms. In general, the financial perspective encompasses measures of profitability such as operating income, return on capital employed, sales growth, cash flow generation and added economic value.

2.2.4 Competitiveness and Triple Helix Model

According to Schwab (2018), in order to maintain development and earnings in the future, all economies must invest in broader competitiveness measures today. Porter (1998) indicates that in order to have more competitiveness, companies should employ sophisticated methods, using advanced technologies, and offer unique products and services. Furthermore, in his book "The Competitive Advantage of Nations" Porter clarifies that corporations gain competitive edge through innovation actions. In its broadest context, they view innovation through both new technology and new ways of doing stuff.

Innovation is now a critical challenge for competitiveness, to be successful, companies need to know how to deal with the challenges that arise from it, leveraging the strengths of their location to develop and commercialize new products and services (Schwab 2011).

The key to innovation-driven development requires close collaboration between the instruments of research, technology, and finance (Etzkowitz & Zhou 2017). Collaborative networks are actively contributing to the enhancement of regional

competitiveness, both in terms of project implementation of emerging technology networks and accessibility to new tools, expertise and cost synergies (Farinha et al., 2016).

The Triple Helix model is structured among the interactive relationships between three institutional spheres. As institutions crucial to knowledge, this is the key to production itself, which then becomes the key to stable interactions. This model assumes innovation and entrepreneurship to provide competitiveness and regional development catalysts (Ranga & Etzkowitz, 2015).

Networks of inter-firm cooperation, agencies, and research centers reflect a positive impact on SMEs' success in innovation (Zeng et al., 2010). There is a high degree of consensus on the concept of competitiveness by efficiently applying production factors, leveraging endogenous resources or increasing production, and collectively providing the basis for raising the prevailing quality of life (Solleiro & Castañón, 2005; Strand & Leydesdorff, 2013). Nevertheless, Solleiro and Castañón (2005) mentioned that the respective export ability of companies and regions is another factor to consider when seeking to increase competitiveness.

Overall, the researcher here tries to understand the connection between the concept of Triple Helix and Competitiveness, she tends to examine if the effect of well-applied Triple Helix collaborations within an industry can enhance its competitiveness.

2.3 Leather and shoe sector in Palestine

2.3.1 History and Current Situation

The history of the Palestinian leather and shoe industry dates back to the 1960s; it reached its peak in the 1990s, when almost 13 million pairs of shoes were manufactured and more than 10,000 workers were employed in almost 1000 footwear institution directly work in the sector (Paltrade, 2014).

The Palestinian leather and shoe industry has historically served as a significant national industrial sector due to the impacts and contributions on industrial development, employment, and exports. It is historically centered in Hebron, with a smaller concentration in Nablus and Bethlehem. The sector consists of both footwear manufacturing firms and tanneries, and most of them classified as a small family-owned business, with limited means (PCBS, 2014; National expert strategy, 2014-2018).

However, the shifts in Israel's trade policy, in the late-1990s, towards opening up trade and lifting import restrictions on many traditional industries, including the leather and shoe sector, have led to a gradual contraction of this sector. In addition to the Palestinian Authority polices to open wide imports from East Asian countries, especially China, which led to a sharp decline in the share of this sector in the local market (Fallah, 2018).

Fallah (2018) discussed that imported shoes have beautiful designs that keep pace with international fashion and satisfy the tastes of a wide range of consumers. Nevertheless, the lack of mandatory technical instructions and poor market regulation permitted many importers to supply large-scale, low-quality shoes to the Palestinian market especially from China and recently from Turkey. The low prices of

these goods, and the lack of explanatory data on their low-quality level contributed to the high demand for them, especially for lower-income families.

Since then, leather and shoe sector has facing many problems that have negatively affected its performance and competitiveness. These problems can be summarized in the lack of orientation towards the development of production mechanisms, technology, and weakness in innovation capabilities such as management skills, designs, and low level of human capital which led to a decline in the market share of the sector, in addition to the absence of government policies on importing materials that affecting this sector negatively (Fallah, 2018; Awad & Amro, 2017).

Although there were some attempts to save this sector, such as the raise of tariff for shoes to 27% in 2013, however, the reports of the Ministry of Finance showed that in 2017 the volume of imports amounted to 21 million pairs of shoes in all forms, compared to 15 million pairs in 2010. This number calls for some serious thinking!

In a move towards enhancing the competitiveness of the sector, the Cluster of Leather and shoe Industries was established as a French-funded project, in partnership with the Hebron Chamber of Commerce and Industry and the Ministry of National Economy in 2013 (Cluster, 2015; Fallah, 2018).

One of the most important achievements of Hebron Leather and Shoe Cluster was the establishment of the Leather and Footwear Products Development Center (LFPDC), which includes a shoe and leather testing laboratory, a training unit that offers a professional diploma in the shoe industry, a design unit based on the latest design methods, and a computer-aided design/computer-aided manufacturing (CAD/CAM) and information unit. This center was established based on a memorandum of understanding that was signed in 2014 between Palestine

Polytechnic University, Hebron Chamber of Commerce and Industry, Hebron Leather and Shoe Cluster, the Ministry of National Economy, and the Federation of Palestinian Leather Industries (Cluster, 2015).

The direct objective of the project is to enhance the competitiveness of local companies, especially small and medium-sized companies, through establishing linkages between different entities related in the same value chain and in a specific geographical area, in addition to improving the mechanisms of dialogue between the public and private sectors (Cluster, 2015).

The value chain developing project for the shoe industry in Hebron, which was implemented in 2019 was another attempt to develop this sector as well, it was carried out with Italian funding in partnership with UNIDO, the Ministry of National Economy and the Palestinian Leather Industries Union. This project has achieved positive results, the most important of which is the creation of 400 jobs and a significant improvement in quality and competitiveness (PFI, 2019).

It can be noticed that the most recent attempts that was aiming to develop the sector was based on the collaboration between different parties (public, private and academic), despite this, the numbers are still not in the interest of the sector, although some of these projects were supposed to have a clear impact on enhancing the performance of this sector. So that, it is important to investigate the extent to which the current collaborations within the sector are directed towards sectoral growth and what is missed in order to obtain well-structured collaborations.

Literature Review Conclusion

The literature review highlighted some of the key points that the Palestinian leather and shoe sector can benefit from by strengthening collaborations through Triple Helix. The benefits of a growing sector led by Triple Helix include higher government revenues, market impact, business growth, incentive for innovation, and a new stream of academic research funding sources.

There are several shortcomings and challenges that can prevent the development of sustainable Triple Helix collaborations which in turn will affect the sector's performance. However, an industry's desire and capability to expand sustainably provide the three institutional spheres with a strong incentive to work towards making this wish a reality.

The need for this study is augmented due to the lack of information about the sector. SMEs with limited funding need access to reliable and inexpensive sources of information for decision-making and for the sector to grow. The research also analyzes the theory's assumptions to align them with what is actually happening in the sector in terms of what the theorists are suggesting should be the case and what is actually happening. The research would evaluate whether the theory's key attributes are as essential to the enhancement of competitiveness as what theorists believe to be the case.

Chapter Three – Methodology

Introduction

This chapter presents the research methodology used in this study. It starts with a presentation of the research design and research approach in sections 3.1 & 3.2 respectively. Section 3.3 presents the population and sampling distribution methods, while sections 3.4 and 3.5 illustrated research data collection tools and the data collection phase. Section 3.6 discusses the followed data analysis approach, while section 3.7 covers the validity and reliability. Finally, section 3.8 discusses the research limitations.

3.1 Research Design

Saunders & Lewis (2012) claimed that it is possible to classify research studies into three categories: exploratory, descriptive, or causal. Also, Wiid & Diggines (2010) proposed that the choice of the study style depends on the level of ambiguity of the problem in question, which makes it possible to summarize the concept as follow:

- An exploratory study is suitable for situations where there are phenomena but the issues behind them are unknown. The realization that the customer attrition rate is increasing would be an example, but the reasons for this observation are unknown.
- A descriptive study ideally serves circumstances where awareness of the problem exists. For example, an idea of the types of customers who would purchase from a particular company and those who buy products from rivals.

- Causal study involves a clearly defined issue and an example would be to ask whether adding such features to a product would lead to a decline and a reversal of the attrition of the customers.

Based on the above, this research study is classified as a descriptive, as the phenomenon of low competitiveness in the Palestinian leather and shoe industry can be obviously viewed and measured, so while the ways that can help enhancing the sector's competitiveness are unknown, and this study attempts to describe the extent to which the Triple Helix model can enhance the Leather and shoe sector competitiveness.

3.2 Research approach

This research follows a mixed-method approach. In this type of research, the researcher collects both quantitative and qualitative data, analyzes them separately or in parallel, and then compares the results to see the relatedness of the findings (confirm or disconfirm each other), the assumption of this design is that both qualitative and quantitative data provide different types of information and together they yield results that are a part of one idea (Creswell, 2014).

Work on mixed approaches involves a purposive combination of data collection methods, data analysis, and assessment of evidence (Shorten & Smith, 2017). The mixed method approach is more suitable for this research as the researcher have been employed quantitative and qualitative methods to answer the research question, and mixed methods approach allows her to obtain a deeper understanding of the linkages or inconsistencies between qualitative and quantitative data (Shorten & Smith 2017).

3.3 Population and Sampling

3.3.1 Population

The study population is divided into quantitative and qualitative as the following.

1. Quantitative Population:

The quantitative population includes all the industrial institutions distributed based on the leather and shoe sector value chain in Hebron and classified as (tanneries, manufacturers, whole sellers and retailers). To have an overview for this population framework, the researcher got a list of leather and shoe sector members of the year 2018/2019 from Hebron Chamber of Commerce and Industry.

2. Qualitative Population

The Qualitative population includes the governmental, semi-governmental and academic institutions that are involved in the leather and shoe sector in Hebron. To have an overview of the second population framework, the researcher got recommendations regarding the institutions that could be beneficial for the study objectives from the leather and shoe cluster manager during the introductory interview. These institutions include (Ministry of National Economy, Hebron Chamber of Commerce and Industry, Federation of Shoes and Leather Industry, Palestine Polytechnic University, and others).

3.3.2 Study Sample

1. Quantitative Sampling

Simple random sampling is used for the first population. This sampling method is a sampling design in which k distinct items are selected from the n items in the

population in such a way that every possible combination of k items is equally likely to be the sample selected (Thompson, 2012).

This sampling method was chosen because it gives every individual an equal chance of being selected in the sample from the population. Also, it requires minimal knowledge of the population, and the internal, as well as external validity, is high and it is easy (Acharya et al., 2013).

The total quantitative population is the sum of all the economic entities operating at leather and shoe sector in Hebron. The total number is (360) firms distributed as 10 in tanneries, 251 in manufacturers, and 98 markets.

To determine the minimum sample size, Raosoft sample size calculator (www.raosoft.com) has been used. Using a 95% confidence level to determine the sample from 360 firms. Results show that the minimum recommended sample size of the survey is 171. Table 3.1 shows the population distribution and sample size. (Knowing that Sample size = 50% of population documentation (Saunders et.al., 2009), with a margin of error = (5%) and response distribution = (70%).

Table 3.1 *First stratum population distribution and sample size*

Category	Population	Sample Percentage	Sample Size
Tanneries	10	3%	5
Manufactures	251	70%	120
Market (Wholesaler, Retailers)	98	27%	46
Total	360	100%	171

The response rate for the questionnaire were %74.3, as the researcher were able to collect 127 out of 171 questionnaire. The respondents were distributed as the following:

Table 3.2 Type of your enterprise

		Frequency	Valid Percent
Valid	Tanneries	5	3.9
	Market (Wholesaler, Retailers)	35	27.6
	Manufactures and Marker	6	4.7
	Manufactures	81	63.8
	Total	127	100.0

2. Qualitative Sampling

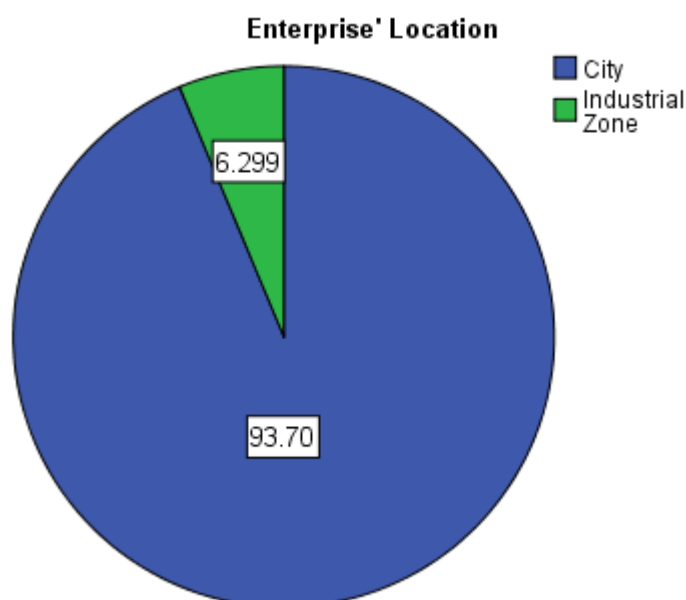
For the second population, non-probability convenience sampling is used. Non-probability sampling technique uses non-randomized methods to draw the sample, and choosing a convenience sampling method usually requires judgment. In other words, instead of randomization, participants are chosen as they are easily accessible (Showkat & Parveen, 2017). Table 3.2 shows the population and sample for the second stratum.

This sampling method was chosen as it is a less expensive technics that allows the selection of the sample based on the investigator's convenience. The respondents are usually chosen because at the right time, they are at the right location (Acharya et al., 2013).

