Arab American University
Faculty of Graduate Studies

**Impact of TQM Practices on the Transformation
into Entrepreneurial Universities in Palestine:
The Moderating Role of Innovation.**

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**This Thesis is Submitted in Partial Fulfillment of the
Requirements for the Master's Degree in Quality
Management Program - Arab American University.
April. 2022**

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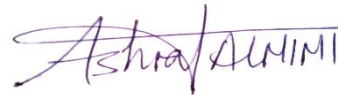**This thesis was defended successfully on 02/07/2022 and approved by:**

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Declaration

I am the undersigned, who submitted the thesis entitled:

Impact of TQM Practices on the Transformation into Entrepreneurial Universities in Palestine: The Moderating Role of Innovation.

I declare that the work in this thesis has been composed solely by myself, unless otherwise referenced, and was not previously submitted in any application for a degree or qualification.

Student's Name: Hala Mohammad Basheer Dababat

Signature:

Date:

Dedication

I dedicate this achievement to:

My first supporters since my childhood, to those who are the dearest ones to me soul... My beloved mother and father

My partner in the life who gave me his constant support and love... My husband

To the source of love and happiness in my life, who were the motivation for me to succeed and continue...My children Saber and Celia

To the one who encouraged me and always stand for me… my lovely sister.

Acknowledgment

I want to express my great thanks to God Almighty for his generosity and grace for granting me the health and the ability to accomplish this thesis.

I extend my thanks and great gratitude to my supervisor for this thesis, Dr. Yahya Saleh, for his efforts and time that he gave me, for his continuous giving and his constant guidance to me in my thesis pathway.

Extremely thanks and appreciation for the committee examinators for their efforts and time in reviewing my thesis and providing me with the needed feedback to enhance the thesis.

My warm gratitude for my husband for his constantly supports and his motivation for me.

Last but not least, my sincerest appreciation for my family for their encouragement and their endless bolster.

List of Abbreviations

Ad_In	Administrative Innovation
DV	Dependent Variable
EU_TL	Entrepreneurial Teaching and Learning
EU	Entrepreneurial University
EC	European Commission
EU_ExR	External Relationships for Knowledge Exchange
HEIs	Higher Education Institutions
ID	Independent Variable
IA	Information and Analysis
EU_Int	Internationalized Institution
EU_LG	Leadership and Governance
EU_Meas	Measuring the Impact of Entrepreneurship
OECD	Organization for Economic Co-operation and Development
EU_OC	Organizational Capacity
PLS-SEM	Partial Least Square Structural Equation Modeling
PeM	People Management
EU_Pre	Preparing And Supporting Entrepreneurs
PrM	Process Management
PD	Program Design
QM	Quality Management
(β)	Standard BETA
SP	Strategic Planning
SF	Student Focus
Te_In	Technical Innovation
TMS	Top Management Support
TQM	Total Quality Management

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Abstract

Nowadays, the higher education sector is facing a rapid change as a result of the increasing competition locally and internationally, in addition to the technological advancements that are taking place; which imposed a great pressure on universities to develop their processes and educational efficiency. Furthermore, the market-orientation dominance left no choices for universities but to adopt quality performs and systems in order to improve their education efficiency, in addition to their competitive advantages. However, the sustainable competitive advantage needs TQM application and actual implementation, along with fostering and encouraging innovation performance.

Recently, the rapid increasing demand of having a knowledge-based economy and the globalization have triggered the higher education sector worldwide to experience momentous transformation; which thereafter led the universities to change from traditional universities to entrepreneurial universities. That is, to transform from the missions of only teaching and researching to the third mission represented in the university's entrepreneurial role for the socio-economic development.

The main goals of the study are assessing the current situation of Palestinian universities by measuring to which degree universities apply TQM practices and adopt administrative and technical innovations, in addition to assessing the extent of entrepreneurship in universities. Then, the study is concerned with examining the effect of implementing TQM practices on fostering the transformation of traditional universities into entrepreneurial universities. Also, investigating whether innovation constitutes a moderator factor in promoting the transformation into entrepreneurial universities by adopting TQM practices. This is conducted by developing a conceptual model and empirically testing the relationships.

An analytical research method is employed in this study; where the survey strategy was used to collect the data. The study sample are the top managements of the 18 Palestinian universities; where 44 questionnaires were collected from 12 Palestinian universities. The collected data was analyzed using the partial least squares structural equation modeling technique through SMART-PLS software.

The main findings of the study are that the implementation level of TQM practices and innovation in Palestinian universities is at a high level, while the adoption of entrepreneurial practices is found to be at a moderate level. Also, the study concludes that the application of TQM practices significantly and positively contributes and affects the transformation to entrepreneurial universities. And the innovation does not play a moderating role in that relationship. By concentrating on evaluating the links between the study's variables in the higher education sector, the study added to the body of already existing knowledge. Practically speaking, it is seen as concrete proof of the degree to which TQM methods, innovation, and entrepreneurship are being implemented in Palestinian higher education. The study's conclusion urges decision-makers in Palestinian universities to embrace TQM methods, such as information and analysis, and people management, in order to promote entrepreneurship in higher education.

Chapter One

Introduction

1.1 Overview

This section contains several parts that include a general background on the subject of the study, and defines the problem that is addressed in this study. Also, it highlights the importance of the study subject and the specific objectives this study aimed for. To achieve this, the study questions and hypotheses are formulated in this section, and finally the thesis structure is presented.

1.2 General Background

In the recent years, the role of higher education is becoming way more significant than ever-before in the mankind history as a result of that the higher education quality determines the nations poverty and wealth, (The Task Force on Higher Education and Society, 2000).

The reasons that motivated HEIs to implement a TQM philosophy were enhancing their efficiency or reducing costs so that they can solve their funding problems and constraints. Therefore, having an improved quality management is useful in matters of teaching, research, and curriculum, in addition of its benefits in shaping effective systems and processes of education, and considering intelligent adaptation. However, the potential of quality management systems and practices that have played an important role in reducing costs and enhancing the quality have never been greater, (Tarí & Dick, 2016).

Total quality management has been defined as a set of mutually reinforcing principles, which are implemented and supported by a set of practices and techniques (Kim et al.,

2012). Total quality management practices are an essential construct that must be given continuous focus and care in all managerial areas to implement TQM successfully and therefore achieve the improvement of performance (Boynton and Zmud,1984). Certain critical success factors must exist for successful implementation of TQM; which were referred to as the TQM practices (Talib, 2013).

Nowadays, higher education institutions encounter different challenges such as variable needs of stakeholders, systems expansion, adapting to new technologies and knowledge methods, in addition of finding new sources of fund raising. Accordingly, higher education institutions have to give high attention for both quality and innovation, since the quality implementation assists the universities in adapting to environmental changes, whereas innovation assists in providing the stakeholders with better services, (Aminbeidokhti etal.,2014). Therefore, the workable competitive advantage needs more than having high quality; it also requires fostering innovation performance, (Kleinknecht and Mohnen, 2001).

Innovation is described as the creation of values from ideas. Therefore, innovation is really about learning and change and is frequently upsetting, expensive, and risky. Universities are among the institutions that are pushing the learning of how to make creative and innovative change by securing the necessary environment for creativity, innovation, and entrepreneurship. (Shhadeh et al., 2016)

In today's increasingly globalized economy, and when it comes to increasing economic growth, employment and competitiveness; knowledge has become the main generator, (Audretsch, 2014). Hence, educational incubators and universities can be the main players in their crucial role as disseminators and producers of knowledge, (Kirby, 2006). Since the 1980s, an increasing number of HEIs gave the birth to the so-called

entrepreneurial university (EU); identifying economic and social development as part of their mission, (Etzkowitz, 1993).

The entrepreneurial university concept -which is a key concept in the Triple Helix Model that was developed by Etzkowitz- clarified the university role evolution, adding it to the university traditional missions represented in education and research only, in which the third added mission is to contribute to the economic development by moving the research results from the laboratory to the economic system, (Feola et al., 2020). Therefore, when determining their existing status and possible areas of action, universities can use the entrepreneurial practices identified as a factor likely to be distinctive of the entrepreneurial university to take into account their local and national settings. (OECD,2012)

Within the Palestinian context, the higher education system's contribution to the Palestinians' wellbeing and the Palestinian cause is undeniable; even that its history is generally recent. Advances in the Palestinian higher education sector aims to improve quality, enhance relevancy, and enlarge capacity and upsurge access for creating a knowledge-based economy. However, the higher education sector in the Palestinian Territories (West Bank and Gaza Strip) is not playing the needed role enough in promoting development, (Robinson, 2010).

This study tried to determine whether universities' adoption of TQM practices helps and enhances its transformation into an entrepreneurial university or not. Moreover, the main goal of this study is to identify how the adoption of innovation in universities plays a mediating role in the relationship between quality and entrepreneurship in universities.

1.3 Research Problem

The higher education sector is considered one of the most important sectors in achieving development in all of its dimensions for all countries. Thus, improving the higher education in Palestine provides a source of strength for the growth and prosperity of the whole society. Indeed, the higher education in the Palestinian context refers to the educational system governing education institutions in the West Bank and Gaza Strip. These include 52 accredited and licensed higher education institutions distributed in the West Bank and Gaza Strip, and classified as 16 of the 52 are traditional universities, 17 universities colleges; 17 community colleges and 2 open universities. Overall, there are 17 higher education institutions in Gaza Strip, and there are 35 institutions in the West Bank, (MOHE, 2020)

In addition, the number of registered and regular students in higher education institutions reached 217,645 students; 66% of them are in traditional universities, 22% are students in open education universities, and 7% in university colleges. Also, the number of new students enrolled in higher education institutions in Palestine for the year 2019/2020 is 61,251 students; whereas the number of staff members in Palestinian higher education institutions for the academic year (2019/2020) reached (16,765) employees, including: 7,065 teaching academics, 726 administrative academics, 21 research academics, 1,299 administrative staff employees, 2,380 office staff employees, 1,607 teaching and research assistants, 1109 vocational specialists, 473 technicians, and 2,085 unskilled workers, (MOHE, 2020).

Despite of the development in the higher education sector, it still suffers from many difficulties and challenges. To specify, challenges include limited resources, restrictions imposed by the Israeli occupation, increased local and global competition, rapid growth

of educational technology, having many interests for various stakeholders, uncontrollable circumstances, and the pressure of having vital fund-raising sources and controlling costs, (Naqib & Ismail, 2020). In addition, the higher education sector is facing the problem of unplanned accreditation that caused troubles in both competition and quality, (MOHE, 2010).

Other important problems that the higher education sector in Palestine encounters involve the current financial crisis encountered by these institutions, which is considered an extremely serious and severe problem. This crisis created many concerns about the financial sustainability of the sector especially that the Palestinian National Authority (PNA) is now facing economic difficulties that affected negatively all sectors, including the higher educ sector. As the PNA is highly dependent on the international aid since many years – for example the aid that was sent to the Palestinians in 2018 was $516m to support budget and $160m to finance the development, which resulted in a financial gap of around $400m, (Isaac et al., 2019).

Given these challenges and problems, it is important for higher education institutions to pay a serious attention to the quality of education and innovation in order to obtain a competitive advantage, satisfying all of their stakeholders and attracting new students. This can be achieved by adopting practices that ensure implementing total quality management (TQM) effectively, keeping pace with innovation, and adopting entrepreneurial universities practices. From this point, the application of TQM practices is going to assist in the improvement of Palestinian universities' current situation, improving the quality of educational outputs and achieving competitive advantages. In addition to adopting innovation in universities, which will have a key role in achieving the required development to satisfy the stakeholders. As stated by Aminbeidokhti et al.

(2014), the effective implementation of the TQM practices will assist universities in the adaption to the environmental changes, whereas innovation assists in providing the stakeholders with better services.

Indeed, this study is in line with the strategic objectives of the higher education and scientific research in Palestine, (MOHE, 2019). As one of the strategic objectives associated with improving the quality of higher education outputs seeks to:

1. Institutional development of quality departments in higher education institutions and strengthening their capabilities in quality issues.

 2. Keeping abreast of local, regional and global developments concerning the higher education and development requirements, and continuously developing standards for licensing and accrediting institutions and programs.

 3. Reconciling the specializations and skills of graduates of higher education institutions with those required by the labor market and industry, and better directing higher education programs to achieve alignment of outputs with needs, especially at the national level.

4. Openness to modern education systems - especially flexible and interactive systems -, which focus on research and innovation, and give a greater role to the learner.

5. Continuously working to enhance the infrastructure, whether in buildings, laboratories, information systems, and means of communication, or information technologies and distance learning.

6. Continuous capacity building for academic and administrative staff in higher education institutions.

7. Strengthening programs and courses with competencies and skills that stimulate creativity and innovation in entrepreneurship.

Therefore, this research aims to examining the impact of TQM practices in Palestinian higher education institutions -particularly in Palestinian Universities- towards transforming to entrepreneurial universities via exploiting Innovation as a mediation factor. More specifically, the research will measure the level of implementing TQM Practices, innovation, and entrepreneurial practices within the Palestinian universities. Furthermore, a conceptual framework that relates the TQM and innovation practices in Palestinian universities with requirements of the entrepreneurial universities was developed and research questions along with hypotheses were addressed.

1.4 Significance of the Research

The importance of this research lies in its crucial role in highlighting the most important TQM practices, in addition to innovation practices that help the Palestinian universities transforming into entrepreneurial universities. Thus, contributing to the growth and prosperity of universities by overcoming the challenges and changes that Palestinian universities encounter from the beginning of the 21st century, under the impact of globalization, information and communication revolution, and knowledge-based economic growth, (Salmi, 2000).

The higher education in Palestine is facing many difficulties and limitations, including the shortage of various types of resources, restrictions imposed by the Israeli occupation, financial deficit, modest technological methods and tools, and others. Hence, this research will help academics in Palestinian higher education institutions and their top management to achieve their strategic goals by identifying a conceptual framework to reach entrepreneurial universities with a high level of professionalism and efficiently utilizing available resources. This will be achieved by reaching conclusions

about the relationship between TQM practices, innovation and the entrepreneurship in the Palestinian universities' context. Eventually, this will assist decision makers in taking corrective actions to the current situation and adopting important TQM practices and innovation in order to become entrepreneurial universities with a highly competitive advantage.

Moreover, the main scientific interest for this research is that no studies were found in regard of examining the relationship between the study's three themes together (TQM practices, innovation, and adopting the entrepreneurial practices) at the higher education sector in Palestine. Therefore, this study aimed to fulfil the knowledge gap in the literature by examining the above-mentioned themes in Palestinian universities. In addition, to explore the importance of TQM practices and innovation types and practices to achieve the fundamental changes that Palestinian universities need.

In addition, it will assist the Palestinian universities in their endeavors toward transforming from traditional universities (focusing on teaching, community service and research only) to entrepreneurial universities (with a wider scope of functioning) as will be discussed later.

As the transformational process from traditional to an entrepreneurial university is a part of the continuous improvement process that Palestinian universities practice towards excellence in performance, it is expected that having effective and efficient TQM practices would positively facilitate this transformation. Likewise, different types and practices of innovation in education would also have a role in that. More specifically, innovation might play a mediating role between TQM practices and the transformation process.

1.5 Research Objectives

The main goal of this research was to explore the impact of TQM practices on the transformation process into entrepreneurial universities through innovation in Palestinian universities. In addition, to build a conceptual framework for the different relationships between TQM practices, types and practices of educational innovation, and the entrepreneurial dimensions and requirements of the universities. The following specific objectives could be developed to gain a detailed understanding of how these relationships are affecting each other:

1. Assessing the commitment degree of the Palestinian universities with TQM practices.

2. Assessing the extent for which the Palestinian universities adopt the organizational and technical innovation activities.

3. Identifying the current situation of the Palestinian universities and potential fields of actions to become entrepreneurial universities.

4. Determining to which extent implementing TQM practices by the Palestinian universities can contribute to their transformation into entrepreneurial universities.

5. Determining if innovation plays a mediating role in the transformation process into entrepreneurial universities.

1.6 Research Questions and Hypotheses

This research aimed to answer the following questions:

1. To what extent are Palestinian universities deploying TQM practices?

2. To what extent are Palestinian universities implementing the innovation types?

3. To what extent are Palestinian universities adopting the practices of entrepreneurial universities?

4. Does implementing the TQM practices leads to fostering or hindering the process of being entrepreneurial universities?

5. How do the organizational and technical innovation affect the relationship between TQM practices and entrepreneurial universities practices?

The following hypotheses that are related to the study's questions were developed in order to be investigated in this research:

- **First hypothesis (H1):** TQM practices positively affect the entrepreneurial practices in Palestinian universities**.**

- **Second hypothesis (H2):** TQM practices positively affect innovation in Palestinian universities**.**

- **Third hypothesis (H3):** Innovation positively affects the entrepreneurial practices in the Palestinian universities**.**

- **Forth hypothesis (H4):** Innovation mediates the relationship between TQM practices and entrepreneurial practices in the Palestinian universities.

1.7 Thesis Structure

This thesis contains six chapters; the first chapter presents a brief background regarding the main topic continued with the research problem and its importance, followed by research goals and objectives, research questions and assumptions, and finally stated sections of the research. The second chapter presents the extant literature and its key concepts that include TQM definition; evolution; and its related practices, innovation types, and the entrepreneurship practices. In addition to deeply discussing and investigating the abovementioned concepts in universities and the higher education sector.

Thereafter comes chapter three, which summarizes the used methodology that was followed in conducting the study, including in its details how the research was designed, the sampling procedures, data collected methods, types of these data, the used data analysis techniques, and ended with a summary illustration for the "SMART-PLS" software that was used for analyzing the data in order to investigate the relationships between the study's variables.

Chapter four presents the results of data analysis in which the first section consisted of the descriptive statistics for the demographic profile of the respondents, the demographic profile for responding universities and for the main constructs of the study. Thereafter, the last section in this chapter contains the analysis of collected data and the testing of the proposed relationships through the partial least square structural equation modeling (PLS-SEM).

Chapter five discusses the results of data analysis and the hypotheses testing outcomes; then presents the theoretical and practical implications of the research study. Whilst the last chapter contains the conclusions and recommendations of this study along with some managerial implications, and finally addressed the limitations in which potential suggestions were given according to them.

Chapter Two

Literature Review

2.1 Overview

This section includes a comprehensive literature review of the three main topics related to this study; which are the practices of total quality management in the higher education sector, practices of innovation related to education, and finally the practices of entrepreneurial universities.

More specifically, it starts by reviewing several definitions of the total quality management (TQM) concept and its inception. Then, the most important practices and characteristics that must be available when implementing total quality management to achieve a highly competitive advantage -particularly- in the higher education sector are discussed. Thereafter, several models are reviewed and presented in this chapter regarding TQM Practices, and the reality of universities in developing countries and their most importantly required practices of TQM are also highlighted.

Furthermore, Innovation and its different types are discussed, and how the innovation is related to the higher education sector; by emphasizing the two topics of innovation that directly contribute to the higher education sector; which are: technological innovation and organizational innovation. The relationship between innovation and TQM and how they affect each other is also covered in this section. Finally, the concept of entrepreneurial universities and the most important models that the entrepreneurial universities follow worldwide are summarized, as well as the best practices they adopted in their pathways. In the last section, the reality of Palestinian universities and their attempts to be entrepreneurial universities are emphasized.

2.2 Total Quality Management (TQM)

2.2.1 Definition of Total Quality Management

The concept of total quality management which is referred to as "TQM" is mainly related to Feigenbaum in his book in 1961 titled "Total Quality Control", (Hoyle, 2007). However, there were no consensuses between the researchers on the exclusive definition of the TQM concept, as each researcher viewed TQM from a different point of view; which in turn affected the concept's definition way, (Eriksson & Hansson, 2002). For instance, Miller (1996) suggested that TQM is a continuous process whereby the management takes the necessary actions or steps needed to enable all employees within the organization to achieve specific standards that meet or exceed internal and external customer's needs and expectations.

Doyle (2004) stated in his study that TQM -in its meanings- includes satisfying customers first time and every time; as its' organizational management approach that is centered on quality-based includes also the participation of all members who aim together to have long-term success through benefiting the society and having customer satisfaction.

On the other hand, the British Standard Institution identified TQM as a management philosophy aiming to achieve a company's stated goals through conducting a set of practices to effectively manage the company's human and material resources, (Hoyle, 2007). TQM was also defined as a process that has the goal of carrying out successful business strategies in all organization's departments through integrating management arts and techniques with principles and methodologies of total quality, (Stephens, 2014). However, there is a convergent validity of TQM by way of common assumptions and

types of practices that are possible to be implemented in different organizations, (Hackman & Wageman, 1995).

Obviously, TQM is widely-defined as a collaboration effort of all departments of the organization to develop an environment that enables improving the ability of delivering products and services with high quality in a continuous manner, (Douglas & Judge, 2001; Singh & Smith, 2004).

Total quality management has proved in the education sector that it's a tool for ensuring the academic reform guidance quality, it is the latest parade of programs, models, recipes, and slogans for such guidance. This management concentrates on the meaning of that everyone is the manager of their duties and responsibilities in any institution, no matter what their position is, (Thapa, 2011).

The perception of TQM can only be attained in educational institutions by the formulation and execution of an annual quality program, it's a long period of planning but will substantially moves towards accomplishing the vision. As a result, and by applying TQM in such a professional degree, higher education system will be revived in a long way, (In'airat & Kassem, 2014).

However, through the examination of the various definitions mentioned above, it can be noted that all definitions agreed that total quality management is a specific and continuous practices that include the efforts of all members in the organization in order to achieve the stated goals.

2.2.1 Total Quality Management (TQM) Practices

For many years ago, several previous literatures discussed TQM as a management tool that is characterized by many practices, principles and strategies focusing on different

aspects, such as: continuous improvement, employees' involvement, top management commitment, empowering employees, enhancing the teamwork, leadership support, benchmarking, rewards and recognitions, feedback and supplier relationship management, (Rönnbäck & Witell, 2008).

Much of the extent literature has addressed TQM practices as critical success factors for implementing TQM and provided various sets of these key practices. This has led to inconsistencies in conclusion and difficulties in reaching a unified conclusion about these practices; Notwithstanding that fact of having Quality Awards models that represent a meaningful framework helping organizations in implementing TQM successfully as evaluating the results; such as: Malcolm Baldrige National Quality Award (MBNQA, 2005), and European Quality Award (EQA, 1994), etc., (Talib, 2013).

TQM concepts and practices appeared in the 1980s in service sectors, including the educational sectors. The development of TQM in the educational sector especially in high education was related to the fact that the intensity of global and local competition has increased across the countries in the accelerated globalization development which has prompted many universities to adopt TQM, (Asif et al., 2013). High education institutions adopted TQM in an effort that keeps rivals at bay, gains a competitive advantage, and attracts more students. Following this development, the interest in research related to the implementation process of TQM practices in higher education institutions is increasing, (Nasim et al., 2019).

In recent years, TQM has been adopted by many types of organizations world-wide. However, implementing TQM in higher-education institutions and other non-profit

organizations showed more challenges and difficulties than those that were showed in business organizations, (Sirvanci, 2004).

Indeed, there are some differences between the high education sector and other sectors, this implies that TQM practices in HEI need the proper adaptation to the education settings. Accordingly, these practices may be used by high education managers as the primary concentration for measuring and improving quality in non-academic areas along with adapting them in academic areas, (Tarí & Dick, 2016).

Schendel (1994) stated that in order to achieve a competitive advantage for the organization; it should not rely only on single assets or practice, instead of that, it better depend on a proper combination of them. Therefore, a set of common practices that must be combined to support the TQM management philosophy, which are: (1) top management team involvement (2) adoption of a quality philosophy (3) emphasis on TQM-oriented training (4) focus on the customer (5) continuous improvement of processes (6) management by fact and (7) use of TQM methods, (Douglas & Judge, 2001).

Sallis (2014) stated that the "total" in TQM means everyone and everything should be involved in the continuous improvement process, this supported the suggestion by Feigenbaum (1994) that the quality of education is determined by the extent of involvement of all people in thinking, acting, and making activities concerned on quality decisions. Also, TQM methodology in high education institutions aimed to integrate all university's inputs, outputs and processes. So, different studies tried to apply TQM practices and principles to the higher education sector, and improved these practices to be more suitable for the education sector and fitting it properly, (Asif et al., 2013).

2.2.3 Models of TQM Practices in Higher Education

There are many critical steps in the TQM implementation process. First of them and the most critical step is the process of customer identification, followed by other issues; such as leadership, organizational and cultural issues which usually create barriers of difficulties in implementing TQM in higher education institutions, (Sirvanci, 2004).

Additionally, a study by Tarí and Dick (2016) has investigated about 15 empirical studies that proposed TQM practices (dimensions) for higher education institutions, in order to determine the most common TQM practices suggested by previous literatures. Ultimately, the study concluded the most critical TQM practices for the higher education that could enable the continuous performance improvements, which are illustrated in the Table (2-1) that summarizes these practices and the number of studies that considered each practice as a critical factor.

Table (2-1): TQM practices for higher education institutions

TQM Practices	Number of Studies	Involved Activities
People management	15 studies	Training, involvement, professional development, and the recognition of members.
Information and analysis	13 studies	Measurement, complaints, data from student learning, daily operations, and academic outcomes or results.
Process management	13 studies	Designing the learning process, and mapping processes.
Stakeholder focus	13 studies	Aspects related to students, academic staff, society and additional stakeholders' relations.
Planning	12 studies	Activities related to defining, delivering, and the assessment of objectives and plans.

TQM Practices	Number of Studies	Involved Activities
Leadership	10 studies	Activities related to top management support and commitment.
Continuous improvements	6 studies	Activities related to improving quality in all aspects.
Program design	3 studies	The involvement of all related departments in design assessments, clarity of specifications and focusing on quality.
Supplier management	3 studies	Activities associated with potential and actual suppliers.

A study by Kanji et al. (1999) discussed the implementation of TQM practices and principles at the American and Malaysian higher education institutions, and their relationship with the organizational performance and business excellence. Also, Kanji developed a TQM model that combined of all suitable critical success factors for higher education institutions. Hence, the main findings of the study were nine critical success factors, which were found in both countries that have the ranking shown in Table (2-2) below.

Table (2-2): Malaysia vs. USA ranking for TQM practices

Critical success factor	Malaysia ranking	US ranking
Leadership	1	1
Continuous improvement	2	3
Prevention	9	9
Measurement of resources	8	8
Process improvement	5	5
Internal customer satisfaction	7	4
External customer satisfaction	6	2
People management	3	7
Teamwork	4	6

Moreover, a recent study by Nasim et al. (2019) - as it conducted a comprehensive systematic review for extant literature (around 75 articles, books and book chapters)- concerned implementing TQM in higher education institutions, explicating the attainments and limitations of these available researches, and discuss future research trends. It can be concluded that extant researches on TQM in higher education are: (1) focuses on learning and teaching, while ignoring the engagement of research and industry; (2) focuses on lonely factor (such as, the teacher), while ignoring other factors (such as, facilities); (3) focuses in higher education sector in advanced countries, whereas ignoring it in developing countries; and (4) Ignoring TQM development and integration while considering it as a single phenomenon.

2.2.4 MBNQA Model and European Quality Award (EQA)

The implementation of the basic principles of TQM increasingly takes standard forms and common goals. The two major forms of TQM are the ISO 9000 and quality awards. On the other hand, the European Foundation for Quality Management (EFQM, 1988) and Malcom Baldrige National Quality Award (1987) are the most prominent awards. Usually, one or more of those awards were the basis that many countries relied on when designing their quality standards and models. The below figure shows the published Baldrige model (Education criteria for performance excellence), (Kirby et al., 2011).
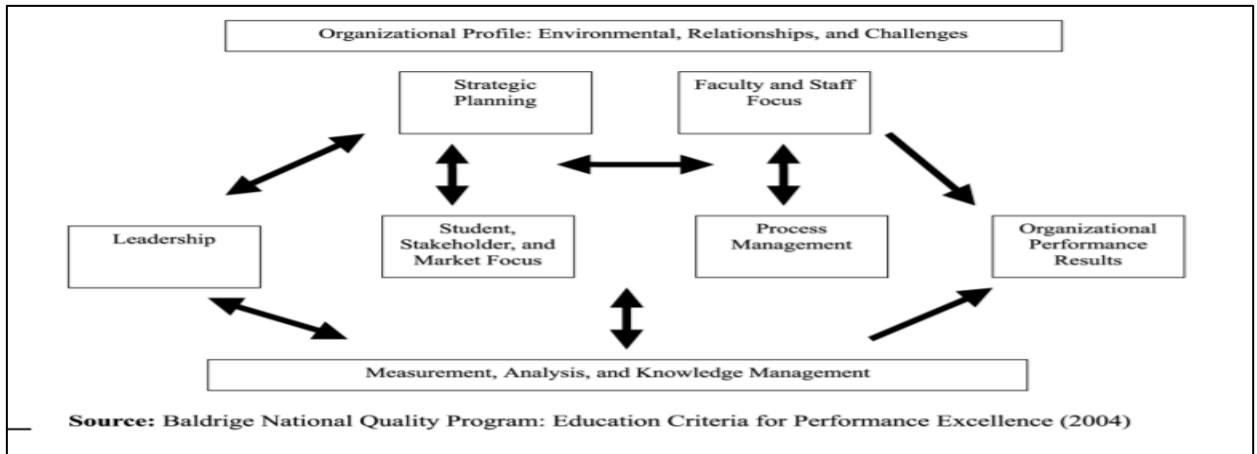
Figure (2-1): Education criteria for performance excellence

A comparison was made between the two models (EFQM and MBNQA) by comparing the important factors in each model and their given weights. The European Quality Award focused on the following factors: Customer Satisfaction (20%), Business Results (15%), Processes (14%), Leadership (10%), People management (9%), Resources (9%), People Satisfaction (9%), and the society Impact (6%). Whereas the MBNQA focused on the following: Customer focus and satisfaction (30%), Quality and operational results (18%), human resources development (15%), Management of the process quality (14%) leadership (9%), information and analysis (8%), and strategic quality planning (6%), (Beshaha & Berhan, 2017).