Table 3.3 *Second stratum population and Sample*

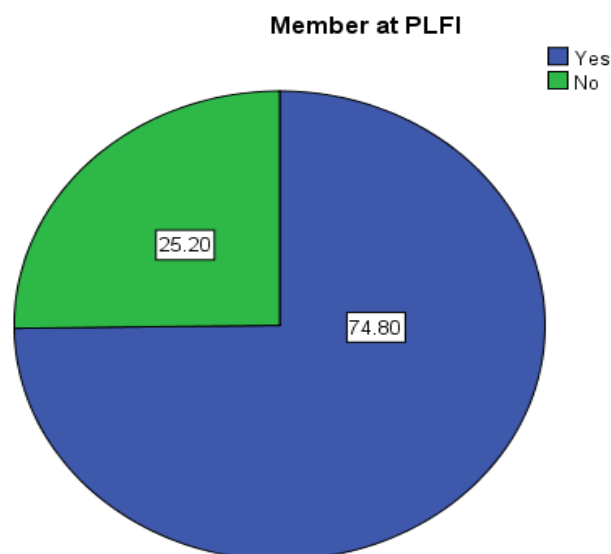
Population	Stakeholder	Interviewee Position
Government	Ministry of National Economy (MNE)	General Director of Industry in Hebron
	Intellectual Property Department – MNE	Head of the Intellectual Property Department
	Palestinian Standards Institution	General Director of PSI
Education	Palestine Polytechnic University	Vice President for Community Service
Cluster	Leather and Shoe Cluster	Cluster Manager
Semi-governmental	Hebron Chamber of Commerce and Industry	CEO of HCCI
	Federation of Palestinian Chambers of Commerce and Industry	Director of Public Relations and Media
	Palestinian Leather Industries Federation	Vice President of the PLIU

3.3.3 Sample Distribution

Figure 3.1 *Enterprise' Location*

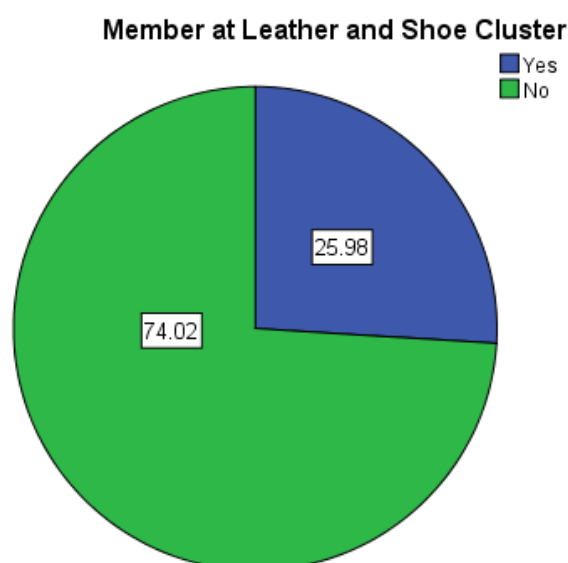
According to the Enterprise' Location, 93.7% of the sample were operating in the city while 6.3% were operating in the Industrial Zone.

Figure 3.2 Are you a member of Palestinian Federation of Leather Industries?



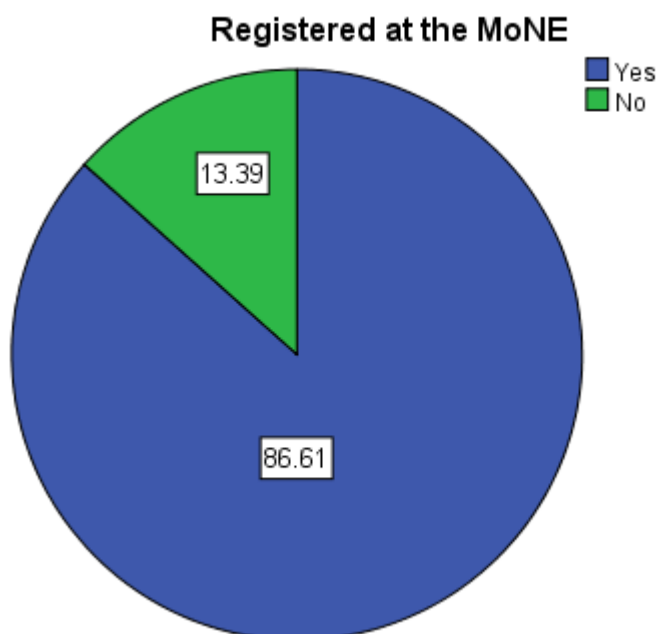
According to the question: Are you a member of Palestinian Federation of Leather Industries, 74.8% were members and their answer were Yes, while 25.2% were not members at PFLI and answer with No.

Figure 3.3 Are you a member of the Leather and Shoe Cluster?



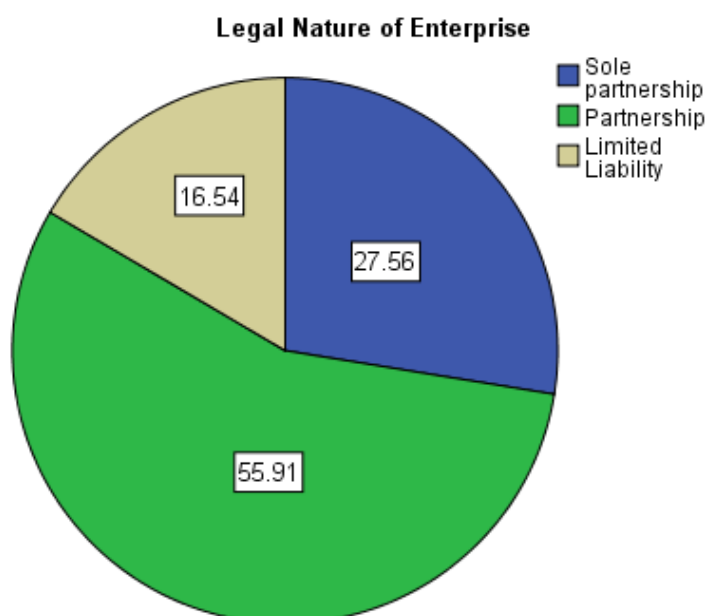
According to the question: Are you a member of the Leather and Shoe Cluster?, 74.02% were not members and answer with No, while 25.98% were members at PFLI and answer with Yes.

Figure 3.4 Is your enterprise officially registered with the Ministry of National Economy?



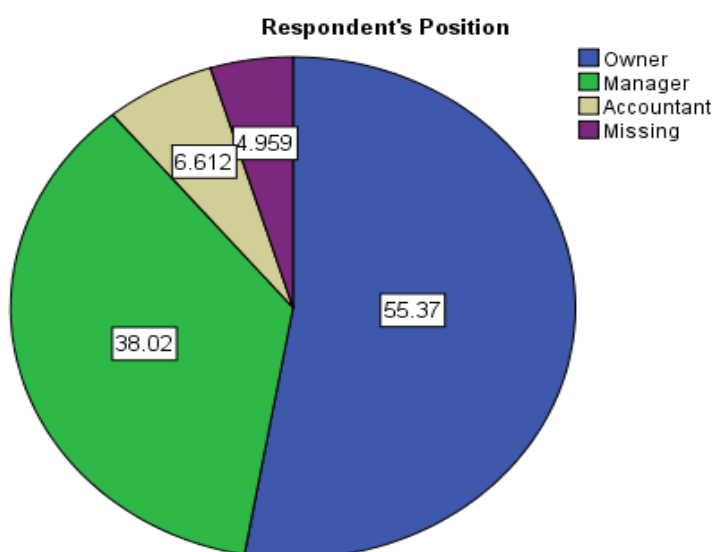
According to the question: Is your enterprise officially registered with the Ministry of National Economy?, 86.61% were registered and answer with Yes, while 13.39% were not registered at the MoNE and answer with No.

Figure 3.5 What is the legal nature of your enterprise?



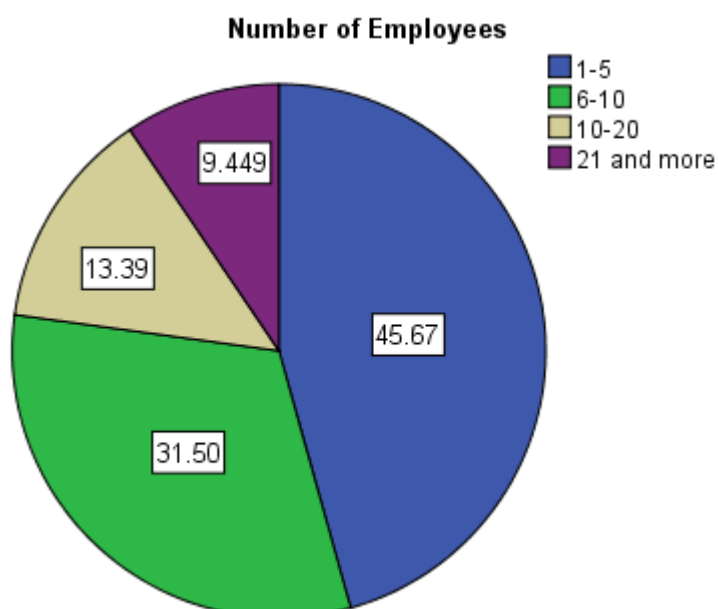
According to the question: What is the legal nature of your enterprise?, 55.91% of the respondents were sole partnership, 27.56% were partnership and 16.54 % were limited.

Figure 3.6 Participant's Position



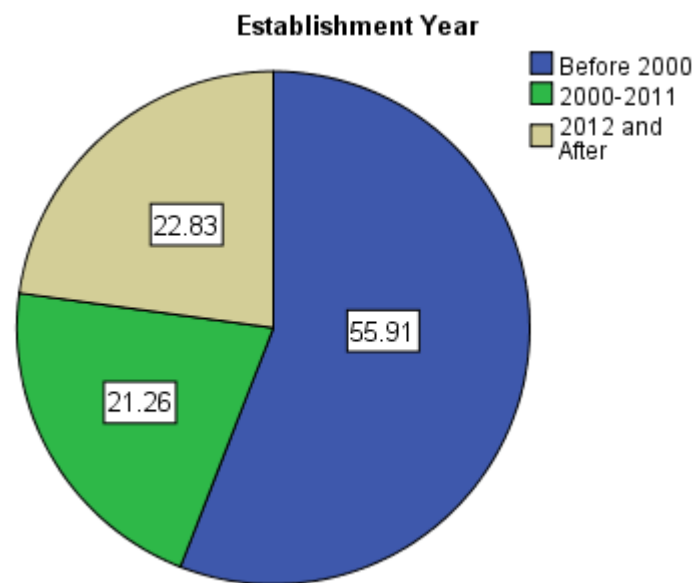
According to the participant position, 55.37% of the respondents were the owners of the enterprise, 38% were the managers of the enterprise, 6.6 % were the accountant of the enterprise while 4.9% of the respondents have left this question empty (missing).

Figure 3.7 Number of Employees



According to the number of employees, 45.67% were having (1-5) employees, 31.5% were having between (6-10) employees, 13.4 % were having between(10-20) employees, and 9.4% were having more than 20 employees.

Figure 3.8 Establishment Year



According to the Year of Establishment, 55.91% of the enterprises were established before 2000, 21.26% were established between 2000 and 2011 and 22.83% were established after 2012.

3.4 Research Instruments

Two key data collection tools were used to achieve the objectives of this study: (1) a quantitative data questionnaire, and (2) semi-structured qualitative data interviews.

1. Quantitative instrument

Questionnaires are often used to make descriptive assumptions regarding the population, finding the distribution of those characteristics or traits (Babbie, 1990). Some of the benefits of the questionnaire design are design economy and fast data collection turnaround, in addition to the benefit of defining characteristics of a large population from a small group of individuals (Groves et al, 2011).

The researcher prepared a bilingual questionnaire (English, Arabic), she translated the English version into Arabic one (both versions can be viewed in appendix A and B

respectively). It consists of four parts. Part one includes brief information about the conducted study, while the second part includes general information about the respondent entity (sample distribution). Part three covers the Triple Helix indicators that help to evaluate the extent to which the Triple Helix collaborations are applied to the leather and shoe sector, it is measured with a five-point scale (very strong to very weak). This part was built with help from a previous study that was done in the Palestinian context and developed a questioner that studied the development of Triple Helix in the industrial sectors for Hajhamad (2017).

Part four covers the firms' performance & Balanced Scorecard that aims to evaluate the level of leather and shoe sector competitiveness. It contains questions that was arranged according to the Balanced Scorecard (customer's satisfaction, internal processes and business, learning and innovation, and financial performance) which help in indicating the level of the respondent's competitiveness. It is measured with a five-point scale (strongly disagree to strongly agree). This part was built with help from two previous studies that were done in the Palestinian context and they developed questioners that are related to competitiveness and performance (Awad & Amro, 2017; Rahhal & Darabee, 2014).

2. Qualitative instrument

Interviews were needed to analyze and describe how Triple Helix can enhance the leather and shoe sector competitiveness. According to Schostak (2005), an interview is an extended conversation between partners, which aims to have an 'in-depth information' on a specific subject or topic, and through which a phenomenon can be

interpreted in terms of the meanings that the interviewees bring to it. Interviews are powerful in producing narrative information that allows researchers to examine people's views in greater depth. (Kvale, 2008).

During the semi-structured interviews, a list of themes and questions has been used as a protocol. According to Yin (1994), protocol is a key tactic for increasing reliability and is intended to guide the investigator in the conduct of a semi-structured interview, these themes and questions differ from interview to another. Creswell (2014) stated that the interview protocol is used to ask questions and record answers during a qualitative interview. He also mentioned that information recording could happen by making handwritten notes, audio-taping, and/or videotaping.

These interviews discussed the triple helix model aspects, including the existing type and level of collaboration; challenges faced in forming sustainable collaborations; perception about the THM role in enhancing the leather and shoe sector competitiveness (policy making and implementation, financing, research/knowledge generation, skill development & training, and infrastructure provision); as well as overall perception of Triple Helix actors regarding readiness in forming partnership.

3.5 Data Collection

Although the research instruments are presented in a sequence, it is important to mention that data collection process has been performed simultaneously and in parallel to save time. Data collection took place between the 15th of December 2019 and 31st January 2020.

1. Quantitative Data Collection

In regards to the surveys, the researcher has traveled physically to the respondent's place to perform a personal survey interview and to support the respondents in answering the survey questions. The researcher has chosen to go physically to the respondent's place to ensure that the data were filled correctly, besides having the opportunity to clarify the questions in a longer and more comprehensive manner. Also, face-to-face surveys ideally suited for populations who have difficulty answering mail or telephone surveys due to poor reading or writing skills and that was the case of some respondents of the sample (Doyle, 2014).