2.2.5 Core and Infrastructure TQM Practices

Previous studies divided TQM practices that related to the HEIs into two main categories; which are soft and hard TQM practices. On the one hand, soft practices focus on the quality management in dealing with the people, that is, the behavioral characteristics. In addition to the organizational culture and the social aspect. On the other hand, the hard practices concentrate on technical sides abusing statistical tools and

scientific methods. Infrastructure or soft practices are Top management support, People management, Student focus, and Strategic planning, etc. While hard or (core) QM practices are practices as Program design, Process management, Continuous improvement, in addition to Information and analysis, (Sciarelli,2020b). Consequently, different studies that would help in determining the common practices in HEI were broadly reviewed, which can be summarized as follows:

Table (2-3): TQM practices

TQM Practice	Definition
Top Management Support (TMS)	It is related to managers' long-term support and commitment to quality management philosophy. Manatos et al. (2018) mentioned that the identification of a university's mission, promoting its culture, involving the staff in quality management activities and ensuring values and goals are referred to the role of management support. Basu et al. (2018) mentioned that QM share the perspective that top management support is a starting point that is related to other TQM practices. Hence, leadership is the main driver in QM systems, (Badri et al., 2006).
Customer Focus (CF)	It's identifying and meeting students' needs and expectation to achieve customers satisfaction, such as students of HEIs. The base for a successful TQM program is understanding and responding to students needs and complaints by having a close relationship with them, (Manatos et al., 2018).
People Management (PeM)	A concept that consists of many activities regarding people, such as selecting and training employees, establishing systems for both rewards and for effective communication, (Calvo-mora et al., 2005). People in HEIs including faculty members and the staff are the basis of these institutions and are the founding stones of value delivery. Therefore, PEM is highly relevant in HEIs, (Sciarelli, 2020a). In addition, its crucial to manage the whole human resources process, starting from recruitment to continuous training policies, for improving the key processes of the organization, (Calvo-mora et al., 2005).

Strategic Planning (SP)	Is the definition and clarification of the mission and vision, strategic objectives, and the alignment of the action plan that will be followed and implemented to achieve goals and stakeholders' requests, (Basu et al., 2018).
Process Management (PrM)	It includes the administrative, research and educational processes. In other words, process management in higher education institutions includes the management and improvement of administration, research and teaching methods, (Calvo-mora et al., 2005).
Information and Analysis (IA)	Saraph et al. (1989) stated that there are some procedures that are followed to gather data in order to regularly measure quality and evaluate employees; this process is referred to the term Information and Analysis "IA". Focusing on quality data (such as: errors and non-conformities) is a driver that helps designing new products and services that meet customers' needs and helps in improving supply chain relationships and processes, (Kim et al., 2012). Sciarelli (2020a) also said that quality information enhances and develops that processes that are followed to drive employees to share the quality management practices information between them.
Program Design (PD)	It consists of regular and periodic reviews of the academic programs, updating them, taking into consideration the stakeholders' various needs, in addition to the technological advances. Asif et al. (2013) discussed in his study the program design (PD), he mentioned that PD in higher education institutions is a counterpart of the product design in the manufacturing process, in which these programs are the way that can meet stakeholders' changing needs and the new technological advances. Therefore, PD must be updated and reviewed regularly.

2.2.6 TQM Practices in Developing Countries

Salameh et al. (2011) defined in their study TQM implementation requirements in Al-Balqa Applied University. It was concluded that the continuous improvement, teamwork, innovation and creativity, and integrated coordination are the basics for the TQM philosophy, in accordance with having competent administrative management.

However, adopting the TQM approach -especially in higher education institutions- is still limited in Arab countries.

Another study was found in Kuwait; where Al Tasheh (2013) named in his study many barriers or obstacles in implementing TQM in his country. These included: lack of encouragement and support from the leaders of Kuwait universities in applying TQM, insufficient knowledge about modem improvement methods and self-assessment mechanisms, lack of having a TQM integrated sample, and lack of qualified quality experts in the higher education sector. Nadim and Al-Hinai (2016) made also a study in Kuwait and showed in their results that employee's involvement, stakeholder focus, and other stakeholders focus respectively were the success factors of TQM.

Coming to the Palestinian context, Dawabsheh et al. (2019) focused on their study on investigating the effect of TQM practices (seven aspects of TQM; namely, strategic planning, leadership, information & analysis, customer focus, supplier management, process management, and human resource management) on the organizational performance of the Arab American University. Hence, the study found that TQM practices positively affected the organizational excellence and performance. Moreover, a recent study by Msallam et al. (2020) investigated the implementation of TQM dimensions in university colleges at the Gaza Strip from the academic and administrative employees' point of view. The studied dimensions were: (1) commitment of senior management to total quality management; (2) organizational building; (3) focus on beneficiaries; (4) continuous improvement; (5) employee empowerment; and (6) management by facts. The main findings of the study were: the application of all TQM dimensions that were mentioned above in Gaza Strip colleges is appropriate.

From the previous discussion of the TQM models' practices, it can be noted that there is no one single model that can be considered as the most appropriate for the higher education sector. Hence, the current study adopts seven common TQM practices that were related to the higher education sector, which is shown in Table (2-3) as six of these practices were compatible with the practices in EFQM and MBNQA models, while the seventh practice is the program design (PD) that has been added to the current study as it's also relevant to higher education sector.

This study relied on these seven practices for several reasons; starting from that the top management support & direction is the main pillar for building a culture based on quality in universities by developing decisions and strategies that adopt the implementation of TQM. Therefore, the second practice was strategic planning because its importance comes from the extent to which the universities combine the quality requirements with its strategic plans in order to obtain a sustainable quality in education. Moreover, focusing on students' needs in order to achieve the customer satisfaction, and the involvement of university employees in decision making, as the students and employees are considered the main stakeholders for the universities.

The practice of process management was also selected because it is concerned with the educational processes, research and teaching methods. In addition to the program design due to its importance in achieving student satisfaction and expectations. Finally, the practice of information and analysis was also considered as it focused on collecting and analyzing quality data to conduct continuous improvements.

2.3 Innovation

2.3.1 Definition of Innovation

The common definition of the term "innovation" is related to the submission of new ideas, devices, or methods. Importantly, from a management viewpoint, innovation refers to the change that produces a new performance's dimensions. Whilst from an institutional viewpoint, innovation is referred to the best and successful utilization of new ideas, (White & Glickman,2007).

The term "Innovation" was considered as a multifaceted construct that involves the production, development or application of a new idea, behavior, knowledge, or method. Moreover, it's considered that innovation includes two types: organizational innovation and technical innovation, (Damanpour,1996).

Given the above, innovation in higher education refers to a new way to perform the work, or a change that improves the performance in administrative and academic sides, or a new way of thinking through a transformational process, (White & Glickman,2007).

Research on innovation management has been concentrating for a long time on technological innovation as a critical aspect for the economic growth and firm performance, (Grossman & Helpman, 1993). However, Schmidt and Rammer (2007) indicated that this approach was criticized from many researchers as it lacks and fails in providing an overall picture of the innovative efforts that firms engage in across all economic sectors. Later on, Anzola-Roman (2018) stated that the innovation phenomenon should be viewed in a systematic way by understanding the fact that firms come up with innovation activities that transcend their organization boundaries, and explicitly including non-technological activities as a source of innovation.

2.3.2 Innovation Types

There are two types of innovation that are related to the higher education sector, one of them considers high-level managers as the ones who are responsible for doing the related activities; it's a top-down approach and called the "Organizational innovation". The other is the technical innovation, it's the opposite of the first approach as it is a bottom-up approach taking advantage from the low-level commitment of the staff who are involved in the activities, (Kim et al., 2012).

More specifically, technical innovation (TI) refers to introducing new elements for the operational system or production processes, or the application of a new idea related to a new service, product, or process. On the other hand, Organizational Innovation (OI) means a new approach in management system that leads to changes in the strategy of the organization, new market, management practices, organizational structure, or administrative system, (Sciarelli,2020b).

Often, organizational innovation is also termed as administrative or management innovation, (Damanpour, 2014). The nature of this innovation embraces new thoughts for the enrollment of people, the division of resources and the organization of tasks; authority; and rewards. Still, organizational innovation can comprise of changes in the organizational structures, adjustment of people's behaviors, theories and innovative rulebooks, roles and procedures, (Alves et al., 2018).

Organizational innovation is defined as the acceptance or development of a new idea or behavior in organizational operations. Having new products -including tangible products or intangible services- are ways for reflecting the fulfillment of a new management action or a new technology, as well as having new processes like supportive operations or direct processes in the organization. However, new

management actions or a new technology may have been developed recently or even existed before, (Wong & Chin 2006). In recent days, three classifications have been developed in order to classify organizational innovations: 1- administrative and technical innovation. 2- radical and incremental innovation and 3- product and process innovation, (Aminbeidokhti et al. 2014).

Anzola-Román (2018) conducted a study in which an innovation process approach was adopted for the purpose of setting up a framework that addresses the effect of some innovation practices (as the process inputs) on the process innovations and product generation (outputs). Moreover, the researcher aimed to focus on organizational innovation along with externally sourced innovation, and to determine the technological innovation outcomes effect derived from adopting internal R&D practices. Findings showed that pursuing the complex technological innovation generation (such as product and process innovations, and the realization of both types) resulted in leveraging the effect of other innovation practices (internally and externally). Hence, having a diversity in the set of innovation types (i.e., technological and organizational) and sources showed results when aiming to get diversity in the innovation outputs, such as in product and process innovations.

2.4 Entrepreneurial Universities

2.4.1 Definition of Entrepreneurial Universities

Clark (1998) expressed in his introduction of the entrepreneurial university concept how to deal with the limited-resources and growing increasing numbers of students by higher education institutions in the light of globalization, increasing demand to contribute to economic growth with innovation generation, and technology and information

revolution. The entrepreneurial university has the ability to last better with societal encounters through exchanging knowledge, the perception of teaching and learning, and research innovation and continuous development. Clark addressed the transformation of universities that depend on the sponsorships of governments to a more independent position; which he called "non-economic interpretation".

Clark (1998) and Etzkowitz (2003) defined the Entrepreneurial University (EU) as a university that has the capability to innovate, distinguish and produce opportunities, work in teams, take risks, respond to challenges, and seeks to work out a substantial shift in organizational character to arrive to a more promising posture for the future.

Gianiodis and Meek (2019) stated that there is a significant increasing performance globally for the entrepreneurial universities, which represent nowadays the economic development engines. On the other hand, only few of the elite universities successfully developed entrepreneurial capital; although that most of them have changed their organizational structures, strategic priorities and incentive systems.

Entrepreneurship is a process of providing distinct outcomes (products or services) by developing new (entrepreneurial) ideas through innovative new methods of production. This process has the baseline of having risk when introducing new products or developing old products, (Alhabeel & Abu Qarn, 2015). Another definition introduced by Daft (2010) is that entrepreneurship is assuming the benefits and risks when organizing the needed resources to start a new business.

Another study that was conducted by Bezanilla et al. (2020) took into consideration all factors that are related to the entrepreneurial universities' development; in which the researcher aimed to assess 13 affecting factors in this relationship. In order to do that, a questionnaire was distributed to a sample of 84 deans of Spanish universities' faculties.

Results showed that internal factors were minorly affected by the universities' contextual factors, whereas there was a moderate-to-high effect or correlation between the internal resources and the process that universities settled in place to promote entrepreneurship. It must be noticed that organizational design and the management team were positively related with the research and training processes, but were not among the most important factors. The factors of training and research processes appeared to be strongly related to all factors of entrepreneurial universities development.

Schulte (2004) showed in his study that there are two tasks that must be made by entrepreneurial universities. At first, he stated that future entrepreneurs must be trained in order to develop the innovation spirit inside them; because they are the ones who will start and establish new businesses. At second, he concentrated in this task on that technology parks and business incubators that will involve students in these institutions must be established, and that the university must operate in a pioneering manner that will let it participate in the growth and development of the region.

Clark 1998 described the 15-year transformation process that happened in five European universities. He identified the "organizational pathways of transformation" perception which involved five features in his case study that had the role of helping universities to overcome the existing disproportion among university dimensions and environmental demands. These features are: having a robust steering core, varying the capital base, having entrepreneurial culture, development periphery, and getting encouraged academic heartland. Moreover, Foss and Gibson (2015) stated in their study that the entrepreneurial model is not only a process, but also an outcome; as they view it highly associated with developing entrepreneurship and skills, knowledge

commercialization and research outputs, and the most enterprising approach in high education institutions management.

Ge and Wang (2017) conducted a study regarding the quality management system construction for college entrepreneurship education, and offered many philosophies: 1) The form of "foundational platform plus specialty module" must be employed in aptitudes cultivation. 2) Enhance the entrepreneurship education materials and launching full-time educator group. 3) Assigning importance to the enrolment and be strict with the quality of recruitment. 4) Using specific mechanisms of evaluation and getting the help of industry associations or third parties, in addition to releasing the rankings for reference. 5) Allowing the traceability of teaching outcomes with monitoring and evaluating the teaching process. Regulating the service process and management through introducing a standardization system such as ISO. 6) Motivating and strengthening the external resources development; such as venture capitals, incubation base, etc.

A study by Kulapov et al. (2020) discussed the implementation and determination of goals strategies and tactics, and the functioning objectives an entrepreneurial university depends on, along with its determined' main personal and leaders' professional qualities. The basic competencies and the direction of these competencies' implementation by students -must master- in economic and managerial practices were shown and determined. Moreover, the study concluded that several approaches were used in shaping and forming the entrepreneurial university competences, which are:

- The implementation of the citizenship, health conservation, etc. through a task-based approach.
- A social competencies formation through a situational-problematic approach.
- An integrated approach, involving value-semantic attitude, orientation and goal-setting.

- A social competencies formation through a personality-activity approach.

- Concentrating human activity on many life and professional situations via a competency-based approach.

- Acquiring knowledge, expertise, skills, in addition to social and professional competencies using an activity-competency approach.

2.4.2 Importance of Entrepreneurial Universities

Welch (2011) wrote that the higher education is commonly recognized as a key support in building the innovative knowledge economies of the twenty-first century. Bloom et al. (2006) concentrated on the significant role of higher education in enabling countries to follow and catch-up with the advanced countries that are technological and knowledge-based economies. Additionally, Enders (2010) stated that higher education basically and significantly contributes to the skilled labor force and responds -in knowledge-based economies- to the changing labor market demands. Therefore, governments and international organizations such as the World Bank and the Asian Development Bank consider higher education as a vital instrument to prepare well the highly-skilled people for the new knowledge-driven economies, (Welch, 2011).

More importantly -as Marginson stated in 2010- regarding the global knowledge-based economy; the higher education role has been acknowledged in a high level in research and government policy. The status quo of higher education today is facing challenges in many countries as a result of the need and ever-increasing demand in the modern society. Therefore, this is causing traditional universities to undergo reforms, leading to the expansion of higher education, and trending restructuring to be responsive to the knowledge-based economy needs.

There are many pressures that universities can themselves think about and behave more entrepreneurially in a way that can address them smartly, (Gibb et al.,2012). Such as:

1. Governments want solutions now to the economic crisis, governments are seeking solutions now to graduate unemployment, want more from less, and wanting to counter losses in the public and corporate sector from new resources of employment.

2. Opportunities and potential impacts arising from the growth in the take-up and provision of MOOCs (Massive online open courses).

3. HEIs are viewed as driving forces for economic growth because they are perceived as engines of technological progress and innovation.

4. Students are expecting very good salaries after they graduate in a way that will let them easily pay their education debt, they want value for their money.

5. Employers are seeking new ways to enhance competitiveness and innovation; therefore, they want more than the basic skills that most students take in universities.

6. The competitive opportunities and threats in the private sector and corporate providers, due to the increasing growth in them.