2. Qualitative Data Collection

Interviews extended between 40 and 75 minutes, and sometimes some interruptions happened during the interviews due to the interviewees' busy schedules. The interviewer clarified the purpose of the research to the respondents in the beginning, the research protocols, potential gains, their right to withdraw from the study at any stage in addition to the privacy assurance.

Interviews lasted between 40 to 75 minutes, and few interruptions occasionally occurred during the interviews, due to the busy schedules of the interviewees. As a first step, the interviewer explained to participants the purpose of the study, research procedures, expected benefits, their right to withdraw from the study at any time, and assurance of confidentiality. The interviewer also asked participants if they had any questions about the research study and research procedures, and provided background information about herself, which helped in establishing rapport and gain their trust (Patton, 2002). Also, the researcher inform the

participants that the interviews will be audio recorded and took their approval on that.

An interview with the leather and shoe cluster Manager were held on Thursday 10/10/2019. This interview lasted for 45 minutes and was held in his office at Hebron Chamber of Commerce and Industry. It was audio-recorded and then transcribed to papers. Then analyzed to help in the problem definition.

3.6 Data Analysis

3.6.2 Quantitative Data Analysis

The questionnaires were collected and put for analysis. Data were evaluated using SPSS 20.0 software. For each questionnaire statement, frequencies and percentages of the respondents' answers were reported. then, means (averages) and standard deviation were calculated for each sentence. Furthermore, To get a more comprehensible and visual view, the results were tabulated and depicted in figures and charts.

3.6.2 Qualitative Data Analysis

The difficulty of interview study is to shift from a relatively large amount of raw information (interview transcripts or notes) to the essence of what has been said, and this is not just a data analysis process but also a data elimination technique, the analyst has to condense the pages of words into what is relevant (Griffiee, 2005).

Content Analysis reflects a methodical approach which focuses on data coding and classification in a manner that helps to assess the frequency and pattern of words to describe large amounts of information (Pope et al., 2000). Using such technique has

the advantage of identifying the target of an individual, community, organization or social attention (Weber, 1990). Among the most popular techniques in qualitative data analysis is the content analysis (Stemler, 2000).

For performing the content analysis, the researcher followed a method developed by (Bengtsson, 2016) which based on four steps as the following:

1. **The de-contextualization:** Arrange and transcribe the data to establish familiarity with it.
2. **The re-contextualization:** Reread the transcript and start with content analysis to generate categories or themes.
3. **The categorization:** Coding the data by tagging and adding them to categories.
4. **The compilation:** Trying to interpret the meaning of the results, using the background of the researcher by considering how the new findings correspond to the literature and whether or not the result is reasonable and logical, and finally, writing the report.

3.7 Validity and Reliability

3.7.1 Validity

- **Content Validity:**

The researcher achieved the face-validity of the questionnaire and interview questions by sending it to a variety of experts (two internal experts from the faculty and six external field experts – Appendix A.5) and seeking their feedback on the appropriateness of the questionnaire to the study goals.

Over half of the experts reported that the survey and interviews are appropriate for measuring the goals and facilities built for it, while others sent some adjustments to the questionnaire questions which the researcher directly dealt with them, while there were no adjustments to the interview questions. A final version of the questionnaire and interview questions can be presented respectively in Appendices A.1 and A.2..

- **Pilot study**

Initially, the sample was chosen from the population then a pre-test sample of 5 institutions from the rest of the population was chosen taking into account that this sample includes all segments of the total population. The aim of the pre-test was to modify and polish the questionnaire so that participants won't have difficulty answering the questions and recording and tracking the results (Saunders et al. 2000; Babbie 1990). Furthermore, it allowed the researcher to obtain an overall assessment of the validity of the data collected from the survey.

A pre-test study of 5 institutions from Hebron governorate was conducted. All of the research questions were answered smoothly by the pre-test-study sample. Generally, the pre-test process proved successful in terms of ways to develop the questionnaire and interview guide, and in terms of asking the proper questions about how to test the hypothesis and comment on research issues.

3.7.2 Reliability

Joppe (2000) defines reliability as:

"...The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. (P.1)"

The Cronbach Alpha coefficient test is used to test the reliability of the questionnaire items to determine their coherence and consistency. Cronbach Alpha is considered the most appropriate reliability indicator when using the Likert scales (Taherdoost, 2016).

Cronbach Alpha reliability coefficient were 0.79 for the whole questionnaire, distributed between the sections as: 0.67 for Industrial-university, 0.84 Industrial-government, 0.75 for Industrial-privet sector and 0.92 for balanced scorecard. Such reliability coefficient values indicate a reasonable degree of the questionnaire reliability (all exceeding 0.60). According to Farrell (2012), if the reliability coefficients values range from 0.61% to 0.94%, then all data can be replicated or repeated in case of performing this research using the same questionnaire.

Leung (2015) stated that reliability is challenging in qualitative research and is epistemologically contrary-intuitive. Consistency, therefore, lies at the heart of reliability for qualitative study.

Therefore, in this study, the researcher contacted key stakeholders from different institutional spheres (university, government and industry) in order to guarantee the consistency and comprehension of the information gathered during the interviews.

3.8 Research Limitations

1. The targeted population was the leather and shoe institutions that operate in Hebron Governorate, while institutions operating outside this governorate (such as in Bethlehem and Nablus) were excluded.
2. Logically, markets tend to be more than manufactures, that was not the case of this study (251 Manufactures and 98 markets). This could be justified as many Retailers don't apply to the Chamber of Commerce and Industry.
3. For more accurate and reliable data the researcher collected survey data by herself through visiting the respondents personally and since the researcher lives in a different city, this made searching for the targeted regions and institutions much more difficult for her.
4. Some institutions refused to fill in the questionnaires and participate in the study (they have stated that they do not like to participate in any studies without giving other reasons), which affected the response rate.
5. There is a lack of documentation and informality of business in the small-sized enterprises in Hebron governorate. Yet, there are no enough studies in Palestine that handled the Triple Helix subject, therefore, the research considers external studies to enhance the technique used in her study.

Chapter Four – Findings and Discussion

4.1 Triple Helix Model

The first part of this chapter aims to assess the extent to which the Triple Helix Model is applied to the Palestinian leather and shoe sector. It was answered by several quantitative and qualitative questions. The results were arranged as the following (1) overview of the sector, (2) define the roles (traditional and non-traditional) played by each sphere in so far developing the sector and (3) setting and evaluating the level of collaborations between the industry sphere and other spheres.

The cornerstone of the triple helix model was based on the notion that the triple institutional spheres (government, academia and industry) should participate in greater collective efforts and obscure each other's traditional functions by actively engaging in the functions of each other (Etzkowitz & Leydesdorff, 2000).

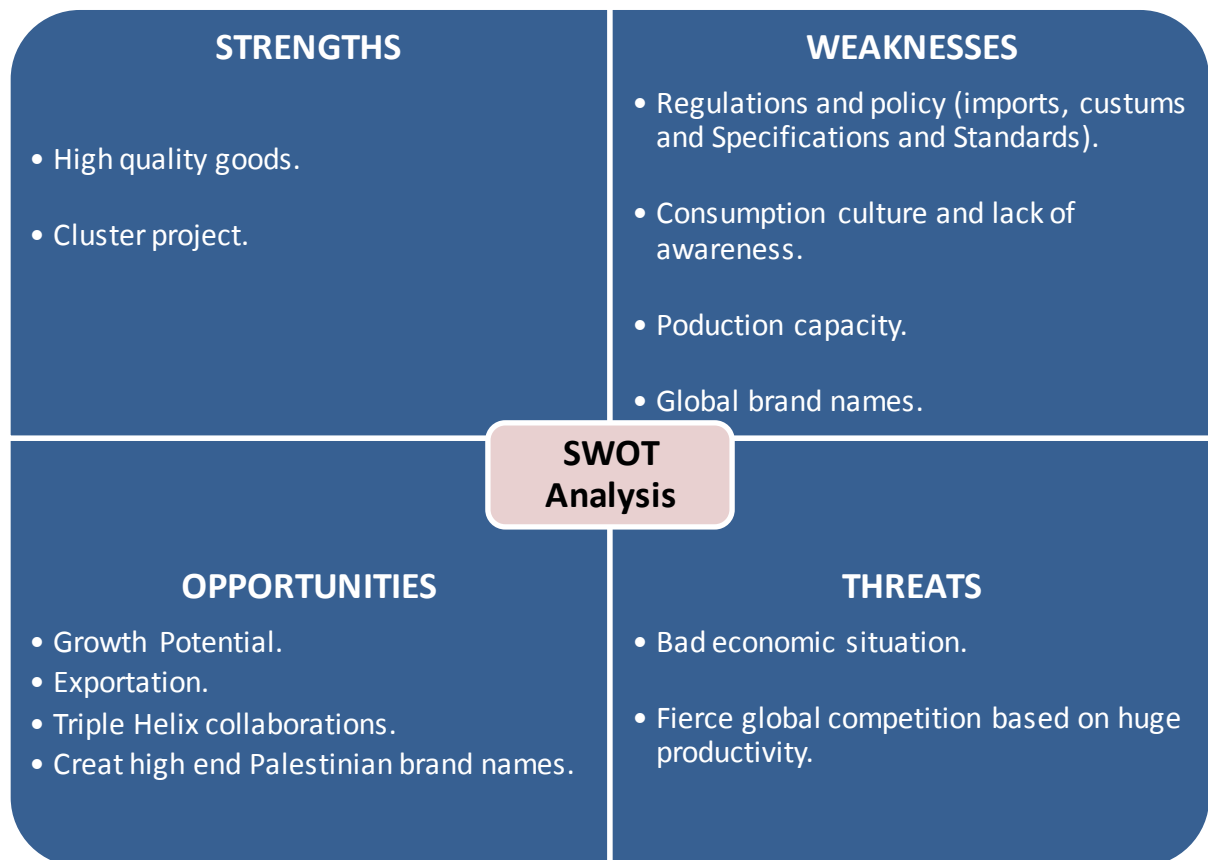
4.1.1 Sector status

The purpose of this sub-section was to gather information about the Palestinian leather and shoe industry from the respondents and assess sentiments about the sector's condition held by the institutional spheres. The core of the triple helix model was based on the concept that the three institutional spheres of government, academia and industry should engage in greater collaborative efforts and obscure the traditional roles of each other by actively engaging in each other's roles (Etzkowitz & Leydesdorff, 2000). Although this sub-section was not motivated by any suggestions made by the theoretical bases addressed in Chapter Two, it was important to consider the perspectives held by various institutional spheres about

the prospects of the sector. If the sector is seen as being about to evolve, then the sector's investors are probably interested in obtaining stable investment gains (Drury, 2013). The government is expected to profit from the tax income deriving from the industry's business transactions (Miles et al., 2012) and academia will be encouraged to generate knowledge that is easily picked up and used by industry (Hira, 2013).

As expected, respondents from the three spheres indicated the status of the leather and shoe sector previously and described the golden period of this sector at the beginning, and then they began listing several points, comments and expressions that were recorded and listed. The researcher takes a decision to use a SWOT analysis method to view the sector. Based on its ability to turn results and observations about an entity into an evaluation of the entity's strengths, weaknesses, threats and opportunities, SWOT analysis or SWOT framework was used (Drury 2013). This matrix also enabled the analysis of information and observations to be converted into data that not only made sense but also enabled recommendations to flow out of the observations at a later point in terms of the sector growth. Figure 4.1 presented the SWOT analysis of the leather and shoe sector followed by a discussion of the results.

Figure 4.1 SWOT Analysis – Leather and Shoe Sector



The strongest theme that came from the delivery of an overview about the sector was growth potential. The majority express there believes that the leather and shoe sector has potentials for growth with some of them having concerns about some obstacles. Since the respondents were positive but also have some concerns regarding this prospect it was classified as opportunities in the SWOT analysis. Therefore, it can be concluded that efforts directed into the sector by the three spheres were an attempt to produce positive results and there is a possibility to initiate some incentives that aim to develop the sector (Halilem, 2010; Miles et al., 2012; Drury, 2013). The respondents' verbatim expressions on the sector's growth prospects included:

"I see that there are opportunities to develop the sector, especially by building its own brand names."

"The sector was able to enter many foreign markets, and this indicates the ability of this sector to advance in the future."

"I believe that there are opportunities for growth in the sector".

Regulations, policies and the fierce global competition based on huge productivity were the second strongest themes. The sentiments shared about the governmental regulations and policies were negative and it was concentrated on the imports and the lack of protection of the local goods. This comes in line with what was mentioned earlier in Chapter two regarding the absence of government policies on importing materials that negatively affect the sector's goods (Fallah, 2018; Awad & Amro, 2017). This indicates that the government's role is not efficient enough in the minds of the other spheres. Some of the comments regarding the regulations and policies were as follows:

"The opening of imports from foreign markets and high competition that led to the bankruptcy of many manufacturers".

"The shoe industry suffers from many ongoing problems such as the import problem and the lack of protection of the local industry".

"The sector was greatly affected by the opening for external markets as a result of the dependence of the Palestinian customs sector to the Israeli's one".

"We found that in light of the huge productivity of China and Turkey, it is difficult to compete with them in terms of economy of scale, but I can compete with them in quality".

The rest of the themes were the less pronounced prospects that were mentioned during the overview of the sector. Some of the respondents' comments were as the following:

"There are some attempts to encourage the sector, such as the cluster project, which has proven its ability to benefit the sector".

"In the current century, the mindset is directed towards international brand names, and this places the local industry under pressure towards making its own brand names".

"The consumption culture is prevalent, and there is a great lack of awareness even among manufacturers".

4.1.2 Definition of Roles

This question is intended to consider the roles performed by the sector's institutional spheres. If the roles were arranged and allocated to each institutional sphere, assumptions then might be given regarding the "roles of the other" performed within the triple helix structure.