Over the last few decades and in most countries around the world, higher education had to undergo significant transformation as a result of the ever-increasing demands of the knowledge-based economy and globalization. The American model and European higher education models are the dominant models and still preferred in different educational institutions. Regarding the missions of teaching and research to the third mission for economic development, the common one underlies the concept of entrepreneurial university and its' role for socio-economic development, emphasizing the collaboration between university and external stakeholders, (Sam & van der Sijde, 2014). Feola et al. (2020) stated regarding entrepreneurial university that it identifies the university role evolution with the addition of education and research (which are the

universities traditional missions) to a third mission, that is, to transfer research findings from the laboratory to the economic system in order to contribute to the economic development.

2.4.3 Triple Helix Model

The central concept of the triple helix model is the entrepreneurial university. This model was developed by Etzkowitz (1993) and Etzkowitz and Leydesdorff (1995). This model addresses the relationship among universities, industries and governmental organizations that are intended to create incubators, stimulate innovation to support structures for both students and lecturers that will help in starting new businesses and promote entrepreneurship, (González, 2009). Other authors, such as Subotzky (1999), identified entrepreneurial universities as having a deeper relationship between academia and businesses; where institutional planning, leadership and governance are based on innovative managerial ethos, and faculties have more responsibility for attracting external funds.

There are three basic elements that are considered the base of the triple helix model, (Etzkowitz et al. 2007). The collaborations development among the three helices, having a new university role in the innovation development process, and having the idea that each actor assumes the role of others in addition to his/her daily or traditional functions. Feola et al. (2020) also stated that in the previously mentioned model; each of the system actors should work with others in a close synergy and at the same time playing a specific role of that system- universities act as private entrepreneurs and produce technologies and new knowledge that in accordance will have an industrial application; - governments set the rules of this game representing the traditional

regulatory role and acting as public entrepreneurs. Moreover: bringing capital, engines of the innovative system, relationships network and managerial skills are to be represented by venture capital and large companies.

2.4.4 Pathways to Entrepreneurial University

There have been recently some models that can be utilized for guidance regarding the precise concept and characteristics of the entrepreneurial university, despite the fact that there still no agreement about that by researchers. As a result, existing models and practices for entrepreneurial universities can be taken into consideration for the advantage of universities that are seeking excellence, innovation, and aspiring to global entrepreneurship, (Alghamdi, 2020).

Moreover, Errasti et al. (2018) validated a maturity for the measurement of the level of academic entrepreneurship among universities and faculties that consisted of 13 factors, concluded that there is still much more space of improvement in the entrepreneurial university and showed that there was a modest degree of development in different elements. Additionally, it showed that Spanish universities had the most development factors of internationalization, management team support, and active methodologies usage. Whereas some other factors were found to be the least developed factors; including legal context, faculty staff in entrepreneurship training, and entrepreneurship finding.

Nowadays, the words 'enterprise" and "entrepreneurship" are embodied in the mission statements of many universities, but they must take into consideration that these terms need to be more than a reference, (OECD, 2012). The transformation from traditional to entrepreneurial universities requires real strategies and process, it's not easily and

smooth. Therefore, after reviewing the theoretical literature; scholars have provided pathways to help universities achieve their entrepreneurship status, these pathways are shown in table (2-4).

Table (2-4): Frameworks for entrepreneurial universities

Author	Year	Framework/Model
Etzkowitz	(2004)	Focusing on knowledge capitalization. Handling interdependence with industry and government. Launching the autonomy of a specific area. Dealing with the tension hybridization between independence and interdependence. Symbolizing reflexivity over the internal structures' continuous renewal.
Gibb, Haskins & Robertson	(2009)	Focus on maximizing independence and individual patent creativities. Motivating Unitization by common mission rather than control systems. Motivating innovation and benefiting from lessons and mistakes. Providing wide chances for holistic project management. Creating a customer-success reward system, and establishing stakeholder's credibility. Executing flexible strategic intelligent instead of strict planning. Motivating and gratifying learning by doing. Focusing on having a formal integration outside and inside the organization. Encouraging responsibility delegation to see things through. Inspiring staff to grow external relationships
Al-Shammari	(2010)	Concentrating on job creation more than employment. Partnerships construction with stakeholders from public and private sectors. Using close contacts with Western and Eastern Universities to transfer knowledge and technology. Employing education based on creativity and innovation. Providing talented management for the material and ethical potential of entrepreneurs.

2.4.5 Entrepreneurial Universities in Developing Countries

Governments in both developing and developed nations are facing challenges due to the rise of intensive knowledge and competitiveness. The reason for that is to overcome and motivate them to work harder in a way that makes higher education more responsive to the competitive labor market in the globalized society. Therefore, governments have to produce more highly-educated people who will help in enhancing the higher education system for social and economic development, (Maassen and Cloete, 2006). Developed countries -particularly- are facing the challenge of having a growing cost because of the expansion of higher education system; as most universities and higher education institutions in these countries highly depend on the government financial support, (Steier, 2003). Clark (1998) suggested that universities and higher-education institutions should not depend in a high level on governments support and must adapt and become more entrepreneurial in a way that will enable them to respond to the growing demand for higher education. Following this entrepreneurial way will enable them to seek funds from the external sources through their knowledge exploitation, and thus universities will be encouraged to find new sources of income through their activities and have a good place in the knowledge-based economy.

Alghamdi (2020) employed a quantitative research design to collect data at four public Saudi universities, targeting specifically academic leaders, for the purpose of suggesting a paradigm that will help universities in Saudi Arabia in transforming to entrepreneurial universities in light of the EU-OECD framework. Results showed that Saudi universities reached a moderate-level in the lately mentioned framework, in addition to that organizational Capacity, People, and Incentives were found to be the highest-rated dimensions

Regarding the Palestinian context, there is a study by Abusharekh et al. (2020) that aimed to determine the entrepreneurial orientation practices strength for the University of Palestine from the perspective of their employees. The study concluded that there is a moderate degree of employee's entrepreneurial orientation with a percentage of (70.25%). In addition, he concluded from the personal and organizational collected data using a questionnaire that - statistically- there are no differences on the impact of smart university transformation on the global entrepreneurial trending.

On the other hand, Mudde (2020) conducted a study to explore to what degree the entrepreneurial transformation at four Palestinian universities is taking a place and how it is affected by the economic, cultural, and political situations. Therefore, the study showed that both students and staff were negative toward their institution's educational entrepreneurial practices. The author stated that Palestinian universities must be seen as engaged universities that continuously stimulate their students to act entrepreneurially. Therefore, he suggests that the innovation-driven Triple Helix concept should be reviewed when applied in low-income countries that depend on "donor-push" and that have many norms and society tradition "society-driven".

2.4.6 EC-OECD Entrepreneurial University Framework

One of the models that is affordable for use to universities that seek innovation and excellence at all levels and having an entrepreneurial rank is the "EC-OECD" Entrepreneurial University Framework, (OECD, 2012). The Organization for Economic Co-operation and Development (OECD) along with European Commission (EC) provided a guiding framework for Entrepreneurial Universities, which represents a tool of self-assessment for higher education universities to evaluate potential universities for

innovation and entrepreneurship, and recommended in the entrepreneurial university field by six independent experts. This framework covers seven dimensions that are considered to be the entrepreneurial university characteristics, each dimension contains a series of items. The following are the entrepreneurial universities dimensions, (OECD, 2012):

- **Leadership and Governance:**

Leadership and Governance: This section contains some important factors that are related to leadership and governance practices in universities that should be considered to empower their entrepreneurial agenda; since that successful leadership and governance are considered crucial factors to create an entrepreneurial culture within the university, and should be viewed as more than just a reference. Therefore, the main features of leadership and governance of the higher educational institutions are: considering entrepreneurship as a main part of their strategy, having high level of commitment in executing entrepreneurial strategy, the existence of a model for entrepreneurial activities in order to coordinate and integrate these activities across all levels, and granting the university's faculties an autonomy to act. The university should be a driving force of the entrepreneurship development process in the wider range (social and community environment.)

- **Organizational Capacity:**

Organizational Capacity, People and Incentives: This section includes the main areas that focus on people and incentives, which in turn help universities to overcome the constraints that they faced during the application of the entrepreneurial agenda. This includes: the financial strategy for the university, acquiring and retaining proper individuals, and encouraging them toward entrepreneurial behavior.

- **Entrepreneurial Teaching and Learning:**

Entrepreneurial Teaching and Learning: Universities seek to develop and expand educational entrepreneurial and entrepreneurship for the institution as a whole; including all employees and students. Therefore, this section contains a number of areas in which entrepreneurship can be achieved; including the necessity of an organizational structure cared about supporting entrepreneurial development, in addition to providing the appropriate tools to deliver internal and external opportunities for education and training.

- **Pathways for Entrepreneurs: Preparing and Supporting Entrepreneurs:**

The university's commitment to entrepreneurship is an integrated process by itself, and should be considered as a pluralistic approach to reach the opportunities and expertise both internally and externally. Hence, entrepreneurial universities must support the pathways of employees and potential students to become entrepreneurs; including ideas, market growth, and recruitment. Typically, this section includes statements for universities who aimed to support entrepreneurs in their career path or enterprising people to become entrepreneurs.

- **University-Business/External Relationships for Knowledge Exchange:**

One of the important factors to success for entrepreneurial universities is building active communication and involvement of external and key stakeholders to produce value for the university and society at all. In addition, it has been approved that establishing and sustaining vital relationships with main collaborators and partners is crucial for achieving entrepreneurship in all areas such as teaching, learning, research, and other mission activities. Also, this section includes relationships with several parties of the

external environment such as: professional bodies, public sector, businesses, regions, alumni, etc.

- **Entrepreneurial University as an Internationalized Institution:**

Internationalization (The Entrepreneurial University as an internationalized institution): Having international perspective at all levels has been identified as one of the characteristics of an entrepreneurial university; for the reason that internationalization enables universities to make strategic decisions on the institutional direction and improves the performance of its objectives over international activities. It's not necessarily that any international university is an entrepreneurial one, but the opposite is a MUST. Therefore, this section included the influential statements of teaching, research, and developing talents in an international environment.

- **Measuring the Impact of the Entrepreneurial University:**

The primary motivation to establish a more entrepreneurial university is trying to understand and recognize the changes' impact that are done. Universities are seeking for two impact types: the first is internal impacts that affect its students or graduates and the staff who represent internal stakeholders. The second impact is the impact that affects resident businesses, organizations and entire communities which represent the external stakeholders. Therefore, this section includes the areas universities may want to measure rather than what must measure.

At the end, Palestinian universities can benefit from this framework in having a greater understanding of the concept of entrepreneurial universities including assessing the current situation, identifying its different dimensions and addressing weaknesses and points of strength taking into consideration what suits the local environment, (OECD, 2012).

2.5 TQM Practices and Innovation

Although many researchers -as exposed earlier in this literature- highly believed in the TQM-innovation connection, there are still a lot of debates regarding this relationship; focusing less on educational institutions such as universities and more on manufacturing and services. Universities nowadays are seen more as continuing education institutes and not as higher education institutes (HEI's). After universities experienced and realized the significant role of TQM-innovation, they have started to adjust their academic courses so that they can meet various market and customer needs, (Liao et al., 2010).

A Recent study by Sciarelli et al. (2020a) aimed to explore the relationships between seven TQM practices (Top management support, customer satisfaction, program design, strategic planning, information and analysis, process management, and people management) on both types of innovation in higher education institution in Naples (Italy) public universities. Also, to investigate how the organizational innovation might affect the technical innovation, by developing a model using multidimensional construct for QM. Ultimately, the findings confirmed the interdependent relationships between the seven TQM practices and their positive impact on innovation. It revealed that some of the TQM practices have impacts on innovation through process management and people management. Finally, it found that organizational innovation precedes and predicts the technical innovation.

Likewise, Sciarelli et al. (2020b) in another study aimed to investigate the relationships between both soft and hard TQM practices on two variables; which are the innovation and the organizational performance. The study concluded the following findings: (1) there are a positive relationship between soft TQM practices and hard practices, this

implies that the organization has to adopt both soft and hard practices simultaneously, (2) both soft and hard TQM practices had a significant effect on innovation, (3) both soft and hard TQM practices have a positive impact on organizational performance, (4) innovation is positively related to organizational performance, and (5) there is a mediating role for both hard TQM practices and innovation (administrative and technical innovation) between the soft TQM practices and organizational performance.

Another study by Aminbeidokhti et al. (2014) investigated the relationship between TQM practices, organizational innovation, and organizational learning, from the perception of staff and faculty members of universities in Sabzevar city- Iran. The study found that TQM practices have positive effect on organizational learning, which in turn has a significant effect on the organizational innovation. This means that the relationship between TQM practices and organizational innovation is mediated by the organizational learning.

Conceptually, a strong association between TQM and innovation seems feasible, but there hasn't been much concrete data to back this claim up. This paper investigates this connection. The findings indicate that there is inadequate statistical support for a connection between TQM and innovation. There might be a more intricate connection between these concepts. (Singh and Smith, 2004)

Many scholars examined the relationship between TQM practices and innovation; the results varied as some studies concluded that this relationship is positive while others confirmed that it's negative or even without a relationship. This conclusion reinforced what Alshourah (2021) mentioned previously in his study in which the nature of the relationship between TQM and innovation remains a matter of great debate. Furthermore, some researchers found that the relationship is positive while others

indicate otherwise. Hence, this study aimed to reduce the gap and clarify the previously disputed results, particularly at the Palestinian universities. Also, the nature of the relationship between TQM practices and entrepreneurship in universities was not directly examined.

2.6 Innovation and Entrepreneurial Universities

After the huge recognition of the entrepreneurship importance in higher education; it's now recognized as an appropriate response to being successful in unpredictable and highly turbulent environments. It's also viewed as a major driver to underpin innovation. However, there are still many discussions that debate the confusion over its conceptualization, as educational leaders seek to understand the best way to apply or embed entrepreneurship within its learning and education opportunities, (Hannon, 2013). There are some frameworks and tools such as "HEInnovate" that have become important these days in order to enable universities all over the world to explore their possible development opportunities. There are many challenges that need to be considered, but the most challenging change -especially in complex organizations- is changing the traditional mindset of individuals and the realignment of organizational values and culture. This challenges-changing journey has recently started in European universities and is spreading across other countries that have institutions reflecting and responding entrepreneurially to their changing environments, (Hannon, 2013). Another academic revolution is the transformation of the traditional teaching and research university into an entrepreneurial university, indicating an economic and social development mission. Innovation in firms is more than new products development; it is fostering the conditions for innovation by creating new arrangements among the

institutional spheres. The Triple Helix thesis postulates that - in a knowledge-based society- the interaction among university-industry-government is the innovation improving conditions main key. Invention of new social arrangements and new interaction channels, along with organizational innovation becomes significant as the physical devices creation in speeding the pace of innovation, (Etzkowitz, 2004).

Shhadeh et al., (2016) stated -regarding the Palestinian context- in their results that there was no clear model for the entrepreneurial university within Palestinian universities, noting that the closest university in this regard was Al-Quds university. Moreover, the best engineering faculty was found in the Technical University (Khadoori), the best business faculty was at the Polytechnic University, and the best science faculty was originated in Al-Quds University. These results were concluded after researchers conducted two types of the questionnaires: Administration questionnaire, and Departments questionnaire, in addition of having Bridging tables. Thereafter, researchers collected 84 department questionnaires that represent different department employees, whereas they collected only 4 out of 7 administration questionnaires. Finally, in order to get the above-mentioned results, researchers made a general characteristics test across universities that included the following categories: Leadership and governance, organizational capacity of people and incentives, entrepreneurship development in teaching and learning, having pathways for entrepreneurs, and the internationalization level of the entrepreneurial university.