Triple Helix theory discusses the existence of role as one of the three main aspects of the triple helix structure, and roles are divided into traditional roles and "the role of the other" (Ranga & Etzkowitz, 2015). A collection of traditional roles is assigned to each institutional sphere. Such classification forms the basis on which decision may be taken as to the degree to which a role played by an institutional sphere is considered non-traditional to it. When an institutional sphere performs the "role of the other" and contributes to the overlap of roles, the capacity for innovation within the institution exists in the triple helix (Lundberg, 2013; Etzkowitz & Leydesdorff, 2000).

The roles of the institutional spheres were recorded verbatim into a list during the analysis. A total of eight roles were recorded and arranged in table 4.1.

Table 4.1 Roles played by the different spheres in so far developing the leather and shoe sector in Palestine

Roles	Frequency %	Gov.	Uni.	Ind.	PSI
Support cluster project	60%		X	X	X
Training and skills development	60%		X	X	X
Research and knowledge generation	40%		X		X
Diploma development	40%		X	X	X
Provide resources	25%	X		X	
Collaboration with government role	25%			X	X
Increase market share	25%	X			X
Developing of technological infrastructure	25%		X		X

Supporting the cluster project is the strongest theme with about 60% of the respondents referring to it respectively. This is a good sign that most of the spheres have awareness regarding the importance of being a part of such project based on collaboration. The government sphere did not mention the cluster project during the narration of their roles in developing this sector, knowing that they were one of the main actors in this project as known from the literature. Some comments were as the following:

"We are working in the cluster to bring together the points of view with the aim of developing the industry".

"Our institution took it upon itself to develop the shoe industry, we started with the cluster project to develop the shoe industry, which depends on the involvement of all parties of leather and shoe value chain".

Training and skills development was also a highly subscribed role among the respondents with a frequency of 60%. Some comments regarding this role:

"We are currently working on qualifying and training the sector's employees".

"We are working to develop the technical and professional capabilities of the manufacturers through marketing, design, quality workshops".

It is not promising that the roles that was highlighted as important in the triple helix theory were the least mentioned among the three institutions. For example, triple helix emphasized the importance of developing technological infrastructure, cooperation with the government (e.g. in attempts to formulate legislation and policies), in addition to the importance of providing resources of various kinds to develop the industry. Some of the comments regarding these roles were as the following:

"We have tried to pressure on the government to define and legalize imports from abroad, but this step did not meet with a successful resonance".

"We worked to provide machinery and laboratory equipment and mandatory technical instructions That the government was supposed to supply but we did it by providing international and local experts".

"Yes, a large part of the work fell upon us, and we believe that waiting for the other parties means that our objectives will be delayed".

Institutional spheres that can perform the "role of the other" spheres within a certain triple helix network are considered a significant source of innovation (Etzkowitz & Leydesdorff, 2000). As mention, this question tend to define the roles currently performed by the participants, so, a distinction can be established among these roles and the extent to which they "cross-over" roles traditionally belonging to other institutional spheres. Table 4.2 outlines the roles that the institutional spheres should perform that the researcher summarized after reviewing the literature.

Table 4. 2 Traditional roles

Government	University	Industry
Basic R&D funding	Source of knowledge (Research)	Provide Capital
State incentive programs	Source of human resources	Generate market expertise
Protect local goods	Provide basic technology	Employee empowerment and skills development
Ease of business	Forge partnership	Sponsor events
Infrastructure Development	Source of knowledge (Research)	Capital

Using the roles provided by the respondents in table 4.1 and the traditional roles viewed in table 4.2, a combination of both tables was established which included a plot of which institutional spheres played which function and to what extent the roles attributed to other institutional spheres in table 4.3 below.

Table 4. 3 Traditional role vs. the "role of other"

	Role	Gov.	Ind.	Uni.
Gov.	Basic R&D funding		X	
	State incentive programs	X	X	X
	Protect local goods			
	Ease of business	X	X	
	Infrastructure Development		X	
Industry	Capital		X	
	Generate market expertise	X	X	
	Employee empowerment and skills development		X	X
	Sponsor events		X	X
Uni.	Source of knowledge (Research)		X	X
	Source of human resources			
	Provide basic technology		X	X
	Forge partnership	X	X	X

Color schemes were used to differentiate the institutional spheres. The results show that the three spheres perform the role of the other" but in varying degrees. So that, the existence of the overlaps serves as evidence of Triple Helix III being to play. Despite that, it can be noticed that industry is the sphere that has the most "cross-over" with other spheres' roles. While the university and government have a humble "cross-over" with the other spheres' roles and the some of the governmental roles were not executed by the government itself. This arise the question for future research to investigate the real reasons for this uneven "cross-over" between the spheres.

4.1.3 Level of Collaboration

In order to get the level of collaboration between the industry sphere and the other spheres and also the evaluation of these collaborations, the researcher will combine answers of section two of the questionnaire and the answers of question five of the interview questions .

Section two of the questionnaire discusses the Triple Helix indicators that help to evaluate the level of collaboration between the industry sphere and the other spheres. It is measured using a five-Likert scale (very strong to very weak) and it was divided into three sub-sections in this order: (1) Industry-University collaboration, (2) Industry-Government collaboration and (3) Industry-Industry and Privet sector collaboration. Each subsection has a number of questions that help to assess the collaboration between the spheres within the sector.

While question five (How Do you evaluate the role of other Triple Helix actors and the collaboration between them if exist?) aims to see how each representative

evaluates the role of other Triple Helix actors in their roles, and how they assess the collaboration between them if exist.

The presentation of results will be divided into three sections: (1) Industry-University collaboration, (2) Industry-Government collaboration and (3) Industry-Industry and Privet sector collaboration.

4.1.3.1 Industry-University Collaboration

Elements that used to assess the industry-university collaboration are presented in table 4.4 below. The respondents were asked to assess each component through a five-Likert scale(very strong to very weak). They were asked to evaluate the engagement between their institutions and the Palestinian universities regarding the development of the leather and shoe sector. Table (4.4) below shows the results in a descending arrangement.

Table 4. 4 Evaluation Degree of the Industry-University collaboration

Statement	Mean	Std. Deviation
Trust the ability of universities or academics to develop work for my company.	1.83	1.42
Universities offer specialized educational programs in the leather and shoe field.	1.60	1.39
Sending employees to get training courses to enhance their skills and qualifications.	1.20	1.34
Adopt research projects.	1.18	1.16
Participation in funded research projects.	1.00	1.14
Welcoming undergraduate students for training.	0.80	1.16
Resorting to universities to develop new products or production methods.	0.73	0.99
Total	1.19	1.23

From the table above, it is clear that the evaluation average of the industry-university collaboration is approximately low (mean=1.19) with a standard deviation

of (1.23). In other words, we can say that the collaboration between industry and universities in the field of leather and footwear is very weak. If we look more closely at the nature of the questions, we can notice that they are evaluating two main topics, the level of trust (A1.2, A1.6, and A1.7) and the level of experience and information sharing between the two spheres for the rest questions. The results show that both topics got very weak indicators.

Table 4.4 shows that trust elements have got means of 1.83, 1.60 and 0.73. Although these values are considered low, they are the highest among the other elements, this may indicate that the leather and shoe institutions trust the ability of universities or academics to develop work for them. But these low rates may be related to low evaluation rates of experience and information sharing ((mean= 1.20, 1.18, 1 and 0.80).

In regards to the qualitative results, and when the respondents were asked to evaluate the university's role and collaborations, respondents' opinions differed regarding this role, some of them saw that the university is trying to transfer knowledge while others saw that scientific research if exist does not move with the intention of developing the industry but rather with the structure of scientific research. Some comments were as the following :

"As for the university, it had some individual initiatives such as doing scientific research about tanneries waste, and in my opinion, it was motivated by scientific research and not the development of the industry."

"We can see that the current interests of universities are marketing and commercial concerns, not interest in the research and development of sectors."

"Universities work to transfer expertise to others".

During the interviews and when the university respondent were asked about the roles played by the university into so far developing the sector, he answered that:

"We are currently working on qualifying and training the sector's employees, and we try to solve the problems of technology through research, in addition, to introduce new design methods according to the required specifications."

The difference in viewing the university's role seems clear from the previous answers. The university talks about conducting research to solve technological problems in the sector and providing the necessary training for the industry. While other institutional spheres do not see that the university's efforts are really directed towards developing the industry, and that their current interests are in general focused on marketing and commercial interests, not to research and development.

To have a wider vision of the university's role, the researcher conducted further investigation to have an idea about the number of research that was held during the last ten years in the Palestinian universities in this sector. The researcher found that the number of research was not large, and it was noted that most of them were directed to researching the problems that the sector suffers from without providing real solutions that help the sector to improve its performance.

4.1.3.2 Industry-Government Collaboration

Industry-government collaboration was evaluated through the elements in table 4.5. The respondents were asked to assess each component through a five-Likert scale. They were asked to evaluate the engagement between their institutions and the governmental sector regarding the development of the leather and shoe sector. (Table 4.5 below shows the results in a descending arrangement).

Table 4.5 *Evaluation Degree of the Industry-Government Collaboration*

Statement	Mean	Std. Deviation
Open new markets for the Palestinian products.	1.54	1.42
Provide the necessary environment to protect your facility's innovations	1.44	1.33
I obtained a certificate of origin for export.	1.31	1.65
There is adequate promotion for the offered governmental incentives to investors and exporters.	1.25	1.43
The competent ministries and departments provide facilities to encourage your facility to export.	1.25	1.39
I got a certificate from the Palestine Standards Institution.	1.21	1.26
Incentives are provided for innovative products (tax exemptions, tax breaks).	0.99	0.94
There is an attempt to establish industrial zones for the leather and shoe industries.	0.94	1.07
Governmental projects are provided to train and develop employees of your facility.	0.91	1.08
Your facility's research and development costs are deducted from taxes (income tax).	0.68	0.96
Government agencies are fighting the flow of poor quality imports that compete with your products.	0.65	0.86
Got government financial assistance to develop research and knowledge for your facility.	0.53	0.79
Total	1.06	1.18

The evaluation shows that the government have a weak tendency to open new markets for the leather and shoe sector through agreements with foreign countries (mean=1.54) and this can explain the low tendency to get a certificate of origin for export with a mean 1.31), also, this can be in relation with the low tendency (mean= 1.21) to get a certificate from the Palestine Standards Institution (mean= 1.21).

Furthermore, we can notice that the evaluation shows that government has a very low tendency to fight the poor quality imports (mean=0.65)that may pose a threat to the local good quality products. This result can explain the large increase in imported

shoes, as the number increased from 15 per in 2010 to 21 million per in 2017 (PCBS, 2017).

Also, the evaluation shows that there is a lack of the provided incentives for innovative products (mean=0.99) and tax deduction for the R&D costs from the income tax (mean=0.68). This can be also linked to the lack of "getting governmental financial assistance to develop research and knowledge for your facility" (mean=0.53). These results can help to explain what some of some representatives provided during the qualitative section such as the absence of any patent registration in the field of Palestinian leather and shoes, or even the lack of direction among manufacturers to develop their goods in terms of design or production or apply R&D.

When compared to the qualitative results, these results were logical. When the representatives were asked to evaluate the government role and collaboration towards the sector's development, the majority expressed their frustration with the weak role of the government in this sector, according to their description. While others referred the slowness in the government's role and initiatives to develop the leather and shoe sector to the lack of resources or even the lack of knowledge of previous decision-makers about the problems of the sector. Some of comments were:

"We feel that there is a very slow pace of government interaction in order to change some of the policies and regulations that serve the development of this industry".

"The role of the government was and remains very modest in developing the shoe industry".

"In my view, there is no significant and fruitful cooperation between universities and the Palestinian government at the present time, especially in the field of leather and shoes".

"previously, decision-makers had no knowledge of the sector's problems, and this could explain the poverty of the initiatives towards developing the sector".

"The government has a sincere intention to cooperate with the two parties, but that collides with the lack of capabilities".

4.1.3.3 Industry-Privet Sector Collaboration

This section aims to evaluate the industry-privet sector collaboration through a number of elements presented in table 4.6 below. The respondents were asked to assess each component through a five-Likert scale(very week to very strong). Table (4.6) below shows the evaluation results in a descending arrangement.

Table 4. 6 Evaluation Degree of the Industry-Privet sector Collaboration

Statement	Mean	Std. Deviation
There is a good strategic relationship with designers in leather and shoe field.	3.31	1.24
There is a good strategic relationship with marketers (e.g. shop owners).	2.62	1.51
There is a strategic relationship with HCCI, and they offer services that help develop your business.	2.49	1.54
There is cooperation with other establishments working in the same field as your facility (competitors).	2.45	1.18
There is a strategic relationship with PFLI, and they offer services that help develop your business.	2.22	1.58
There is a good strategic relationship with suppliers that helps develop your business.	2.21	1.75
There is a good strategic relationship with the distributors.	2.10	1.35
Local insurance organizations cooperate and offer offers that match your business need.	1.56	1.34
Financial institutions provide convenient financing facilities and tools for your facility.	1.23	1.47

Cooperation with quality inspection institutions is free of complications.	1.16	1.15
Total	2.14	1.41

According to the above table, the respondents here have different evaluation depend on the type of the private sector institution, we can notice that it's medium when we are talking about the relations with the designers and marketer (mean=3.31,2.26). Also, the respondents evaluate the relations with the HCCI as medium which may indicate better relations with the HCCI (mean= 2.5) in comparison with the PPFLI (mean=2.22). While when we are talking about the relation with competitors the evaluation was medium -weak (mean=2.45). furthermore, the relations with the suppliers and distributors were evaluated as weak-medium with a mean of 2.21 and 2.10 respectively.

On the other hand, relations with the insurance companies and local banks were evaluated as very weak-weak (mean= 1.56, 1.23). In addition to evaluation of weak when it comes to collaboration with the quality inspection institutions.

During the interviews, when the respondents were asked to evaluate the role and level of collaboration of industry in so far developing the sector, the respondents did not mention whether there was a default by the industry itself, but some stated that the existence of unsupportive policies impedes the progress of the industry and that their progress is combined with the available resources only. Some comments were:

"The presence of some policies that hinder the development of some industries or even hinder the speed of achievement".