Another study can be added to this thesis in which it also aimed to signify the relationship between entrepreneurship and innovation using the qualitative method in which various case studies were undertaken to compare different situations and understand the relationship between entrepreneurship and innovation in Saudi Arabia.

The findings concluded that entrepreneurship and innovation were positively related and significant changes in the economy, (Tarifi & Rawah, 2021).

Another study by Alayoubi et al. (2020) concerned determining the requirements and impact of applying strategic entrepreneurship in achieving technical innovation from the perception of administrative and academic employees in Palestine Technical College in Gaza strip. It can be concluded that the study found a positive relationship between the requirements of strategic entrepreneurship (strategic leadership, strategic resource management, pioneering culture, pioneering thinking) and obtaining technical innovation. Moreover, there is a statistically-significant impact between the requirements of applying strategic entrepreneurship (strategic resource management and pioneering culture) and reaching technical innovation.

2.7 TQM Practices and Entrepreneurial Universities

The adoption and understanding of the relationship between the two variables of TQM management and entrepreneurial universities represents a valuable starting point in gaining an insight of TQM adoption and implementation in the higher education sector. When looking at the TQM as a management philosophy; it appears that the only way to implement it successfully in management is when incorporating it into the principal learning institution and having a sufficient understating of the transformational leadership. This study main results indicated that TQM practices were positively influenced by the transformational leadership dimension in the selected learning institutions, (Argia and Ismail, 2013)

Another study by Vasiliev (2020) aimed to determine how the theoretical concepts of "quality of education," "university competitiveness," and the competitiveness

management strategies that are appropriate to entrepreneurial institutions correlate. The investigation of the theoretical perspectives taken by American and Russian entrepreneurial universities revealed theoretical and methodological distinctions in the ways taken to manage educational quality and university competition. Therefore, it was decided that quality and competitiveness should only be promoted after setting forth clear priorities, taking into account the threats and opportunities coming from the university's current development stage. The importance of education quality should be given top priority if there are no threats to the critical university interests. Moreover, the development of the university's competitiveness should take precedence if the institution has not yet attained its aims for sustainable development.

Additionally, another study that was conducted in Germany showed that the acceptance, implementation, and perceived efficacy of quality management in teaching and learning in German higher education institutions are all empirically supported. The article theoretically blends institutional isomorphism and institutional entrepreneurship, two fresh institutionalist perspectives. The study makes use of both quantitative survey data and qualitative interview data in its empirical work. The analysis shows that institutional entrepreneurship is a key factor in quality management implementation, but isomorphism is a major force behind the adoption of quality management in German higher education institutions. While institutional entrepreneurship may serve as a corrective to the overall change theories by confirming the significant role of organizational culture and the detrimental effects of isomorphic conformity, isomorphism can be seen as a conclusive reason why there is no perception of quality management's effectiveness, (Seyfried et al., 2019).

2.8 The Conceptual Framework

As explained previously, this research aims to investigate the impact of TQM practices in Palestinian higher education institutions, particularly the Palestinian Universities, towards transforming to Entrepreneurial Universities (EU) via exploiting innovation as a mediation factor. A conceptual framework that relates the TQM and innovation practices in Palestinian universities with requirement of entrepreneurial practices was developed in according to the study questions and hypotheses that were formulated to achieve the goal of the study. More specifically, the proposed conceptual framework focused on the most important factors and practices leading to the success of TQM implementation, the different types of innovation practiced that are highly related to the higher education sector, and the best practices of entrepreneurship based on the EC-OECD framework. Figure (2-2) below shows how the three main constructs of the study correlate to each other. In addition, each construct consisted from several indicators which was selected based on reviewing the previous literature related to each topic.
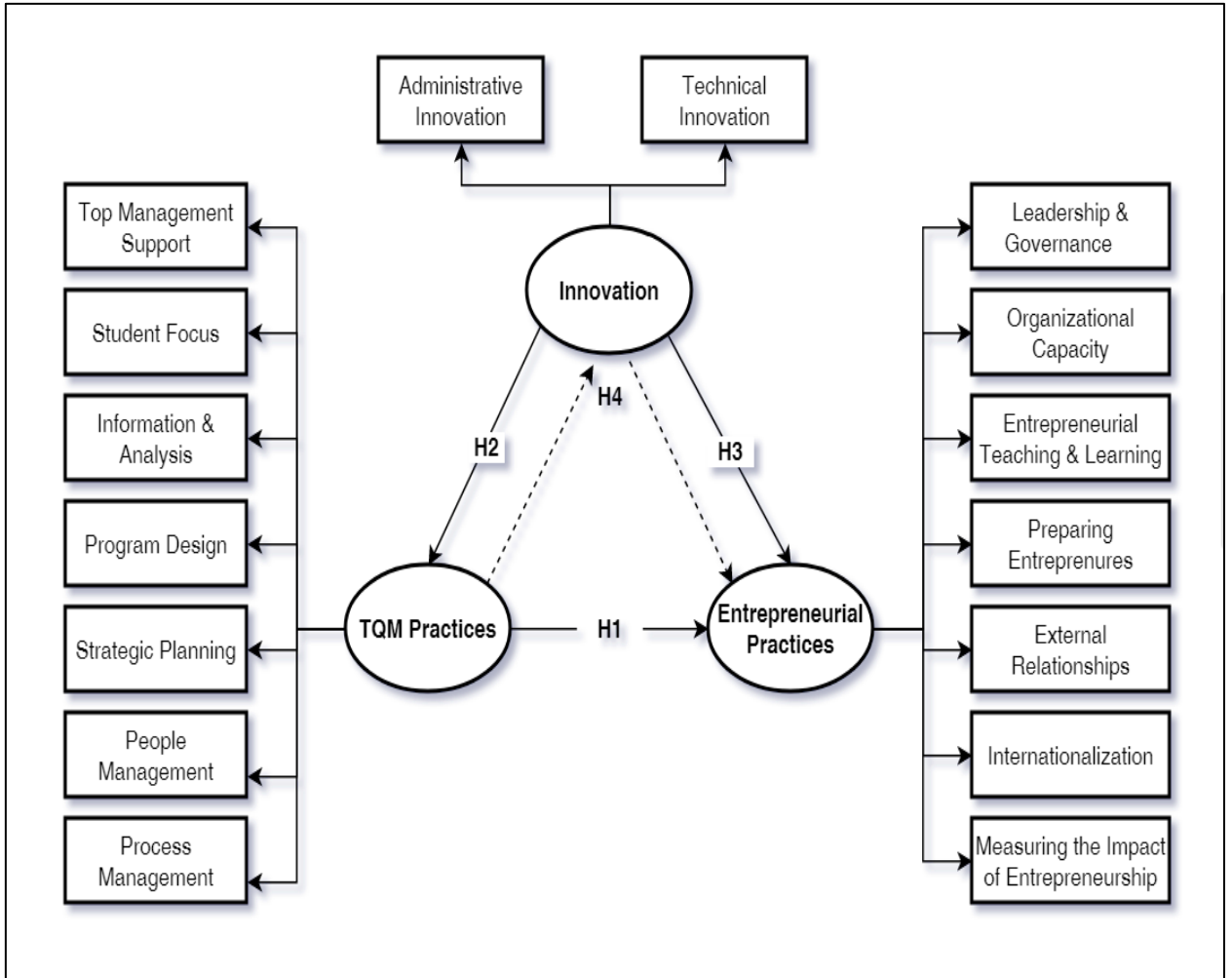
Figure (2-2): The research conceptual framework

Chapter Three

Methodology

3.1 Overview

This chapter discusses the used methods in conducting this research; starting by the research design that focuses on planning the research work through determining the type of the research according to its' main purposes. Then, research approaches are covered; illustrating the quantitative, qualitative, and mixed approaches of research, and the differences between these approaches. In later sections, the data collection techniques, sampling methods are also addressed. Finally, this chapter deals with the methods and techniques of data analysis in order to reveal the relationships between the study's variables.

3.2 Research Approach

The concept of research approach refers to the research plans and procedures that span phases or steps from wide expectations to detailed data collection, analysis and interpretation methods, this plan consists of many decisions. Spens & Kovács (2006) stated that there are different indicators to distinguish between research approaches: a) according to whether the process of research started with an empirical study or theoretical advances; b) according to whether the research goal was to test or develop a theory; c) according to the point in which hypotheses/propositions were announced in the research; and d) according to which methods of research were used.

3.2.1Research Approaches Types

Research types or research design considered the structure of a research, it's considered the paint that draws the outline or plans details. Research design is related to all the research elements and is generally called the "glue" that holds all research elements together, (Akhtar, 2016). Definitely, the design of any research is the tool that arranges conditions in order to collect and analyze data in relevance to the research purpose with economy and procedure, (Ahuja Ram,2010).

Several viewpoints were found to distinguish the research types to several bases, these viewpoints are summarized in the below Figure (3-1), (Gupta & Gupta,2011).
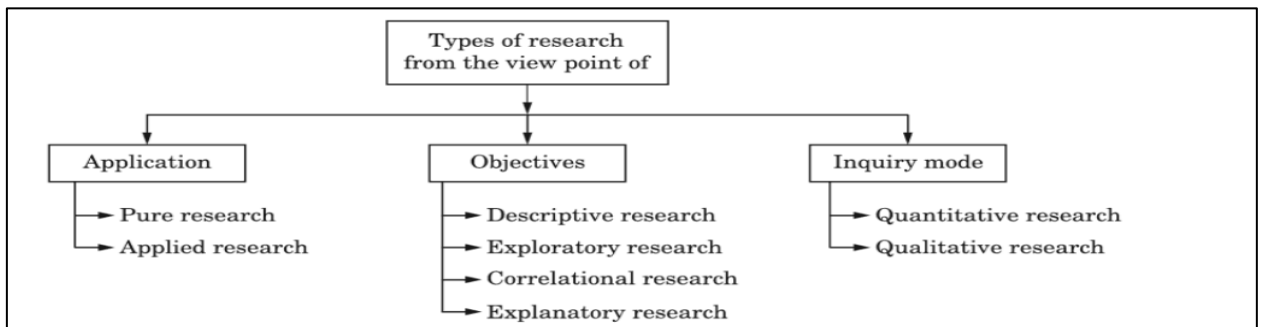
Figure (3-1): Types of research

However, - regarding the purposes of the research - they can be clustered into three types: exploration, explanatory, and descriptive, (Kothari, 2010).

- **Exploratory Research:**

The primary goal of such a research or study is to formulate a problem for extra investigation or developing a hypothesis (rather than testing them); that's why it's also called the Formulative research. Thus, this type of research requires an appropriate research design that is flexible enough, as the initial research problem is to be transformed into a more detailed or precise problem in exploratory studies which may

require changes in the research method in order to gather relevant data, (Gupta & Gupta,2011). This type of research generally depends on a qualitative approach. Subsequently, the following three research design approaches are followed in such exploratory research: 1) the concerning literature survey; 2) the experience survey and 3) the examination of "insight-stimulating" instances, (Kothari, 2010).

- **Explanatory Research**

It's also named "cause and effect" research. This type of study is basically related to launching causal relationships between variables. The hypothesis in explanatory research positions the relationship between two or more variables, and the gathered data is subjected to a correlation test or other statistical tests for the purpose of understanding the outcomes impact on results. This type of research is more relevant to quantitative approach, (Akhtar, 2016).

- **Descriptive Research or Statistical Research**

This type is concerned with gathering information of a particular issue's characteristics', such as community, people or a specific group as this research designates social situations, structures or events. Akhtar (2016) states that they are also named confirmatory studies, as they are used for hypothesis testing. It's worth noting that in such researches, the data collection process takes the shape usually as structured processes; using tools such as interviews with some structured questions. This is because the design of a descriptive research is precisely designed to measure the research questions characteristics, (Saunders et al., 2009).

Consequently, according to the aforementioned types of researches, this study follows the type of explanatory research; as it is aimed to examine the causal relationships among different variables by testing the effect of TQM practices and innovation in the

universities in order to become entrepreneurial universities. Especially that the relationships of the two independent variables (TQM Practices and Innovation) and the dependent variable (practices of entrepreneurial universities) have not been examined previously in the context of Palestinian universities.

3.2.2 Research Approaches Methods

The main methods of research approaches can be briefed as below:

Deductive Approach: It's an approach that's concerned and even defined as a process of theory testing that originates with an established generalization or theory, and aims to testify if a theory applies to specific examples. To even be more precisely, deductive research begins through skimming and scanning the previously existing theory, in order to later derive logical conclusions from the theory in the shape of general laws identified as ex ante hypotheses or propositions, which are then tested empirically, (Spens & Kovács, 2006).

Inductive Approach: This approach is the opposite of the deductive approach. It goes from a precise and specific empirical case or from some observations to general law, such as going from facts to theory. Hereby, facts are the starting point of this type of research approach and the familiarity of literature or general frame is not significantly needed. A hypotheses or propositions are established and developed according to the empirical study in this approach, (Taylor et al. 2002).

Abductive approach: This is an anomaly or a "puzzling" observation as it can't be explained with the available theories, (Malhotra, 2017).

Additionally, research can be classified according to the following techniques of data collection; whether qualitative, quantitative, or the mixed technique.

Qualitative research: A research that embraces of the following methods: logic ethnography, discourse analysis along with a case study, interview (open-ended), counseling, participant observation, etc. qualitative research is considered a social action form that may stress the way that people understand in order to make sense of their real experiences to interpret the social reality of people. Hence, it obtains, understands, and analyzes data content of textual and oral history using interviews, journals, diaries, open-ended questionnaires and observations, (Malhotra, 2017).

Quantitative research: This approach tends to examine correlations or relationships among variables that can be measured on instruments, by testing objective theories. Therefore, the instruments that reflect numbered data are to be analyzed using statistical measures and tools, which thereafter comes up with the final report that includes the structure of introduction, literature and theory, methods, results and findings, and discussion, (Spens & Kovács, 2006).

Mixed methods research: Which is an approach that integrates the two forms of data collection tools, using both qualitative and quantitative data. The aim of using such an approach is to have a complete understanding of a research problem better than either approach alone, (Saunders et al., 2009).

3.2.3 Research Strategies

The research strategy is a structure or plan by which the action of searching for and evaluating the founded information is carried out, (Malhotra, 2017). The inquirer in such a study selects first the approach; whether to be qualitative, quantitative, or the mixed approach, in addition to that the researcher decides on the type of study within these three choices. Research designs are referred to as "strategies of inquiries" by some

researchers, for the reason that they are types on inquiry within all research approaches that provide specific direction of procedures in a research design, (Creswell, 2012). Strategies of inquiry associated with quantitative, qualitative, and mixed research were summarized in Table (3-2).

Table (3-2): Research strategies of inquires (Gupta & Gupta,2011).

Quantitative	Qualitative	Mixed Methods
• Experimental designs • Nonexperimental designs, such as surveys	• Narrative research • Phenomenology • Grounded theory • Ethnographies • Case study	• Convergent • Explanatory sequential • Exploratory sequential • Transformative, embedded, or multiphase

Since this study is a quantitative study, the focus has been on defining the strategies related to quantitative research as shown below:

- **Experimental designs**: this research design aims to identify if a particular behavior or treatment impacts an outcome. This is tested by giving a particular treatment to one group then watching it from another, thereafter determining how the how groups recorded on an outcome. This design includes true experiments, with assigning subjects randomly to the conditions of treatment, along with quasi-experiments which use nonrandomized assignments, (Saunders et al., 2009).

- **Survey research (Nonexperimental designs):** this research works by studying a sample of the population in order to provide a numeric explanation of attitudes, opinions or trends. This quantitative description consists of longitudinal and cross-sectional studies using structure interviews or mostly questionnaires for gathering data, the results thereafter are to be generalized from that population sample, (Spens, 2006).

- **Correlational design (Non-experimental designs)**: the correlational design is considered another form of the non-experimental deigns as correlational statistics are used by

investigators to designate and measure the relationship or association between set of score or two or more variables, (Creswell, 2012). Therefore, this research applied the deductive quantitative approach. Whereas, the survey strategy was adopted through the data collection process that was carried out through designing a questionnaire.

3.3 Research Methodology

The deductive quantitative approach was followed in this research; as the survey strategy was relied upon in collecting the data. This approach follows several successive steps for each phase to achieve the objectives of the study. Figure (3-3) clarified the sequence of the followed steps throughout this research.

This research started by defining the general background and framework of the study, then dealt specifically with identifying the main research problem, reasons and purposes for choosing this study's problem, along with the objectives of the study. As part of this phase scope, the significance of the study was defined as well. Thereafter, extant literature related to the constructs of the study was reviewed. In this respect, the researcher reviewed library resources, academic journals, and government reports. Accordingly, this pace underwrites to defining the research gap and the role of this study to bridging this gap. Consequently, the research questions and hypotheses were formulated.

The subsequent step in this research process included establishing the research methodology and strategy that led to answering the research questions. The required data were collected by applying the research strategy through designing a questionnaire that consisted of a number of indicators to measure each of the study's basic constructs. This questionnaire was distributed to the targeted sample online. Then, the collected

data were analyzed and interpreted by using the PLS-SEM program to explore the relationships between the study variables, and to test the proposed hypotheses. At the last phase of this process, study results were summarized, in addition to that conclusion and recommendations were made based on the results of the study along with the data analysis.
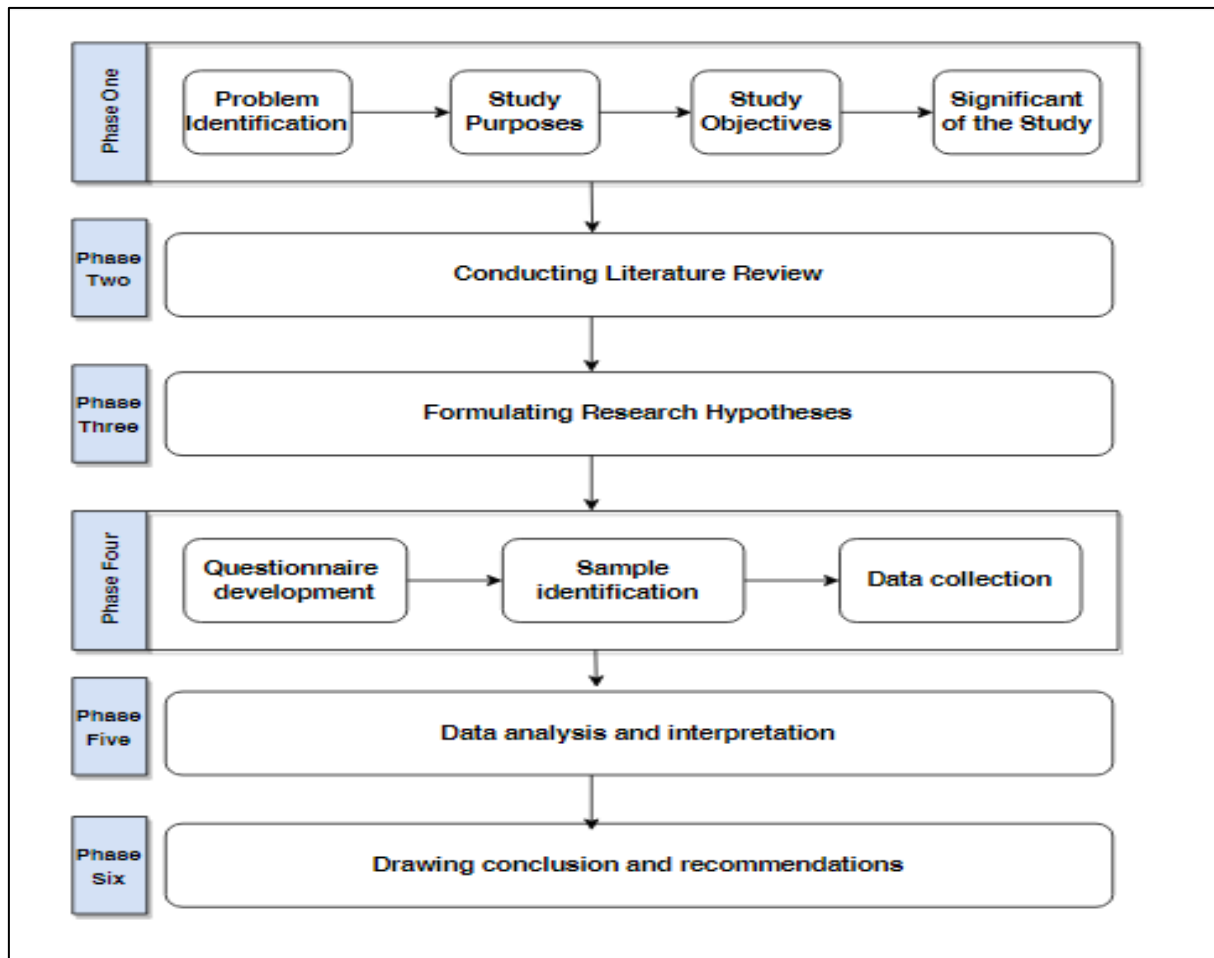
Figure (3-3): Flowchart of research methodology

3.4 Questionnaire Design

The survey is a quantitative data collection tool that is usually used to gather data from a specific sample that would represent a population. it is considered a flexible research approach that helps in exploring a wide range of topics; especially in non-experimental

descriptive designs, in which they generally aim to designate reality, (Mather et al., 2007). In this research, the researcher used a survey aiming to explore causal relationships between variables; therefore, this study used the explanatory or correlational survey.

Indeed, closed-ended statements were used, in which statements had sufficient alternatives to select. Therefore, the five point-Likert Scale (Summative) was used in designing the questionnaire, which represents an arrangement of opinions from extremely high to extremely low applicability for each practice, (Acharya, 2010).

This questionnaire was carefully designed after an in-depth review for relevant literatures made, the first draft of the questionnaire was presented on three experienced arbitrators in order to evaluate and judge the wording, clarity, redundancy, and items' ability to be representative for each designated construct. Lastly, the questionnaire was modified based on experts' feedback to produce the final version of the questionnaire. Moreover, an electronic version of the questionnaire was designed to facilitate its distribution to the study sample, the finalized copy of the Arabic questionnaire is attached in appendix (A), and the English questionnaire is attached in appendix (B).

The questionnaire was developed for the purpose of measuring the study's three main constructs, which are: TQM practices, Innovation practices, and Entrepreneurial universities' practices. Therefore, detailed explanations for the questionnaire sections are as follows.

Basically, the questionnaire consists of four parts; at the beginning there is the cover letter that contains an introductory overview of the study's title, and an objective summary related to the study, the expected time to complete filling the questionnaire, appreciation for respondents' cooperation, and the signing for the confidentiality of

collected data in which they will be used for scientific purposes only. Finally, contact details were added for any inquiry.

The first section consisted of two subsections, the first is related to the demographic information about respondents, including: gender, age, educational qualification, years of experience, job title (position), and the university that they work in. The second subsection was concerned about general information related to each university, such as: number of branches, geographical distribution (West Bank, Gaza, or both), teaching methods (traditional university or open education university), university type (governmental, public, or private university), and years of establishment.

The second section consisted of seven constructs measuring the degree of implementation of TQM practices within the Palestinian universities based on the seven TQM practices that have been identified as the most common and critical practices for the education sector through reviewing the extant literature. These practices were (1) Top management support; (2) Customer focus; (3) Information and analysis; (4) Program design; (5) Strategic planning; (6) People management; and (7) Process management, (Sciarelli et al.,2020a). From reviewing the previous literature, a set of appropriate indicators were developed in order to measure each of these constructs.

The third section was concerned about measuring the extent of implementing innovation activities in Palestinian universities. Hence, it composed of two subsections: administrative innovation, and technical innovation which included both of product and process innovations; as the universities should rely on both technical and organizational innovations in order to improve the quality of education, (Ngoc-Tan and Gregar, 2018). A set of indicators were developed for each construct as well.

The last section focused on measuring the extent of which universities are directed towards in the activities of entrepreneurial universities, based on a guiding framework for entrepreneurial universities issued by The Organization for Economic Co-operation and Development (OECD). Therefore, this section contained seven subsections that were considered to be the entrepreneurial university characteristics', these were: (1) leadership and governance, (2) organizational capacity, (3) entrepreneurial teaching and learning, (4) preparing and supporting entrepreneurs, (5) university-business/external relationships for knowledge exchange, (6) entrepreneurial university as an internationalized institution, and (7) measuring the impact of the entrepreneurial university. Each of these categories consisted of several statements that reflected each one in order to assess their implementation within each university, (EC-OECD, 2012).

In the abovementioned second, third, and fourth sections; the Five-Point Likert scale was used in order to measure the extent to which each practice was applied at each university, anchored by; (1) very low, (2) low, (3) medium, (4) high, (5) very high.

Since the mother tongue in Palestine is the "Arabic"; the questionnaire was designed and adopted in this official language, and statements were developed using Google Forms. In addition, the questionnaire was delivered to the targeted sample by sending an email to 18 Palestinian universities which included a link directing to the electronic questionnaire, in addition to attaching an official letter requesting to facilitate the research task that was directed from the Arab American University to other universities. In addition to that some universities were visited, such as Birzeit University, Arab American University, Bethlehem University, and Al-Quds Open University. Moreover, universities were communicated directly with someone from the targeted sample, then the questionnaire link was sent to them on their personal e-mails or through other ways

such as using the WhatsApp. Lastly, some of the respondents were contacted by phone to answer their inquiries or to clarify any ambiguity. The data collection period took about four months, from September 2021 to the end of January 2022, and all collected data were stored anonymously on a google drive database for the analysis.

3.5 Sampling Techniques

Sampling can be referred to as the procedure or technique that the researcher employs in order to select –in a systematic way- a relatively smaller number of items or individuals to represent a pre-defined population, (Mathers et al. 2007).

There are 18 universities accredited and licensed in the West Bank and Gaza Strip. More specifically; there are 16 traditional universities, and two open-education universities that are distributed as the following: the West Bank has 10 traditional universities (two public, six public, and two private), the Gaza strip has 6 Traditional universities (one government, two public, and three private), (MOHE, 2020).

Accordingly, traditional and open universities were the study's population as they seek to adopt the practices of total quality management and entrepreneurial universities. Therefore, the study's population were the universities licensed by the Palestinian Ministry of Education and Higher Education; which are 18 Palestinian universities located in the West Bank and Gaza strip as mentioned in Table (3- 1).

Table (3-1): Targeted Palestinian universities

Traditional Universities		Open Universities
1. Al-Azhar University – Gaza	10. University of Palestine	17. Al-Quds Open University
2. Islamic University – Gaza	11. Palestinian Academic Security College (Al-Istiqlal University)	18. The Arab Open University
3. Al Aqsa University – Gaza	12. Gaza University	
4. Palestine Polytechnic University	13. Palestine Ahliya University	
5. Bethlehem University	14. Israa University	
6. Al-Quds University	15. Palestine Technical University-Kadoori	
7. Birzeit University	16. Hebron university	
8. Al-Najah National University		
9. The Arab American University		

More specifically, the current study was concerned with the relevance staff in each university of whom are associated with the strategic planning and decision-making issues; including: the university president, vice presidents, faculties' deans, and the directors; as they were considered the most knowledgeable and eligible members to identify and evaluate the status of their universities in terms of adopting TQM practices and entrepreneurship in the universities. The size of the representative sample was determined by using the Steven Thompson equation:

Equation 1:

$$n = \frac{p(1-p)}{(SE \div t) + [p(1-p) \div N]}$$

ITEM	NEEDED
N	Population size
n	The sample size
P	Proportion of property offers and neutral
T	the upper α/2 of the normal distribution (for 95% confidence level 1.96)
SE	Error margin

Given that the study population consists of 3 respondents from the management of each of the 18 Palestinian universities, it will be a sufficient number to represent each university. Therefore,

The following parameters were applied in the above-mentioned equation: N= 54, SE= 0.05, P= 0.5, t= 1.96 at 95% confidence level. As a result, the size of the representative sample is: N=48 for the study's population.

Moreover, the convenience sampling method was used to select the sample of the study; which involves drawing a sample from the closest part of the population, and it's a type of non-probability sampling method, (Arkin, 1982). The reason for using such a method is that people are considered convenient sources for gathering data for research purposes in this method, and therefore they are sampled simply. Additionally, this method was also used because of the inability to reach some universities - which represent the study's community - and the difficulty of reaching all the targeted individuals in universities, who are the top management. The questionnaire was sent electronically to the study sample members in the universities.

3.6 Measurement Development

Based on conducting an extensive review for the extant literature to explore the questions that would measure the main variables of the study; a total of 94 items (questions) were developed to measure the study's construct. Therefore, these questions were divided as the following: 40 items were developed to assess TQM practices. More precisely, 5 items for top management support, 7 for strategic planning, 8 for people management, 6 for student focus, 6 for process management, 4 for information and analysis, and 4 for program design. In addition to another 11 items which were generated to measure innovation types; as 5 of them were related to the administrative innovation and 6 items for the technical innovation.

On other hand, based on OECD framework for entrepreneurial universities; there were 43 items obtained to measure the entrepreneurial practices of universities, distributed as 5 items for leadership and governance, 7 for organizational capacity, 6 for entrepreneurial teaching and learning, 7 for preparing entrepreneurs, 6 for external relationships for knowledge exchange, 6 for internationalization, and 6 for measuring the impact.

Table (3-3) presents the sources that were checked and used as guiding tools for developing the questionnaire.

Table (3-3): Variables measurement

Variable	Dimensions	Construct Items	References
TQM Practices	Top Management support	TMS1: TMS5	Bayraktar et al. (2008). Ahmed and Ali (2016). Sciarelli et al. (2020a). Sciarelli et al. (2020b).
	Strategic Planning	SP1: SP7	
	People Management	PeM1: PeM 8	
	Student Focus	SF1: SF6	
	Process Management	PrM1: PrM6	
	Information and Analysis	IA1: IA4	
	Program design	PD1: PD4	
Innovation	Administrative innovation	Ad_In1: Ad_In5	Sciarelli et al. (2020a). Sciarelli et al. (2020b).
	Technical Innovation	Te_In1: Te_In6	
Entrepreneurial Practices	Leadership and Governance	EU_LG1: EU_LG5	EC – OECD (2012).
	Organizational Capacity	EU_OC1: EU_OC7	
	Entrepreneurial Teaching and Learning	EU_TL1: EU_TL6	
	Preparing Entrepreneurs	EU_Pre1: EU_Pre7	
	External Relationships for Knowledge Exchange	EU_ExR1: EU_ExR6	
	Internationalization	EU_Int1: EU_Int6	
	Measuring the Impact	EU_Meas1 : EU_Meas6	

3.7 Data Analysis Techniques

The information obtained through the questionnaire were just raw data, some analysis needs to be carried out in order to turn them into useful and meaningful information. Several statistical programs were available for conducting the statistical analysis; however, in this research two types of analysis were used: the first is by using the Statistical Package for Social Sciences (SPSS) to perform descriptive statistics analysis

for personal information, descriptive statistics for each construct in the study, and appropriate charts to be drawn. The second analysis is by using SEM-SmartPLS for testing the research hypotheses in order to examine the causal-effect relationship between a number of independent and dependent variables in one theory.