"As for the related institutions, such as the Hebron Chamber of Commerce and the Federation of Industries, their role was limited to the available capabilities".

"There is a poor quality relationship between the academic and the industrial sectors in Palestine in general".

4.2 Competitiveness

This part of the study aims to assess the level of competitiveness of the Palestinian leather and shoe sector. It was answered by several quantitative and qualitative questions. The results were arranged as the following (1) overview of the sector, (2) setting the level of collaborations between the industry sphere and other spheres, (3) evaluate each sphere's level of performance and collaboration with other parties to develop the sector.

4.2.1 Balance Scorecard

The Balanced Score Card is a mean to implement and assess the organizational strategy and performance. In the Balanced Score Card, organization's mission and strategy are translated into a set of critical success factors, which are translated into one or more performance measures. In that manner, strategy turns into operational objectives and measures (Kaplan and Norton 1992). The four categories for Balanced Score Card are: financial performance, customer knowledge, internal business processes, and learning and growth.

The results of the balanced scored card is presented based on each category as the following.

4.2.1.1 Internal Business Process perspective

This perspective addresses the question "what are our core competencies and areas of operational excellence?". Internal business processes and their effective execution as measured by productivity, employment cycle time, quality measures and others.

Table 4.7 BSC-Evaluation of the internal business process perspective

Statement	Mean	Std. Deviation
Defend yourself against competitors (Premium product or service, innovative and good production methods).	3.88	1.240
The number of employees leaving your facility is low.	3.49	1.280
The degree of empowerment and encouragement of staff is high.	3.24	1.209
There is a continuous improvement in the productivity of your employees.	3.16	1.291
Machinery, equipment, specialized design software and CNC cutting machines are used in production processes.	3.02	1.362
There are constantly creating new job opportunities.	2.96	1.173
The availability of skilled personnel is high.	2.80	1.348
Total	3.22	1.27

The results show that productivity improvement, employment cycle time, employees' loyalty measures are relatively moderate-high. The fact that most of the leather and shoe institutions in Hebron are family business could be one reason for this result since most of the employees are loyal to their businesses (Awad & Amro, 2017). While most of the respondents endorsed that creating new job opportunities and the availability of skilled personnel is relatively moderate-low. This could be due to the lack of job opportunities available in the Palestinian markets, in addition to the recession period that hit the leather and shoe sector which forced the employers

to keep professionals whose numbers are declining instead of replacing them with new workers who need training, which will cost them both money and time.

4.2.1.2 Customer Perspective

The Customer perspective defines the value proposition used by targeted customers to generate sales and loyalty. Khan & Halabi (2009) also covers indicators such as customer satisfaction, new customer retention, new customer growth, customer response time, market share and cost-effectiveness.

Table 4.8 BSC-Evaluation of the customer perspective

Statement	Mean	Std. Deviation
The degree of customer satisfaction with the after-sales services is high.	4.09	1.279
The degree of customer retention is high (percentage of clients held to total clients).	3.73	0.715
There is an increase in customer demand for your facility's products.	3.09	1.023
The degree of acquisition of new customers as a percentage of total clients is high.	3.08	0.842
Your market share is high.	2.91	0.926
Total	3.38	0.96

The results show that customer satisfaction is relatively moderate to high (mean=4.09). Also, customer retention is relatively high (mean=3.73). While new customer growth and customer demand are moderate (mean= 3.09 and 3.08). The high-quality products, fast delivery time and flexibility in production could be the reason for these results. Furthermore, most respondents rate their market share size as relatively moderate (mean= 2.91), this may be due to the fight between the local and imported goods that take over a large portion of the Palestinian local market.

4.2.1.3 Financial perspective

This perspective and answers the question "How are we doing for our shareholders?". A financial perspective typically uses measures like return on investment, profitability, revenue growth, cost reduction and exportation.

Table 4.9 BSC-Evaluation of the financial perspective

Statement	Mean	Std. Deviation
There is a continuous improvement in revenue.	2.42	.961
There is an annual improvement in profitability.	2.41	1.061
There is a continuous improvement in savings and property for your facility.	2.34	1.089
Export constitutes a high percentage of your sales volume.	2.23	1.555
There is a noticeable decrease in production costs.	2.23	1.212
Total	2.33	1.18

The results show that leather and shoe institutions' financial performance is relatively low. The reason for these results may be the limited market size, old machinery and production methods, poor quality imports and the high cost per unit. That leads to a reduction in revenues, profits growth, and exportation.

4.2.1.4 Learning and Growth Perspective

This perspective aims to answer the question "how well are we continuously improving and creating value"?. It emphasizes innovation, creativity competency and ability, and refers to the intangible assets that are essential to the strategy. It gauges performance on dimension-technological leadership, product development cycle times, operational process improvement, and so on.

Table 4.10 BSC-Evaluation of the learning and growth perspective

Statement	Mean	Std. Deviation
Workers and employees contribute greatly to product development and quality preservation.	3.95	1.08
There is a continuous improvement in the facility's ability to solve problems of lack of resources, R&D	3.79	1.03
The period it takes to produce and introduce a new product is relatively short.	3.61	1.01
There is a continuous improvement in the facility's ability to develop new products.	3.58	1.24
There is a special department for design and development in your facility.	3.46	1.25
The level of R&D in your facility is constantly improving.	3.41	1.19
The percentage of the introduction of new products and categories of the total products is high.	3.29	0.95
Total	3.58	1.11

These results show an increase in awareness about the importance of innovation among employers in the leather and shoe sector in Hebron. For example, when comparing this perspective results with a study conducted in 2015 on the same sector, the rate of this perspective was 3.31 while now the rate is 3.58. Nevertheless, since innovation is a measure of potential future performance and adequate investment in this area is critical to all long-term success it is preferable that this perspective is investigated and researched on the long-term since the current applied clustering methodology helps to create innovation on the long-term rather than the short one.

4.3 Competitiveness and Triple Helix Model

After having an overview of the current state of the Triple Helix and the level of competitiveness of the leather and shoe sector in Palestine, this part of the chapter aims to provide an overview of how the Triple Helix model can enhance the competitiveness of the leather and shoe sector in Palestine.

Innovation is now a critical challenge for competitiveness (Schwab 2011), and Triple Helix model assumes innovation and entrepreneurship to provide competitiveness and regional development catalysts (Ranga & Etzkowitz, 2015), so that, the presentation of results started with a preview of the state of innovation in the leather and shoe sector, followed by the perceptions regarding the distribution of roles of the various actors in building an innovation foundation, as the key to innovation-driven development requires close collaboration between the instruments of research, technology, and finance (Etzkowitz & Zhou, 2017).

Collaborative networks are actively contributing to the enhancement of regional competitiveness, both in terms of new technology network development projects and access to new resources, skills and cost synergies (Farinha et al., 2016), therefore, the presentation of results continued with the representatives' perceptions of collaboration and how it is strengthened within their institution, followed by a discussion of the readiness of the Triple Helix actors in the leather and shoe sector to form sustainable collaborations.

Also, challenges that may prevent the forming of sustainable collaboration between the different spheres have been discussed, and finally, the highest-rated recommendations that could be made to enhance collaboration were discussed, which in turn will enhance the performance and competitiveness of this sector.

4.3.1 State of Innovation

This section aims to gauge innovation activity and type of innovation from the perspectives of the different spheres. This question helps in understanding the

different points of view regarding how each institution views the sector which will help in understanding their moves toward developing the sector.

Table 4.11 *Sentiments about innovation*

Is the sector innovative	Gov.1	Gov.2	Uni.	Ind.	PSI.1	PSI.2	PSI.3	Total
Yes					X	X		2
No		X	X				X	3
Not Sure	X			X				2

Three representatives expressed their frustration with the level of innovation within the sector, and they mentioned that this is a very important point, but it is one of the weaknesses of this sector. They linked their responses to traditional non-renewable production methods, in addition to relying on copies of designs, relying on the reputation of their good goods instead of developing designs and production methods. Some of the comments made regarding this point were as the following:

"This point is considered one of the negatives of the industry, as it is traditional and nothing new. They are imitators of other goods but not innovative".

"We are aware that one of the reasons for our inability to compete at the global level is poverty for new designs".

"In my view, the sector lasted for a long time on the traditional approach and a large part of its work is based on copying the old designs, relying on its good reputation in the market".

Two respondents answered yes to this question, they referred the innovativeness of the sector to its ability to enter new markets, reach a different type of customers and the marketing tools as the following:

"We can say that the sector was innovative in the ways of entering the markets".

"It can be said that there is innovation in marketing tools that have been accepted by different markets around the world such as the website "hebronshoes.ps" that can deliver products to any place around the world".

4.3.2 Roles in Building the Innovation Foundation

This section aims to assess the representatives perception regarding the Triple Helix role in enhancing the leather and shoe sector innovation. Innovation is now a critical challenge for competitiveness, to be successful, companies need to know how to deal with the challenges that arise from it, leveraging the strengths of their location to develop and commercialize new products and services (Schwab, 2011). The representatives were asked to assess to what degree each institution would have to deal with the listed roles. The average answers were as the following:

Table 4.12 Roles distribution towards building innovation foundation

Statement	Gov.	Ind.	Uni.
Policy making and implementation	High	Mod	Low
Financing	Low	Mod	Low
Research/knowledge generation	Low	Mod	High
Skills Development and Training	Low	High	High
Infrastructure provision	Mod	Mod	Low

Most of the representatives agreed that the policymaking and implementation is the role of the government in the first place followed by the industry in sharing this role. Financing was described to be the role of the industry itself, while the participating of government and university in this role was evaluated to be low. Some

respondents have added here, that in normal situations and in developed countries, this role is assigned to the government, but in the case of Palestine in particular, the government is not able to do so, and therefore this falls on the industry itself. Therefore, it can be concluded that Palestine as a developing country, and since some actors present in lower degrees and strength than others, there is a need for intervention of other actors (maybe industry, NGOs, semi-governmental institutions) to perform and fill the roles and gaps to improve the sector (Nakwa and Zawdie, 2015; Etzkowitz and Zhou, 2017).

Research and knowledge generation and skills development were both described as the university role in the first place, followed by the industry in regards to the research and knowledge generation, while it shared the first place with the university in regards to the skills and development.

Finally, in regards to the infrastructure, it was described to be the role and responsibility of the government and industry.

4.3.3 Collaboration

This section aims to evaluate the representatives' perceptions of collaboration and how this collaboration is strengthened within their institutions. This section is important since triple helix theory recognizes collaboration as one of its three central themes, defining innovation policy as a result of these interactions, rather than being a government prescription (Etzkowitz & Leydesdorff, 2000).

As mentioned in Chapter Two, the key to innovation-driven development requires close collaboration between the instruments of research, technology, and finance

(Etzkowitz & Zhou 2017). Collaborative networks are actively contributing to the enhancement of regional competitiveness, both in terms of new technology network development projects and access to new resources, skills and cost synergies (Farinha et al., 2016).

The respondents identified set of institutions within the sector that were tasked with the development of the sector. Most of the respondents were able to identify organizations from all three spheres. This indicates that the three institutional spheres knew about each other, and therefore, could not use the lack of knowledge about each other as a base for not collaborating.

The majority of the respondents confirmed that collaboration has existed in the leather and shoe sector. They cited the existence of this collaboration between the three spheres through the collaboration that happened during the establishment of the Leather and Footwear Products Development Center (LFPDC) that came as a result of the cluster project. This was mentioned also in Chapter Two "One of the most important achievements of Hebron Leather and Shoe Cluster was the establishment of the LFPDC, which includes a shoe and leather testing laboratory ..etc." (Cluster 2015). The respondents also mentioned that this collaboration is encouraged within their institutions due to their strategies and policies. Therefore, it can be concluded that the three institutional spheres have a willingness and intention to cooperate with each other, and this happened through the cluster project, but since this project has not been officially launched yet, it is not easy to evaluate its innovativeness capacity since innovation is a measure of potential future performance.

Some comments were as following:

"We have a complex relationship with all parties".

"The center is the main interface for cooperation with various institutions".

"Yes, we have cooperation with many universities and ministries".

"It is one of our policies and strategies which are based on encouraging and supporting the national industry and opening the way for foreign markets to encourage exports".

4.3.4 Readiness to Forming Collaboration

This section aims to assess the perceptions regarding the readiness of the triple helix actors in forming partnerships to enhance the collaboration within the sector. The representatives were asked to rate (from their point of view) the readiness of the THM actors to forming partnerships through several points. The rating results were as the following:

Table 4.13 *Evaluation of the readiness to forming sustainable collaboration*

Statement	Gov.	Ind.	Uni.
Sharing Information	High	Mod	High
Funding joint research	Low	Mod	Mod
Coordinating strategy	Mod	Mod	Mod
Pooling resources	Mod	Mod	Mod
Forming a joint and independent company	Low	High	Mod

The representatives described the readiness of the university and government to share information that can enhance the forming of partnerships as high, while the industry got a moderate rate, some of them refers that to the old mindsets that may exist within the sector's producers.

The readiness to funding joint research was moderate between the industry and the university, while the government readiness was described as low.

As for the readiness to participate in forming a coordinating strategy and pooling the resources, they were rated as moderate for all the institutional spheres. While the industry readiness to forming a joint and independent company was rated high, followed by moderate for the university readiness and low for governmental readiness.

4.3.5 Challenges faced in forming sustainable collaboration

In this section, the representatives were asked to rate certain challenges that may hinder forming effective collaboration among the triple helix actors (Gatune et al., 2018). Respondents rated the extent to which each challenge may exist within the actors to be high, moderate or low. The researcher later collected the results of each challenge, and the rating was as the following:

Table 4.14 *Challenges faced in forming sustainable collaboration*

Statement	Gov.	Ind.	Uni.
Mindsets that are not receptive to new ideas	Mod	Mod	Low
Lack of shared vision	Mod	Mod	Mod
Mistrust of other parties	Mod	Mod	Mod
Power asymmetry	Mod	Mod	Low
Lack of capacity to manage collaborations	Mod	Mod	Mod
Leadership not attuned to collaborations	Mod	Mod	Low
Lack of political skills	High	Mod	Mod

It can be noticed that the average answers of the respondents were moderate for each institutional sphere. As mentioned earlier in Chapter Two, there should be a need for convergence and interest confluence in order to address tensions and

conflicts of interest as well between the three spheres (Leydesdorff, 2012) to deal with the mistrust problem. That will help to clearly understand how the elements link formally and informally to support the innovation, then to pursue policies that will strengthen the linkages that are valuable to the relationship (Smith and BagciSen 2010) and help to get a shared vision between the actors.