Statistical Package for Social Sciences (SPSS) is a statistical software that was designed by IBM Corporation in which it accepts both correlational and comparison statistical tests in the framework of univariate, multivariate and bivariate analysis for both statistical techniques: parametric and non-parametric.

On the other hand, SmartPLS accepts SEM analysis by means of the Ordinary Least Square estimation technique, it was developed by some developers in the academia of Germany and it's commonly used by researchers who are mainly aim to explore theories (Ong and Puteh, 2017). As this research aimed to observe the causal- effect relationship between a number of independent and dependent variables; the Structural Equation Modelling (SEM) was the best method to be used. It is worth noting that one of the most popular software's for SEM is the Partial Least Square (PLS).

3.9.1 SEM -PLS Path model

The Partial Least Squares (PLS) approach was used to analyze the quantitative data generated from the questionnaire through using the Smart- PLS software, which was developed by Herman World in 1982. It is important to mention that there are many benefits from using PLS-SEM; due to its ability to deal with small sample size and non-normalized data; because PLS is non-parametric statistical tool. In addition, it is capable to estimate complex models that have large number of indicators, constructs, and structural paths regardless of the distribution of data, (Hair et al., 2019). The PLS

analysis is a two-steps approach, the first step is the outer model which is concerned in building and testing the measurement model to assess the relationship between the constructs and the indicators.

The second step is the inner model that focuses on building and testing the structural model (Path model) to assess the relationships between the constructs, which are the independent and dependent latent variables. It is worth noting here that the variables were classified as exogenous or endogenous variables. The exogenous variable represents the independent variable where it includes arrows that head outward in the structural model. Whereas the endogenous variable represents the dependent variable where the arrows head inward in the structural model, (Hair et al., 2011).
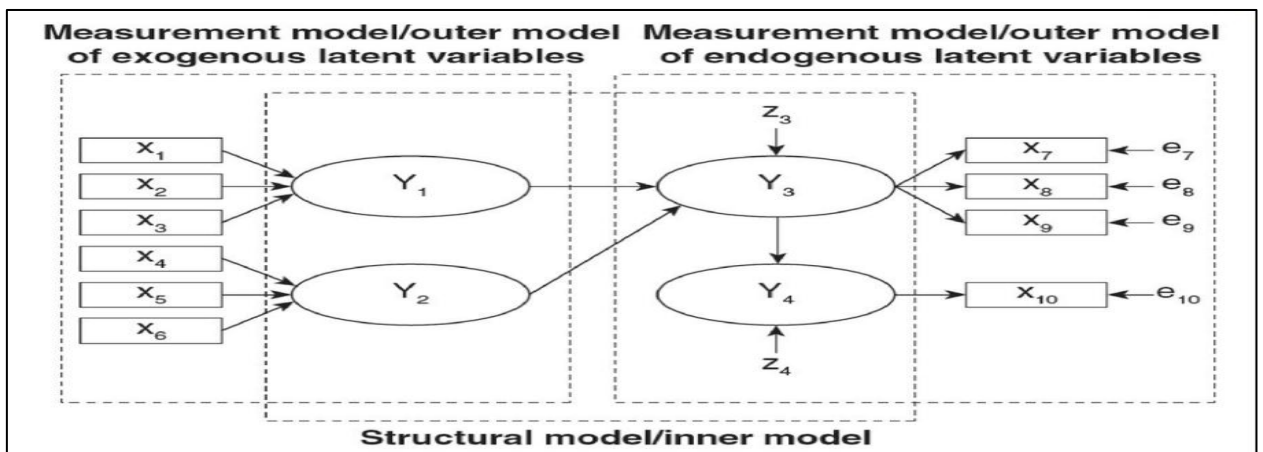
Figure (3-4): Inner and outer model in a SEM (Source: Hair et al., 2016)

Furthermore, there are two forms of the measurement models, the first is the formative model in which it assumes that the construct is caused by indicators. As a result, deleting or removing one indicator would change the construct nature because every indicator reflects a specific facet of the construct meaning. The second is the reflective measurement model, deleting or removing an indicator in this model would not affect the variable's conceptual meaning since the indicators are correlated and very strongly

related, (Hair et al., 2011). In this study, a reflective-formative model was used whereas the dimensions that formed the study's latent variables as (TMS, SF, IA, PD, PeM, PrM, and SP) which relate to the TQM practices, (Ad_In and Te_In) that relate to the innovation practices, and the variables of (EU_LG, EU_OC, EU_TL, EU_Pre, EU_ExR, EU_Int, and EU_Meas) that are related to the entrepreneurial practices. The use of the reflective model was cleared as arrows-heads' were out from each dimension, and were heading towards the indicators. However, the main latent variables (which are TQM practices, innovation) followed the formative model as arrows-heads' were entering to them. The usage of reflective and formative models was determined according to their definition above.

Hence, this study consisted of 94 reflective items for 16 dimensions (latent variable). Also, this study consisted of the first and second orders constructs. Specifically, the first order constructed the 16 dimensions of the study, while the second order represented the main constructs (TQM practices, innovation, and entrepreneurial practices). Figure (3-5) represents the model of the study that was developed in order to investigate the relationship between TQM practices as an independent variable and entrepreneurial universities practices as a dependent variable, considering the innovation as a moderator variable.
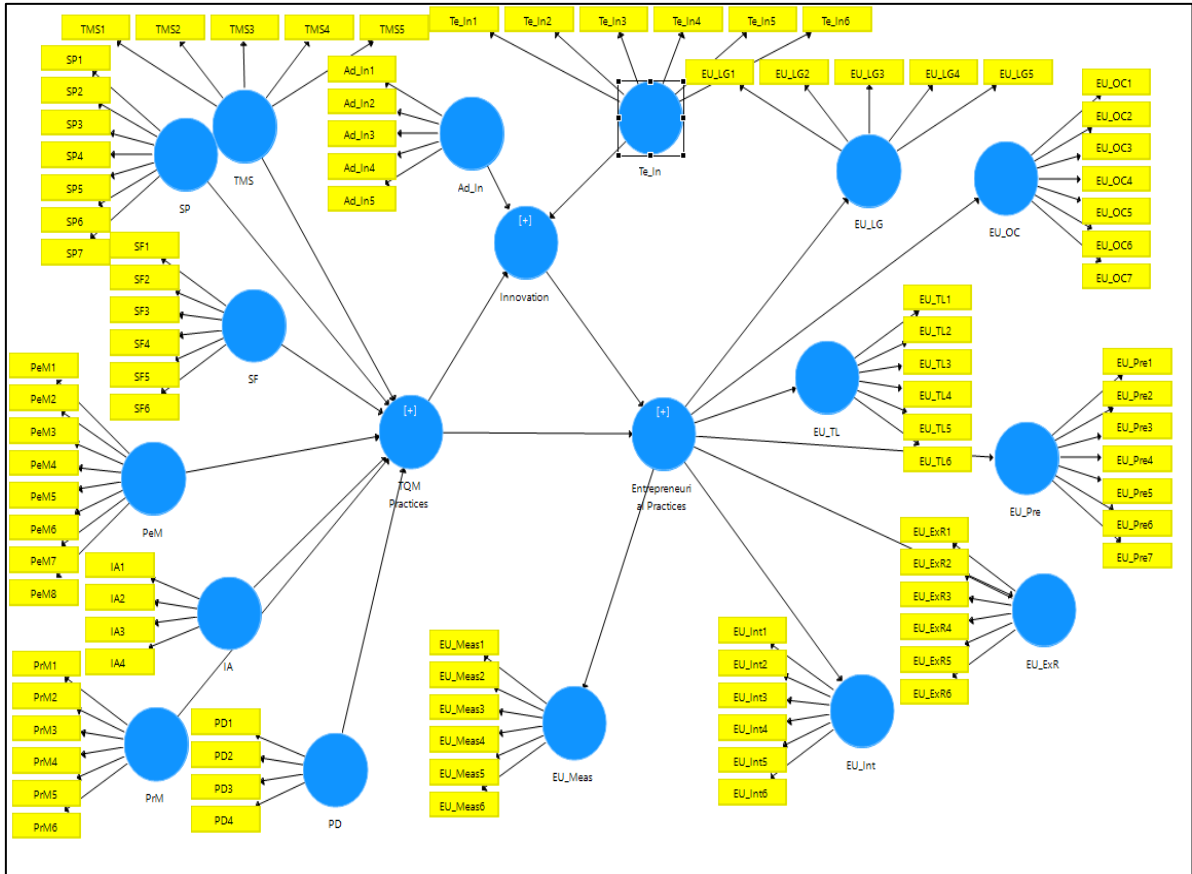
Figure (3-5): Research Model

Chapter Four

Data Analysis and Results

4.1 Overview

This chapter includes an analysis of the collected data, in which it consists of three sections. The analysis starts by discussing the descriptive statistics results for the respondents' demographic variables from each university, in addition to the demographic variables for the targeted universities. Then, analysis of the collected data is presented in order to test the proposed hypotheses by using SMART-PLS program through implementing the partial least squares structural equation modeling (PLS-SEM); for the purpose of investigating the effect of TQM practices on entrepreneurial universities, and exploring the indirect effect of innovation on the relationship between TQM practices and entrepreneurial universities.

4.2 Demographic Profile

This part focused on analyzing the descriptive information of the representative sample that consisted of 44 respondents from 12 different Palestinian universities (out of 18 universities). This part consisted of two levels, the first level was related to the demographic profile of the individual respondents as gender, age, educational level, years of experience, and their positions in the university. While the second section was about the universities' level, which included the response rate from each university separately, years of establishment, teaching methods, number of branches, and the university type.

4.2.1 Demographic's Profile for the Respondents

The first demographic variable related to the study's targeted sample is the gender. The results showed that -from the 44 collected and completed questionnaires- 80% were males (35 respondents), while 20% where females (9 respondents) as shown in Figure (4-1).
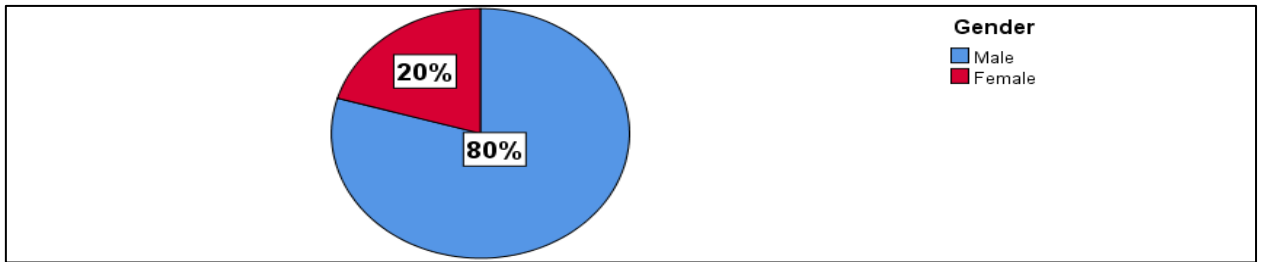
Figure (4-1): Respondents' gender

Regarding the second demographic variable which is the respondents' age, the analysis showed that the age range of (50 and above) was the highest percentage of respondents, as it represented 22 respondents (50%), while 14 respondents (32%) were in the age range of 40-49 years. Lastly, only 8 respondents (18%) aged between 30-39 years as shown in Figure (4-2)
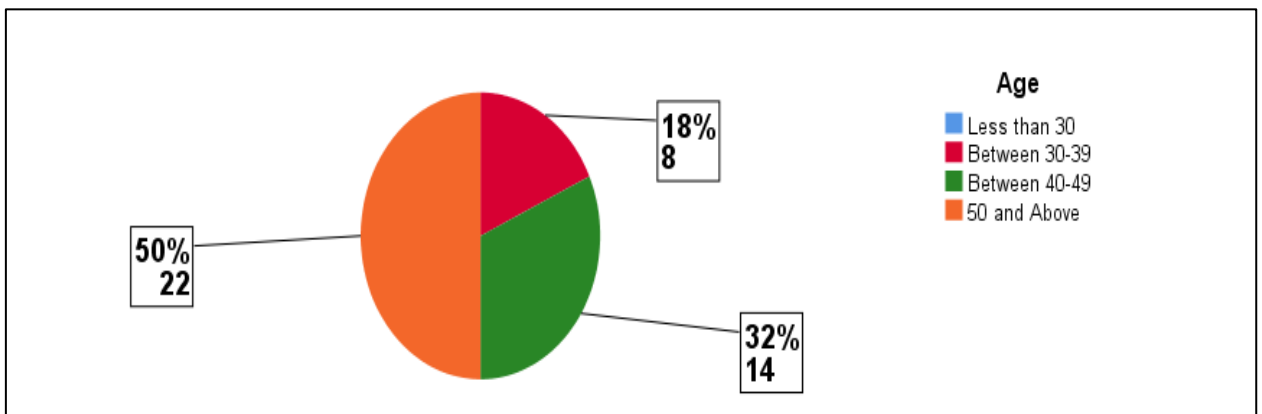
Figure (4-2): Respondents' age

The third variable in the demographic information is the educational level, around 68% of the respondents have PHD degree (30 members), and 32% have Master degree (14 respondents). The educational level for respondents is presented in Figure (4-3).
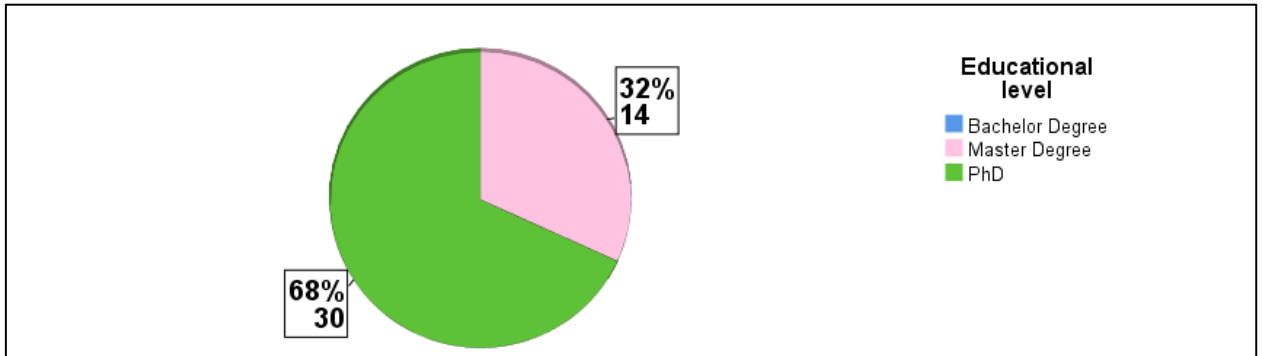
Figure (4-3): Respondents' educational level