As for the leadership and using the power of asymmetry which both were evaluated as a moderated challenge within each institutional spheres, it is important to understand that moving from competitive regions to collaborating regions, forming regional consortia to merge and enhance strengths, happens before locating the 'local champions' and leaders to promote and manage these changes.

It was not surprising that the government obtained a high evaluation in the lack of political skills to manage the collaboration, as this is consistent with the evaluation obtained by the government in the evaluation of roles and corresponds to what was previously mentioned in Chapter Two that policymakers don't have a perfect understanding of market behavior, knowledge-creation processes, and technological opportunities, so policies may fail when they are designed (Bleda & Del Rio, 2013; Bathelt et al., 2017).

4.3.6 Improvement of the Sector

Finally, the respondents were asked to give personal views on the roles that each institutional sphere should play in order to enhance the collaboration and encourage the competitiveness of the Palestinian leather and shoe sector. Each representative provides the researchers with different suggestions regarding the roles that could be played by each sphere.

Five suggestions for improving the sectors through the government were given. The highest repetitive suggestion was enacting laws and policies that guarantee the development of the sector, followed by a suggestion that the government should offer funding, whether it is external financing through countries or donor institutions or through the allocation of part of their budget. The least mentioned suggestions were paying attention to developing the infrastructure of the sector, enhancing exports, working to facilitate cooperation and unifying views between the different parties. Some comments were as the following:

"The government must enact laws and policies that guarantee the advancement of the sector".

"The government should develop policies and legislation related to import and export issues".

"Developing better networks with donors to bring external funds for specific sectors to develop them and solve their problems".

"They should provide funding and work to protect the local industry by limiting imports in a way that guarantees the interest of the consumer".

In regards to the roles that the university can play to develop the sector, most of the answers were focused on the importance of developing academic programs based on training, research and development in the field of leather and shoes. Some comments were as the following:

"Universities have to develop programs that meet the actual market need".

"The academic sector has a role to conduct training, education, awareness and research operations that serve the sector".

"They should work to initiate programs aim to develop experiences, training and research opportunities".

Regarding the suggestions related to the industry, it was concentrated in three axes, the most frequent suggestion was necessary to keep pace with the global and local developments in various aspects (production, operation, packaging, design, etc.). The second suggestion was the need to be concerned with training employees and raising their awareness. The last one was the concern toward developing the infrastructure of the sector. Some of the comments were:

"As for the industry, it should be more able to adapt to global and local developments".

"The industry have to keep pace with modern technology".

"They are required to keep in line with new developments and designs, and to pursue all opportunities to promote viable and unrefined products"

4.4 Summary

The existence of the Triple Helix III in the leather and shoe sector in Palestine was confirmed, since the three institutional spheres confirmed that collaboration is occurring and appetite for greater collaboration was expressed. However, it can be said that the health of this system is not good. The strong theme of the absence of the policy that emerged during the study could not be overlooked, were more than 80% of the participants assumed that it could be the reason for the failure to expand the sector meaningfully so far. The theory of Triple Helix implies that government should play a greater role if the market is not capable to do an action (Etzkowitz, 2008), however, what occurs in the situation where there is a lack of regulation and the role of the three-helix is ambiguous?

Nkosi (2016) found that in the absence of policy in the triple Helix system in the aquaculture industry in South Africa, there was an emergence of behaviors that is

un-conducive to the process of innovation such as (1) reluctance to engage with the government, (2) protectionism, with industry undertaking its own R&D on its own cost when academia should do this task and (3) educated aquacultures choose to become consultants in the sector rather than open their own farms.

What happened in the case of the absence of policy in the triple Helix system in the leather and shoe sector in Palestine was as the following:

- Weak collaborations with the government and mistrust in the services that may be provided to develop the sector.
- Reluctance from enrolling in educational programs that aims to develop the sector, as some respondents mentioned in the interviews.
- Lack of R&D in the Palestinian leather and shoe sector, although there were some attempts between the university and industry to perform this role, there are no clear results on this topic yet.

Consequently, it can be concluded that the lack of a policy intended to provide guidance in terms of the interactions types that should take place just makes matters worse, this com in line with what sultan (2020) mentioned that the absence of policy is likely to dilute the impact of a positive outcome of a well-structured. The theory that has been reviewed so far assume the presence of policy, the opposite of which occurs in the leather and shoe sector in Palestine. Moreover, the lack of academic programs related to the real market needs, and their failure to carry out enough academic research indicates a lack of universities' awareness regarding the importance to adopt the "the third mission" role of entrepreneurialism in addition to its traditional role in the Triple Helix system.

So that, It can be said that the Triple Helix system in the leather and shoe sector in Palestine seems not to be structured to promote innovation. The quality of the three-helix relations varies, but the most worrying of these are the poor interactions between the government and the other actors. That causes a lack of focus on which innovation and initiatives to invest time and effort to deliver the greatest value to the industry.

Overall, it can be concluded that in order to enhance the competitiveness of the leather and shoe sector in Palestine through the Triple Helix system, the sector needs to develop appropriate structures, policies and systems that are designed to facilitate and enhance sector growth through fruitful collaboration between all spheres.

Chapter Five – Conclusions and Recommendations

Introduction

This chapter aims to bring together the research findings as consistent with the research objective. It starts with an overview of the research background and the principal findings. Followed by the implications of the findings to the management and the suggested model for improving the Palestinian leather and shoe sector Triple Helix framework. Ending up with recommendations for future research.

5.1 Research Context

The literature showcased that the Triple Helix model is structured among interactive relationships between three institutional spheres, and it assumes that innovation and entrepreneurship can provide competitiveness and regional development catalysts.

Furthermore, innovation is now a critical challenge for competitiveness and companies need to enhance their innovativeness in order to survive (Schwab, 2011).

The key to innovation-driven development requires close collaboration between the instruments of research, technology, and finance (Etzkowitz & Zhou, 2017), and these collaborative networks are actively contributing to the enhancement of regional competitiveness (Farinha et al., 2016).

Recent literature focuses on the elements of a continued desire for growing collaboration in government-university-industry partnerships, the ability to perform additional duties typically performed by other parties. where the Institutional spheres that can take on the "role of other" institutional spheres in a giving triple

helix system are identified as being an important source of innovation (Etzkowitz & Leydesdorff, 2000).

This study used the Triple Helix model as attempt to understand collaboration activities in the Palestinian leather and shoe sector in order to recognize institutional elements within the structure that could impede the growth of the sector or contribute to the low sectoral growth observed.

The study concluded that the mere presence of a Triple Helix structure, without having well-being of its design, does not guarantee to obtain the provision of the promised benefits. And this was the case of the current applied Triple Helix model on the Palestinian leather and shoe sector, as the study revealed the need for some contextual factors to be in place to make the collaborations effective.

5.2 Main Results

The research results revealed three major findings insofar the application of the Triple Helix model to the Palestinian leather and shoe sector.

5.2.1 Poor Health of existence Triple Helix system

The study confirmed the existence of the Triple Helix in the Palestinian leather and shoe sector. this was confirmed through assessing several aspects such: the existence of collaborative initiatives; assess the readiness and the increased appetite toward forming sustainable collaborations; efforts toward increase the "cross-over" and taking the "role of the other".

However, the study reveals that the current form of the Triple Helix within the leather and shoe sector seems not to be well-structured toward the sectoral growth.

That causes a lack of focus on which innovation and initiatives to invest time and effort, in order to deliver the greatest value to the industry. This leads to realizing that the mere presence of a triple helix structure, without having well-being of its design, does not guarantee to obtain the provision of the promised benefits.

5.2.2 Absence of Policy

This study has shown that the key reasons behind poor and ineffective collaborations among Palestine's Triple Helix actors can be attributed to the government's presumed passive role in policy and legislation. Moreover, the absence of policies that is directed toward protectionism of the local goods has direct relations with the inhibiting of the sectoral growth. The main findings presented by the respondents regarding the roles that government can contribute to the sectoral growth was concentrated on two main points:

- Enact laws and policies that are concentrated on (a) protecting local goods, (b) intellectual property protection and (c) facilitating and organizing relationships between the various triple helix actors in order to get more fruitful collaborations.
- Improve relations with other countries (that will help to access new markets, and obtain funding directed to develop the sector).

5.2.3 Need to Develop Appropriate Structure:

Overall, it can be concluded that in order to enhance the competitiveness of the leather and shoe sector in Palestine through the Triple Helix system, the sector needs to develop appropriate structures, policies and systems that are designed to

facilitate and enhance sector growth through fruitful collaboration between all spheres.

It is important to mention that this is not an easy role and it requires sustain attention to address and resolve, since the entrenched gap between the private sector, government, and academia is rooted in a multiplicity of historical, political, philosophical, and social factors (Bhutto and Lohana, 2018). However, that will help to form strong collaborations amongst the government, industry and academia, which will not only produce collective benefits but also contribute towards an improved economic situation and industrial competitiveness (Gachie, 2019), and that what countries seek for.

5.3 Recommendations

In the research, the triple helix model was used as a manner of fostering the sectoral growth that will, in turn, enhance the sector's competitiveness. Government was not the only stakeholder in the research, so the study's recommendations are evenly divided among the three stakeholders participating in the research: government, academia and industry.

5.3.1 Government

After reviewing the answers and responses of the study participants, the researcher found that the study's recommendations to the government can be summarized in the following points:

- Adopting an import substitution policy that helps to create a productive economy that is more resilient to future obstacles. Through receiving orders from worldwide. Taking into consideration, that this policy can be achieved

by taking advantage of the current free trade agreements such as: Greater Arab Free Trade Area (GAFTA), Interim Agreement on Trade and Cooperation with the European Union (IAA), Interim Agreement with EFTA States and other agreements (Paltrade, 2020). This would allow the local producer to perform several contracts with several parties around the world which means increase their productivity without losing their quality.

- Guarantee fairness for the local goods with the imported ones. It's the government's responsibility to protect the local product by setting a set of specifications and standards that determines the type and quality of the imported product, taking into account the existence of effective control and examination system on these imported goods. This way the government benefits from the customs tax income from Imported goods and can ensure the success of the import substitution policy, and the local product benefits from the high price of the imported goods, which means increasing its selling opportunities.
- Besides that, they should join infrastructure development projects, encourage innovative activities and develop long-term plans that aim for the sectoral growth with participation of the other parties.

5.3.2 Industry

The study showed that the industry has the highest appetite and desire to invest in the sector and find ways to survive and thrive.

However, the researcher finds that in a developing and occupied context like the Palestinian context, industry may be required to perform some of the roles of others

to fill the gaps that may exist regarding the inability of other actors to perform their roles. Such as provide funding and help in improving the sector's infrastructure even if this is supposed to be a governmental role. In addition to performing their traditional roles such as increasing production capacity, employee empowerment and increase market share.

Also, there should be an increase in awareness of the importance of providing funding for the universities to perform research that can bring real benefit and impact in reducing costs or increasing productivity, etc.. This can be done by adopting new management policies that are based on specifying a permanent percentage of annual budgets for the research and development activities. Those research can take several forms such as internal research with the help of university experts and academics, or the full use of universities to carry out Those research with the supervision of producers.

In addition, the industry should be aware of the free trade agreements which are conducted with different parties around the world (such as those mentioned in the government's recommendations). This way the cooperation between these two institutional spheres becomes stronger and more fruitful.

5.3.3 University

In addition to its traditional research and teaching roles, the triple helix model calls upon academia to play a third role in entrepreneurialism (Etzkowitz & Zhou, 2017). It is suggested that the university moves from its research and teaching role to generating entrepreneurial talent, where its students become firm founders and

entrepreneurs who contribute actively to national economic development (Ranga & Etzkowitz, 2015).

So that, the researcher recommends that universities should increase their awareness of the importance to adopt the "third mission role" of entrepreneurialism in addition to its traditional role. This will include, in the initial stages, that universities develop academic programs in cooperation with industry to be closer to the actual market needs.

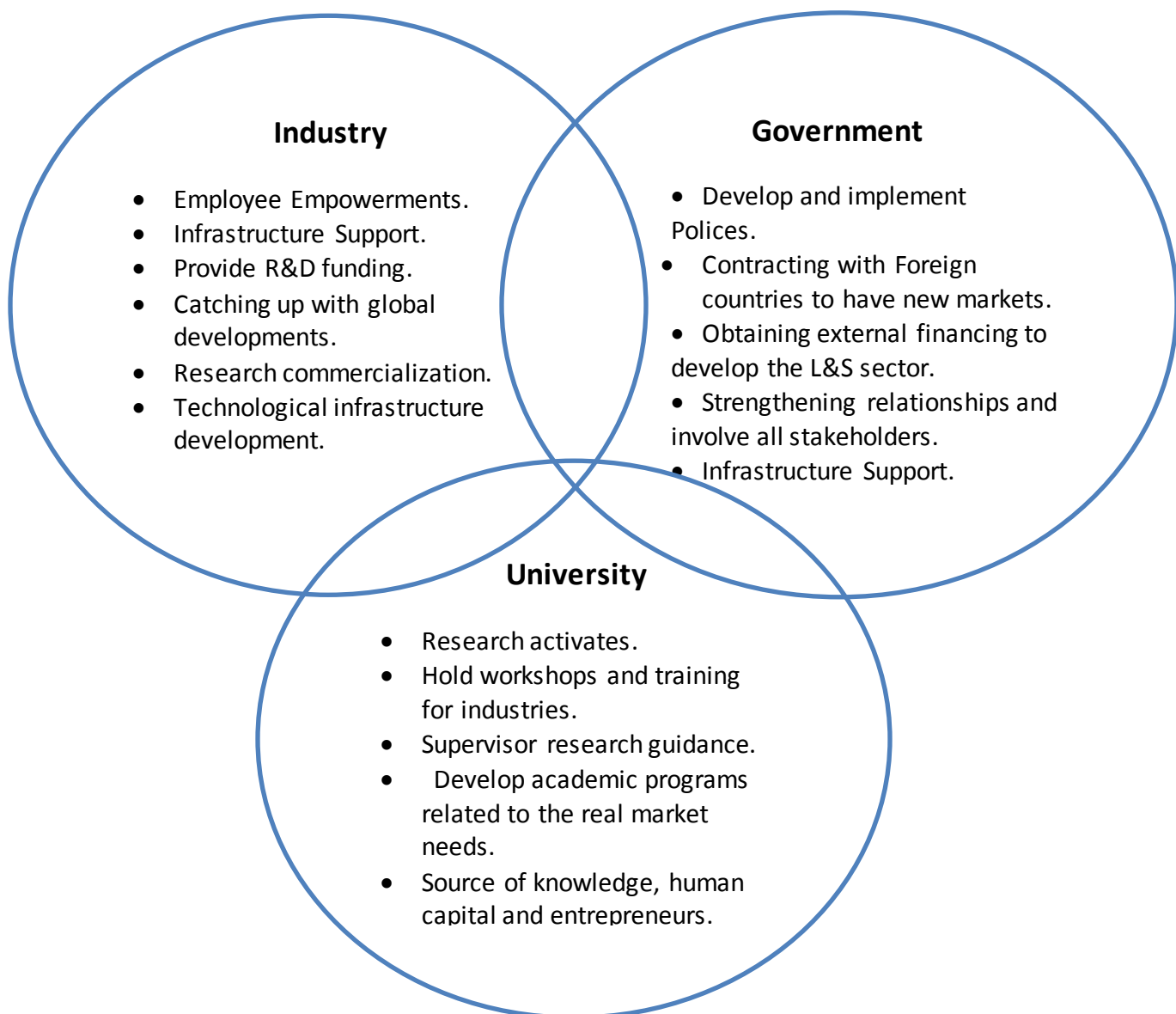
In addition, universities should leave the rigid environment for research that addresses general topics or only deals with identifying problems without providing real solutions, and turns into a new research model that is closely related to the actual market needs, so that this research provides real benefit and impact in reducing costs or increasing productivity or any other tangible benefit. This way universities can start generating entrepreneurial talent and the experts in the field and achieve the Triple Helix goal.

The importance of financing cannot be overlooked so that universities can emerge from that rigid research mold, and therefore recommendations have been made for the industry to be one of the supporters in this field. But in the same context, it is the responsibility of universities to establish a new structure to distribute any funding they receive, where a permanent percentage is allocated to support researchers to produce new research that can be a major source of income for universities in the future by selling patents or even by cooperating with manufacturers after viewing the real impact of the research.

In the end, it should be noted that through all these observations, it can be concluded that the advancement of any industry or sector requires close cooperation between all parties, without any party failing to perform its role, and taking into account the provision of what is required for other parties to assist them to perform their roles.

Figure 5.1 presents the recommendations for each sphere in more details

Figure 5.1 Recommendations for each sphere



5.4 Future Research

- This study can be applied to other industrial sectors in Palestine, in which the researchers can investigate regarding the effect of the Triple Helix collaboration on the competitiveness of the other sector, such as the furniture sector and the tourism sector.
- How to enhance the competitiveness of the leather and shoe sector using other Triple Helix approaches.
- Investigate whether the competitiveness can be enhanced through a binary level collaboration such as industry-university, industry-government or university-government.

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Appendices

A-1: Questionnaire (English)

Birzeit University
Deanship of Graduate Studies
Faculty of Business and Economics
Master of Business Administration (MBA)

Subject: A Questionnaire on the Competitive performance of Shoes and Leather Sector and the Role of Triple Helix model, in Hebron Governorate.

Greetings,

The researcher would have the pleasure to inform you about a research study on "The Role of Applying Triple Helix Model to Achieve Competitiveness for Small and Medium-sized Enterprises) - (A case study of shoes and leather sector in Hebron Governorate), under the supervision of Dr. Suhail Sultan.

We believe that the shoe industry is one of the most significant and promising industries that might tangibly contribute to improving the Palestinian Domestic Income. Based on this perspective, we investigate this sector, taking into account the "Triple Helix Model" Theory that is considered as one of the most important theories in the Administrative Science which basically aims to improve competitive advantage through innovation for industrial and service sectors.

This questionnaire is the data collection tool for the study. You are kindly requested to answer the questions accurately; your answers will reflect positively on the credibility of the results and will lead to the success of this scientific research.

We believe that the time you invest in answering this questionnaire will yield long-term returns in the form of more rational decisions and policies, which means a better future for us and the next generations. Accordingly, we would like to inform you of the following:

- Information listed in this research will only be used for the purposes of scientific research and will be handled confidentially.
- This questionnaire consists of (3) parts and takes approximately (xxx) minutes to be complete.
- If you are interested in receiving a copy of the research findings, please write down your email address:

Thank you for finding the time to complete this questionnaire.

Researcher: Rana Al-Ubaieat
Supervisor: Dr. Suhail Sultan

*Part I***Enterprise's Profile (General information)****1. Type of your enterprise:**

- Tanneries Shoe raw materials supplies Designer Manufacture
 Shoe marketer (seller) Shoe manufacturer, shoe parts

2. Establishment year: _____**3. Number of employees:**

- (0-5) (6-10) (11-20) (21 and more)

4. Enterprise's location:

- City Village Industrial Zone

5. Are you a member of the Palestinian Leather Industries Federation?

- Yes No

6. Are you a member of Hebron Chamber of Commerce and Industry:

- Yes No

7. Are you a member of the Leather and Shoe Cluster

- Yes No

8. Is your facility officially registered with the Ministry of National Economy

- Yes No

9. What is the legal nature of your enterprise?

- Sole partnership Partnership Limited Liability Others, Specify

.....

10. Participant's position: _____

Section II

This section aims to assess the extent to which the triple helix model has been applied to the leather and shoe sector during the past five years

First: Cooperation between Industry and Academia (University/Academics)

What is your assessment of the relationship between your institution and academic institutions (universities) in the last five years, through the following:

Statement	Very weak	Weak	Med.	High	Very high
Your institution has adopted research projects (graduation projects, MA and PhD theses).					
Your institution has resorted to a university to develop new products or new production methods or to improve the company's products.					
Your institution has partnered with local or external parties in funded projects.					
Your institution welcomes undergraduate students for training.					
Your institution sends its employees to get training courses to enhance their skills and qualifications.					
I trust the ability of universities or academics to develop work for my company (products or production methods).					
Universities offer specialized educational programs in the leather and shoe field.					

Second: Collaboration between industry and government

What is your assessment of the relationship between your institution and government institutions (ministries/government departments) in the last five years, through the following:

Statement	Very weak	Weak	Med.	High	Very high
Got government financial assistance to develop research and knowledge for your facility.					
Your facility's research and development costs are deducted from taxes (income tax)					
The competent ministries and departments provide facilities to encourage your facility to export.					
Open new markets for the Palestinian products through agreements concluded by the government with foreign countries.					
Governmental projects are provided to train and develop employees of your facility.					
Provide the necessary environment to protect your facility's innovations (product rights, patents, intellectual property).					
Incentives are provided for innovative products (tax exemptions, tax breaks).					
I got a certificate from the Palestine Standards Institution.					
I obtained a certificate of origin for export.					
There is adequate promotion by government institutions of the incentives offered to investors and exporters.					
Government agencies are fighting the flow of poor quality imports that compete with your products.					
There is an attempt to establish industrial zones for the leather and shoe industries.					

Third: Collaboration between industry and other entities in the private sector (semi-governmental organizations, inter-firm relations)

What is your assessment of the relationship between your institution and other entities in the private sector (semi-governmental organizations, inter-firm relations) in the last five years, through the following:

Statement	Very weak	Weak	Med.	High	Very high
There is a good strategic relationship with the distributors.					
There is a good strategic relationship with designers in leather and shoe field.					
There is a good strategic relationship with marketers (eg shop owners).					
Cooperation with quality inspection institutions is free of complications.					
There is a good strategic relationship with suppliers that helps develop your business.					
Financial institutions provide convenient financing facilities and tools for your facility.					
Local insurance organizations cooperate and offer offers that match your business need.					
There is cooperation with other establishments working in the same field as your facility (competitors).					
There is a strategic relationship with PFLI , and they offer services that help develop your business.					
There is a strategic relationship with HCCI, and they offer services that help develop your business.					

Section III**Evaluate the current competitiveness level for leather and shoe sector in the last five years**

#	Statement	Fully disagree	disagree	Neutral	Agree	Fully agree
BSC1: Customer Perspective (How Do Customers See Us?)						
BSC1.1	There is an increase in customer demand for your facility's products.					
BSC1.2	The degree of customer satisfaction with the after-sales services is high.					
BSC1.3	Your market share is high.					
BSC1.4	The degree of acquisition of new customers as a percentage of total clients is high.					
BSC1.5	The degree of customer retention is high (percentage of clients held to total clients).					
BSC2: Internal Business Process (What Must We Excel at?)						
#	Statement	Fully disagree	disagree	Neutral	Agree	Fully agree
BSC2.1	Machinery, equipment, specialized design software and CNC cutting machines are used in production processes.					
BSC2.2	The degree of empowerment and encouragement of staff is high.					
BSC2.3	The availability of skilled personnel is high.					
BSC2.4	There is a continuous improvement in the productivity of your employees.					
BSC2.5	There are constantly creating new job opportunities.					
BSC2.6	The number of employees leaving your facility is low.					
BSC2.7	Defend yourself against competitors (Premium product or service, innovative and good production methods).					
BSC3: Learning and Growth Perspective (Can We Continue to Improve and Create Value?)						
		Fully	disagr	Neutral	Agre	Fully

#	Statement	disagree	ee		e	agree
BSC3.1	The level of R&D in your facility is constantly improving.					
BSC3.2	There is a continuous improvement in the facility's ability to develop new products.					
BSC3.3	The period it takes to produce and introduce a new product is relatively short.					
BSC3.4	The percentage of the introduction of new products and categories of the total products is high.					
BSC3.5	Workers and employees contribute greatly to product development and quality preservation.					
BSC3.6	There is a continuous improvement in the facility's ability to solve problems of lack of resources, R&D					
BSC3.7	There is a special department for design and development in your facility.					
BSC4: Financial Perspective (How Do We Look to Shareholders?)						
#	Statement	Fully disagree	disagree	Neutral	Agree	Fully agree
BSC4.1	There is a noticeable decrease in production costs.					
BSC4.2	There is a continuous improvement in revenue.					
BSC4.3	Export constitutes a high percentage of your sales volume.					
BSC4.4	There is an annual improvement in profitability.					
BSC4.5	There is a continuous improvement in savings and property for your facility.					

A-2: Questionnaire (Arabic)

جامعة بيرزيت
عمادة الدراسات العليا
كلية الأعمال والاقتصاد
برنامج ماجستير إدارة الأعمال

المشارك الكريم،
تحية طيبة وبعد،

الموضوع: استبيان حول الأداء التنافسي لقطاع الجلود والأحذية ودور نموذج الحلزون الثلاثي، في محافظة الخليل.

نهديكم أطيب التحيات ونعلمكم بأننا بصدد عمل دراسة بحثية حول موضوع "دور تطبيق نموذج الحلزون الثلاثي لتعزيز القدرة التنافسية للمؤسسات الصغيرة والمتوسطة" - (دراسة حالة قطاع الجلود والأحذية في محافظة الخليل) بإشراف الدكتور سهيل سلطان.

تعد صناعة الجلود والأحذية أحد أهم الصناعات الواعدة التي قد تساهم بشكل ملموس في تحسين الدخل المحلي الفلسطيني. استناداً إلى هذا المنظور، نقوم بدراسة هذا القطاع، مع الأخذ بعين الاعتبار تطبيق نظرية نموذج الحلزون الثلاثي "Triple Helix Model"، التي تعتبر واحدة من أهم النظريات في علم الإدارة، والتي تهدف بشكل أساسي إلى تحسين الميزة التنافسية من خلال الابتكار في الصناعة والخدمات القطاعية.

نرجو من مدراء وأصحاب شركات الأحذية والجلود الكرام التكرم بالإجابة على أسئلة هذا الاستبيان بدقة؛ سوف تنعكس إجاباتكم بشكل إيجابي على مصداقية النتائج وستساهم في نجاح هذا البحث العلمي.

نحن نؤمن أن الوقت الذي ستستثمرونه في تعبئة هذه الاستبانة سيحقق مردوداً على المدى الطويل على شكل قرارات وسياسات أكثر رشداً، مما يعني مستقبل أفضل لنا وللأجيال القادمة. ونود أن نؤكد على ما يلي:

- سيتم استخدام المعلومات المدرجة في هذا البحث لأغراض البحث العلمي فقط وسيتم التعامل معها بسرية تامة.
- يتكون هذا الاستبيان من ثلاثة أجزاء ويحتاج ما يقارب 15-20 دقيقة لإكماله.
- في حال رغبتكم في الحصول على ملخص النتائج، يرجى كتابة عنوان بريدكم الإلكتروني الخاص بكم:

نشكركم وتقبلوا منا خالص الاحترام والتقدير

الباحثة: رنا العبيات
المشرف: د. سهيل سلطان

القسم الأول: معلومات عامة

1. القطاع الذي تعمل فيه منشأتك:
 - مدابع مُصنع للأحذية، أجزاء أحذية مسوق للأحذية (بائع) غير ذلك، حدد:
2. سنة التأسيس:.....
3. عدد العاملين:
 - (5-0) (10-6) (20-11) 21 فأكثر
4. موقع المنشأة:
 - مدينة قرية منطقة صناعية
5. أنت عضو في اتحاد الصناعات الجلدية الفلسطينية:
 - نعم لا
6. أنت عضو في غرفة تجارة وصناعة محافظة الخليل:
 - نعم لا
7. أنت عضو في التجمع النقودي للجلود والأحذية (شغل الخليل):
 - نعم لا
8. هل منشأتك مسجلة بشكل رسمي في وزارة الاقتصاد الوطني:
 - نعم لا
9. ما هي الصيغة القانونية لمنشأتك:
 - فردية شراكة شركة ذات مسؤولية محدودة
 - غير ذلك، حدد:
10. منصب مُعبئ الاستبانة:.....

**القسم الثاني: يهدف هذا القسم لتقييم مدى تطبيق نموذج الحلزون الثلاثي على قطاع الجلود والأحذية خلال
الخمس سنوات الأخيرة**

أولاً: التعاون بين المؤسسات الصناعية والأوساط الأكاديمية (الجامعة/الأكاديميين):

ما مستوى تقييمك للعلاقة بين منشأتك والأوساط الأكاديمية (الجامعات) خلال الخمس سنوات الأخيرة، ضمن
المحاور التالية:

مرتفع جدا	مرتفع	متوسط	ضعيف	ضعيف جداً	العلاقة
					قامت منشأتك بتبني مشاريع بحثية (مشاريع تخرج، رسائل ماجستير ودكتوراه).
					لجأت منشأتك إلى إحدى الجامعات لتطوير منتجات جديدة أو طرق إنتاج جديدة أو لتحسين منتجات الشركة.
					قامت منشأتك بالمشاركة مع أطراف محلية أو خارجية في مشاريع ممولة.
					تستقبل شركتك طلاب جامعيين للحصول على تدريب حتى تتناسب مخرجاتهم النظرية مع متطلبات سوق العمل.
					ترسل شركتك موظفيها لتلقي دورات تدريبية لتعزيز مهاراتهم ومؤهلاتهم.
					أثق بقدرة الجامعات أو الأكاديميين على تطوير العمل لدى شركتي سواء من منتجات أو طرق إنتاج.
					تقوم الجامعات بطرح برامج تعليمية تخصصية في مهنة الجلود والأحذية.
					غير ذلك، حدد:

ثانياً: التعاون بين المؤسسات الصناعية والقطاع الحكومي

ما مستوى تقييمك للعلاقة بين منشأتك والمؤسسات الحكومية (الوزارات / الدوائر الحكومية) خلال الخمس سنوات الأخيرة، ضمن المحاور التالية:

مرتفع جدا	مرتفع	متوسط	ضعيف	ضعيف جدا	العلاقة
					يتم توفير مساعدات مالية حكومية لتطوير الأبحاث والمعرفة لمنشأتك.
					يتم خصم تكاليف البحث والتطوير لدى منشأتك من الضرائب (شريبة الدخل).
					تقوم الوزارات والدوائر المختصة بتقديم تسهيلات لتشجيع منشأتك على التصدير.
					تتيح الاتفاقيات التي تبرمها الحكومة مع دول خارجية على فتح أسواق جديدة لمنتجات منشأتك.
					يتم توفير مشاريع حكومية تهدف إلى تدريب وتطوير موظفي منشأتك.
					يتم توفير البيئة اللازمة لحماية الابتكارات الخاصة بمنشأتك (حقوق المنتج ، براءات الاختراع ، الملكية الفكرية).
					يتم توفير حوافز للمنتجات المبتكرة (الإعفاءات الضريبية ، التخفيضات الضريبية).
					حصلت على إحدى شهادات مؤسسة المواصفات والمقاييس.
					حصلت الحصول على شهادة منشأ لغايات التصدير.
					يوجد ترويج كافي من قبل المؤسسات الحكومية للحوافز المقدمة للمستثمرين والمصدرين.
					تقوم الجهات الحكومية بمحاربة تدفق المنتجات رديئة الجودة المنافسة لمنتجات منشأتك.

					يوجد اهتمام بإنشاء مناطق صناعية خاصة بصناعة الجلود والأحذية.
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ثالثاً: التعاون بين المؤسسات الصناعية والمنشآت الأخرى في القطاع الخاص (المنظمات شبه الحكومية ، العلاقات بين الشركات في نفس القطاع)

ما مستوى تقييمك للعلاقة بين منشأتك والمنشآت الأخرى في القطاع الخاص خلال الخمس سنوات الأخيرة، ضمن المحاور التالية:

العلاقة	ضعيف جداً	ضعيف	متوسط	مرتفع	مرتفع جداً
هناك علاقة استراتيجية جيدة مع الموزعين.					
هناك علاقة استراتيجية جيدة مع المصممين في مجال الجلود والأحذية.					
هناك علاقة استراتيجية جيدة مع المسوقين (أصحاب المحلات مثلاً).					
التعاون مع مؤسسات فحص الجودة خالي من التعقيدات.					
هناك علاقة استراتيجية جيدة مع الموردين تساعد على تطوير منشأتك.					
توفر المؤسسات المالية تسهيلات وأدوات تمويل مناسبة لمنشأتك.					
مؤسسات التأمين المحلية تتعاون، وتقدم عروض تتماشى وحاجة منشأتك.					
يوجد تعاون مع المنشآت الأخرى العاملة في نفس مجال عمل منشأتك (المنافسين).					
توجد علاقة استراتيجية مع اتحاد الصناعات الجلدية وخدمات تساعد على تطوير منشأتك.					
توجد علاقة استراتيجية مع الغرف التجارية وخدمات تساعد على تطوير منشأتك.					
غير ذلك، حدد:.....					

**القسم الثالث: يهدف هذا القيم إلى تقييم مستوى التنافسية الحالية للمنشآت في قطاع الجلود والأحذية خلال
الخمس سنوات الأخيرة**

الرقم	البيان	غير موافق على الاطلاق	غير موافق	محايد	موافق	موافق جداً
BSC1: العلاقة مع الزبائن: كيف ينظر الزبون لشركتك						
BSC1.1	هناك زيادة في طلب الزبائن لمنتجات منشأتك.					
BSC1.2	درجة رضى الزبون عن خدمات ما بعد البيع مرتفعة.					
BSC1.3	حصتك السوقية مرتفعة.					
BSC1.4	درجة اكتساب العملاء الجدد كنسبة مئوية من إجمالي العملاء مرتفعة.					
BSC1.5	درجة الاحتفاظ بالزبائن مرتفعة (النسبة المئوية للعملاء المحتفظ بهم إلى إجمالي العملاء).					
BSC2: بعد العمليات الداخلية: لتلبية احتياجات الزبائن وتوقعات المساهمين						
الرقم	البيان	غير موافق على الاطلاق	غير موافق	محايد	موافق	موافق جداً
BSC2.1	يتم استخدام الآلات، والمعدات، و برامج التصميم المتخصصة و ماكينات القص بالكمبيوتر CNC في عمليات الإنتاج.					
BSC2.2	درجة تمكين الموظفين وتشجيعهم مرتفعة.					
BSC2.3	نسبة توفر الموظفين المهرة مرتفعة.					
BSC2.4	هناك تحسن مستمر في إنتاجية الموظفين والعمال لديك.					
BSC2.5	هناك خلق فرص عمل جديدة بشكل مستمر.					
BSC2.6	عدد الموظفين الذين يتركون العمل لدى منشأتك منخفض.					
BSC2.7	تقوم بتطوير وتحسين منشأتك بشكل مستمر. (منتج أو خدمة مميزة، طرق إنتاج مبتكرة وجيدة).					
بعد التعلم والنمو ويشمل على قدرات الموظفين وأنظمة المعلومات لدى الشركة بالإضافة إلى القدرة على BSC3: الاستثمار في التحسينات وخلق قيمة						

الرقم	البيان	غير موافق على الاطلاق	غير موافق	محايد	موافق	موافق جداً
BSC3.1	مستوى البحث والتطوير في منشأتك في تحسن مستمر.					
BSC3.2	هناك تحسن مستمر في قدرة المنشأة على تطوير منتجات جديدة.					
BSC3.3	الفترة التي تحتاجها لإنتاج وإدخال منتج جديد قصيرة نسبياً.					
BSC3.4	نسبة إدخال منتجات وأصناف جديدة من مجمل المنتجات مرتفعة.					
BSC3.5	يساهم العمال والموظفين في تطوير المنتجات والحفاظ على الجودة بشكل كبير.					
BSC3.6	هناك تحسن مستمر في قدرة المنشأة على حل المشكلات المتمثلة بنقص الموارد، والبحث والتطوير.					
BSC3.7	يوجد قسم خاص للتصميم والتطوير في منشأتك.					
BSC4: البعد المالي: كيف نقيس النجاح مالياً						
الرقم	البيان	غير موافق على الاطلاق	غير موافق	محايد	موافق	موافق جداً
BSC4.1	هناك انخفاض ملحوظ في تكاليف الإنتاج.					
BSC4.2	هناك تحسن مستمر في الإيرادات.					
BSC4.3	يشكل التصدير نسبة عالية من حجم مبيعاتك.					
BSC4.4	هناك تحسن سنوي في الربحية.					
BSC4.5	هناك تحسن مستمر في المدخرات وممتلكات منشأتك.					

A-3: Interview Guideline

THM as a Model for Enhancing the L & S Sector Competitiveness Interview guideline

i. Interview Basic Information:

Date: _____

Organization: _____

Type: _____

Interviewee: _____

Interviewer: _____

Expected interview duration: 60 to 90 minutes

ii. Type and level of existing collaboration:

1. Provide an overview of the current state of the leather and shoe sector.
2. What is the role , or, what are the roles played by your institution insofar as sectoral development is concerned?
3. Would you define the Palestinian leather and shoe sector as innovative?
4. Is your organization involved in any collaboration between industry, university and government in the leather and shoe sector and how this collaboration is encouraged and strengthened within and outside of your organization?
5. How Do you evaluate the role of other Triple Helix actors and the collaboration between _____ them _____ if _____ exist?

iii. **Challenges faced in forming sustainable collaboration:**

How do you rate the challenges in forming collaborations across the various partners? (*Rating: Low, Moderate, High):

Challenge	Comment
Mindsets that are not receptive to new ideas	
Lack of shared vision	
Mistrust of other parties	
Power asymmetry – one party taking advantage of its power	
Lack of capacity to manage collaborations	
Leadership not attuned to collaborations	
Lack of political skills to tap national resources needed support local development	
Others: -----	

iv. **Perception about the Triple Helix role in enhancing the leather and shoe sector innovation**

What is the role of the various actors in building the innovation foundation (*Rating: Low, Moderate, High):

Competitiveness Foundation	Comment
Policy making and implementation	
Financing	
Research/knowledge generation	
Skills Development and Training	
Infrastructure provision	

A-4: Arbitrators List:

#	Name	Position	Email
1	Mohammed Husain	Cluster Manager (Hebron L&S Cluster)	mohammed.husain@pal-cluster.ps
2	Tareq Tamimi	CEO of HCCI	ceo@hebroncci.org
3	Akram Hijazi	TVET Manager of FPCCIA	Akram.Hijazi@pal-chambers.org
4	Mahmoud Abo-Amera	Expert in Cluster, The previous manager of Hebron L&S Cluster	Mdaqqah@yahoo.com
5	Mohammed Qwasmi	Vice President for Community Affairs at PPU	vp-community@ppu.edu
6	Rafeeq Abudaoud	Vice President of the PFLI	rabudaoudr@yahoo.com
7	Tareq Ashour	PhD., Lecturer in Birzeit University	tareq_pl@hotmail.com
8	Ziad Zaghrou	PhD., Lecturer in Birzeit University	zzaghrou@birzeit.edu

A-5: Descriptive Statistics – Sample Distribution

Table 1: Enterprise' Location

		Frequency	Valid Percent
Valid	City	119	93.7
	Industrial Zone	8	6.3
	Total	127	100.0

According to the Enterprise' Location, 93.7% of the sample were operating in the city while 6.3% were operating in the Industrial Zone.

Table 2: Are you a member of Palestinian Federation of Leather Industries?

		Frequency	Valid Percent
Valid	Yes	95	74.8
	No	32	25.2
	Total	127	100.0

According to the question: Are you a member of Palestinian Federation of Leather Industries, 74.8% were members and their answer were Yes, while 25.2% were not members at PFLI and answer with No.

Table 3: Are you a member of the Leather and Shoe Cluster?

		Frequency	Valid Percent
Valid	Yes	33	26.0
	No	94	74.0
	Total	127	100.0

According to the question: Are you a member of the Leather and Shoe Cluster?, 74.02% were not members and answer with No, while 25.98% were members at PFLI and answer with Yes.

Table 4: Is your enterprise officially registered with the Ministry of National Economy?

		Frequency	Valid Percent
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Valid	Yes	110	86.6
	No	17	13.4
	Total	127	100.0

According to the question: Is your enterprise officially registered with the Ministry of National Economy?, 86.61% were registered and answer with Yes, while 13.39% were not registered at the MoNE and answer with No.

Table 5: What is the legal nature of your enterprise?

		Frequency	Valid Percent
Valid	Sole partnership	35	27.6
	Partnership	71	55.9
	Limited Liability	21	16.5
	Total	127	100.0

According to the question: What is the legal nature of your enterprise?, 55.91% of the respondents were sole partnership, 27.56% were partnership and 16.54 % were limited.

Table 6: Participant's Position

		Frequency	Percent
Valid	Owner	67	52.8
	Manager	46	36.2
	Accountant	8	6.3
	Missing	6	4.7
	Total	127	100.0

According to the participant position, 55.37% of the respondents were the owners of the enterprise, 38% were the managers of the enterprise, 6.6 % were the accountant of the enterprise while 4.9% of the respondents have left this question empty (missing).

Table 7: Number of Employees

		Frequency	Valid Percent
Valid	(1-5)	58	45.7

	(6-10)	40	31.5
	(10-20)	17	13.4
	(21 and more)	12	9.4
	Total	127	100.0

According to the number of employees, 45.67% were having (1-5) employees, 31.5% were having between (6-10) employees, 13.4 % were having between(10-20) employees, and 9.4% were having more than 20 employees.

Table 9: Establishment Year

		Frequency	Valid Percent
Valid	Before 2000	71	55.9
	2000-2011	27	21.3
	2012 and After	29	22.8
	Total	127	100.0

According to the Year of Establishment, 55.91% of the enterprises were established before 2000, 21.26% were established between 2000 and 2011 and 22.83% were established after 2012.