On the other hand, about 70% of the respondents had an experience in the academic field for 13 years or more in the educational sector, 23% had an experience from 9 to 12 years, and the remaining had 5-8 years of experience, as it shows from the Figure (4-4).
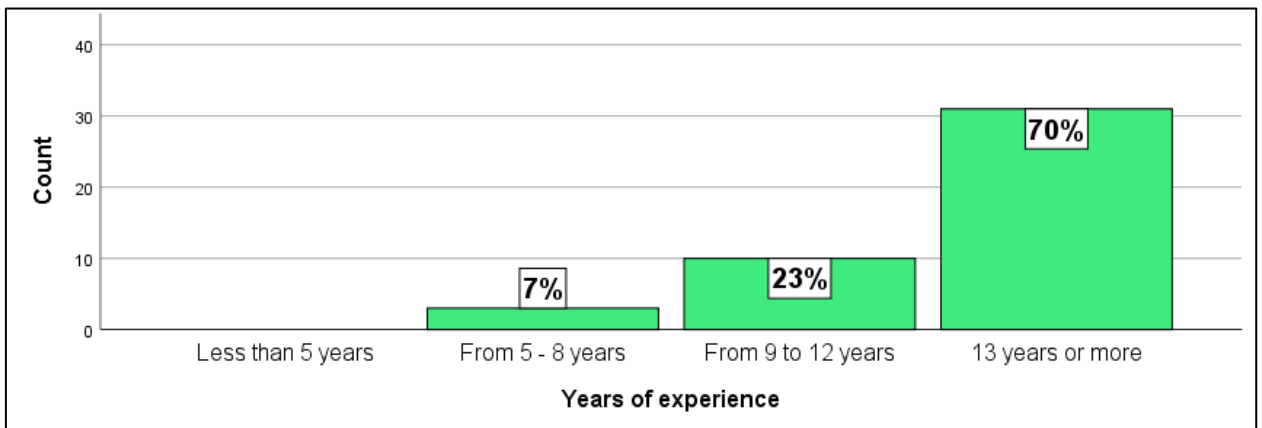
Figure (4-4): Respondents' years of experience

Figure (4-5) displays that 43% of the respondents were deans, 34% of the respondents were directors (Department of Quality and Planning, Center for Creativity and Innovation, Technology Incubator, Center for Excellence in Learning and Education,

and E-Learning Center), and 23% were vice presidents (Academic Affairs, Financial

Affairs, International Relations, and Quality & Planning Affairs).
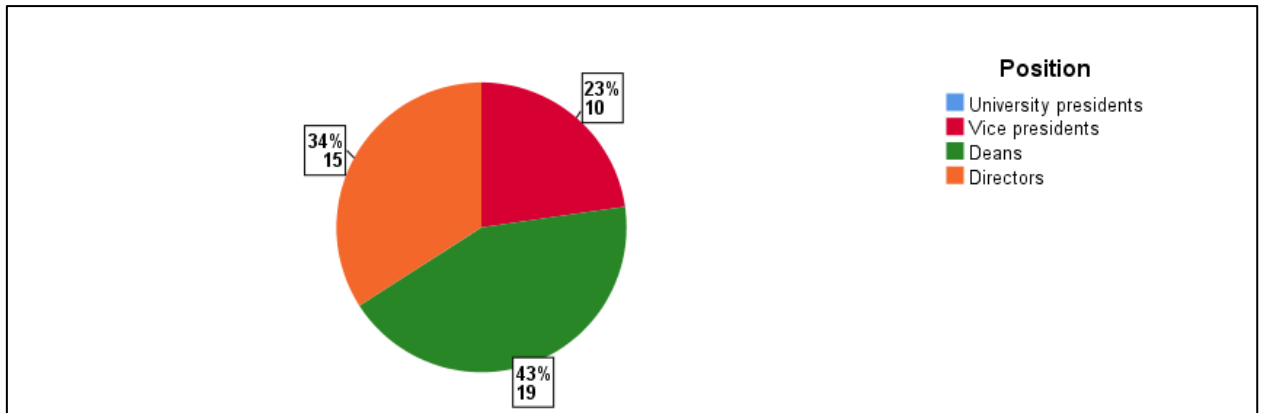
Figure (4-5): Respondents' positions

4.2.2 Demographic Profiles of the Responding Universities

Out of 18 Palestinian universities, 12 universities responded and filled the research

questionnaire. Specifically, 44 questionnaires were obtained from respondents in 12

Palestinian universities; noting that the researcher distributed the number of

questionnaires (whether a soft copy or hard copy) equally on all universities, and the

response rate was 91.6% (44 /48). Figure (4-6) shows that each one of the three

universities: the Arab American University, Al-Quds Open University, and Al-Najah

University had a percentage of 15.91% from the total respondents. Though, respondents

from Birzeit and Bethlehem Universities represented 11.36% for each one. Moreover,

Al-Quds University -Abu Dis- represented 9.09% of the total respondents, thereafter

comes Al-Istiqlal University that had a percentage of 6.82%. Lastly; the remaining

13.63% of the respondents were from other universities including: Islamic University,

Arab Open University, Palestine Polytechnic University, Gaza University, and Palestine

Ahliya University.
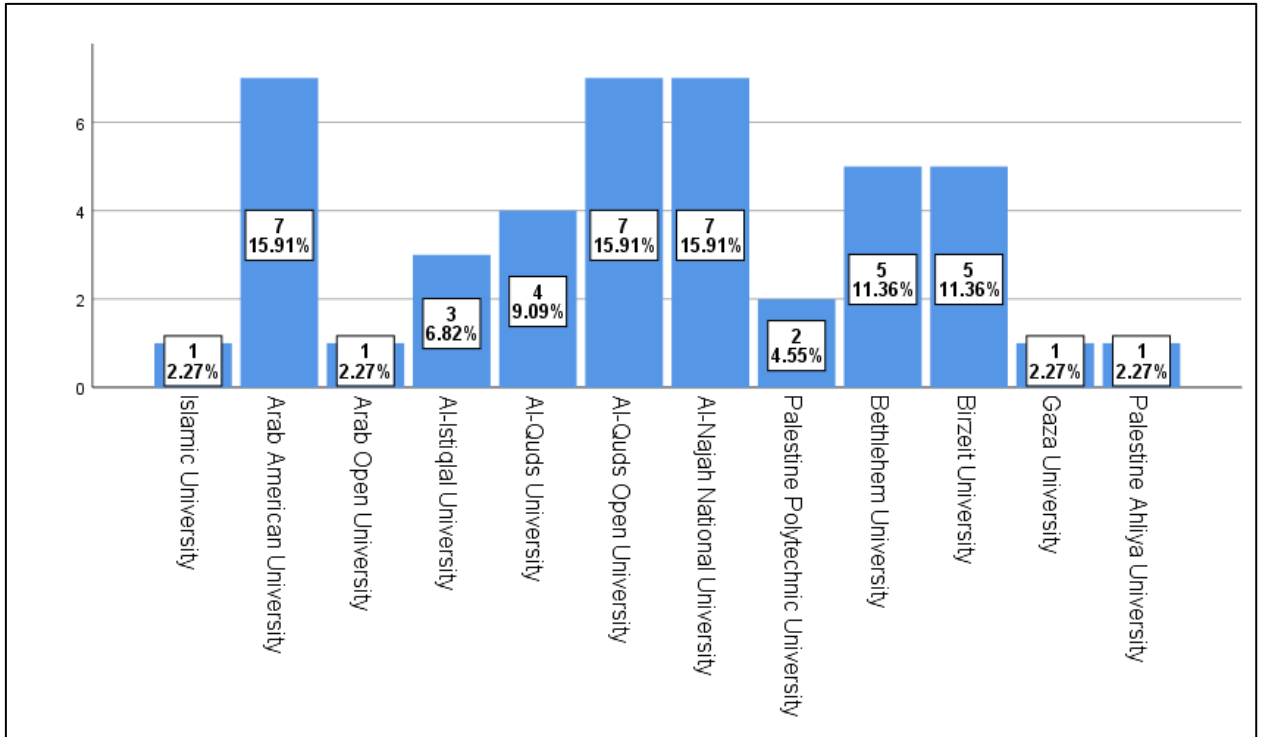
Figure (4-6): Responding universities names

From examining the responding universities in terms of the establishment years; it turns out that 41.67% of universities were stablished since about 31-45 years ago (Al-Najah National University, Al-Quds University, Palestine Polytechnic University, Al-Quds Open University, Islamic University – Gaza). In addition, around 25% were established in the past 1-15 years (Al-Istiqlal University, Palestine Ahliya University, The Arab Open University), 16.67% were established since between 16-30 years ago (The Arab American University, Gaza University) and the remaining universities -which also represent 16.67%- were established since more than 45 years (Birzeit University, Bethlehem University). These percentages are clarified in Figure (4-7).
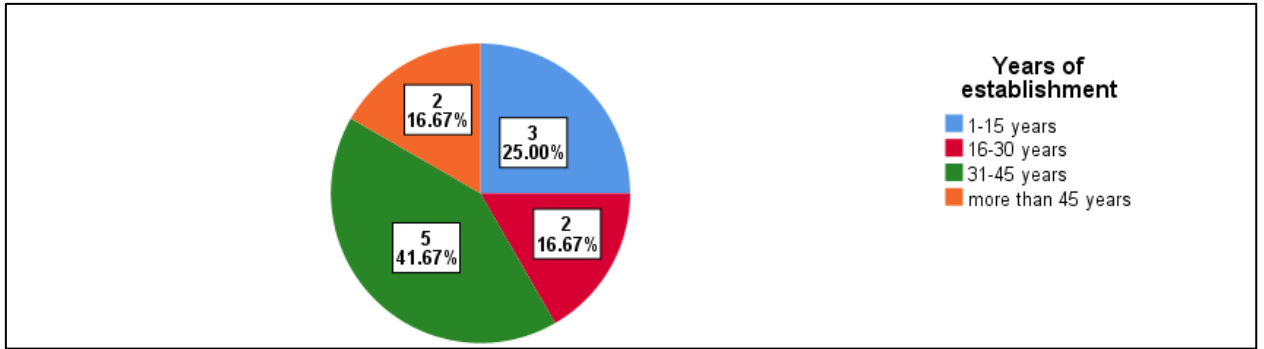
Figure (4-7): Establishment years of responding universities

Regarding the university type, Figure (4-10) demonstrates that 58.33% represented public universities, 33.33% were private universities, and only 8.33% were considered governmental universities.
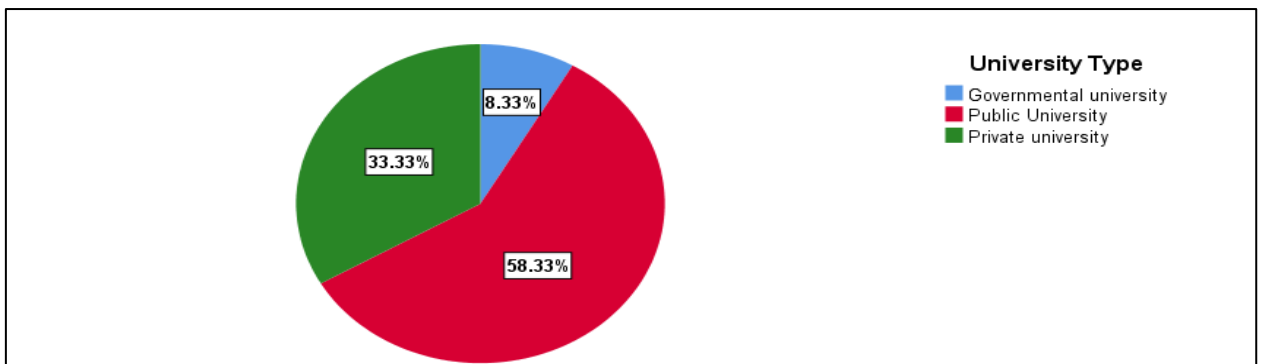
Figure (4-8): Responding universities' type

4.3 Descriptive Statistics

Descriptive statistics were also used in order to assess the general situation within the Palestinian universities regarding the adoption degree of TQM practices and innovation, in addition to the extent to which the Palestinian universities are entrepreneurial universities. In this study, a Likert scale of five-points was used. Therefore, and for the purpose of interpreting the results; the following criterion shown in Table (4-1) was adopted.

Table (4-1): Likert Scale Analysis (Acharya, 2010).

MEAN SCORE	THE LEVEL OF IMPLEMENTATION
0.00-1.50	Very low
1.51-2.50	Low
2.51-3.50	Moderate
3.51-4.50	High
4.51-5.00	Very high

As illustrated in Table (4-2), the mean and standard deviation for each construct were reported, and the results indicated that the overall level of implementing TQM practices was high. As it was clarified, the mean was at the high level for most practices (such as program design, strategic planning, and student focus, top management support and process management). On the other hand, the implementation level of these practices (people management, and Information and analysis) was moderate as their mean was at the moderate level range. In terms of innovation, the total implementation level was also high; as the mean of technical innovation was close to the high level, while the implementation level of the administrative innovation was at the moderate level.

However, the total entrepreneurial practices implementation was at the moderate level. Generally, all the following entrepreneurial practices were considered highly implemented despite the fact that they were little lower than the high level (leadership and governance, external relationship, internationalization). Though, the remaining practices were moderately applied (organizational capacity, entrepreneurial teaching and learning, preparing entrepreneurs, and measuring the impact).

Table (1) in appendix "C", presents the results of descriptive analysis for all items used in the study.

Table (4-2): TQM Practices, Innovation, and Entrepreneurial Practices Implementation Level

	Mean	Std. Deviation	Implementation level
Avg_TMS	3.8818	.61654	High
Avg_SP	4.1818	.58242	High
Avg_PeM	3.3722	.55868	Moderate
Avg_SF	4.0909	.41368	High
Avg_PrM	3.9242	.48419	High
Avg_IA	3.4716	.56603	Moderate
Avg_PD	4.1989	.49291	High
Total TQM_Practices	**3.8745**	**.48163**	**High**
Avg_Ad_In	3.4773	.39583	Moderate
Avg_Te_In	3.6818	.42044	High
Total Innovation	**3.5795**	**.36543**	**High**
Avg_EU_LG	3.7636	.67963	High
Avg_EU_OC	3.3766	.49687	Moderate
Avg_EU_TL	3.2197	.61922	Moderate
Avg_EU_Pre	3.2825	.65392	Moderate
Avg_EU_ExR	3.8598	.65092	High
Avg_EU_Int	3.7348	.60608	High
Avg_EU_Meas	3.2008	.71671	Moderate
Total Entrepreneurial Practices	**3.4911**	**.51389**	**Moderate**

4.3.1 Implementation of TQM Practices in the Palestinian Universities

Figure (4-11) shows that the median for both top management support and process management are equal to 4, whereas it is above 4 for each of strategic planning (4.28), student focus (4.08), and program design (4.12). On the other hand, it is only 3.5 for each of people management, information and analysis. Additionally, it can be noticed that there

is a high variation in the answers regarding the adoption of TQM practices between the respondents. More precisely, the adoption level of people management and process management had the highest variability of answers (meaning that universities' answers highly differed from each other in these two practices), that ranged from 2.1 to 4.3, and 2.8 to 5 respectively. Then, strategic planning, information and analysis, and program design varied from 3 to 5, 2.5 to 4.5, and 3 to 5 respectively. However, it showed less variability for top management support and student focus which varied from 3 to 4.8 and 3.6 to 4.8 respectively.
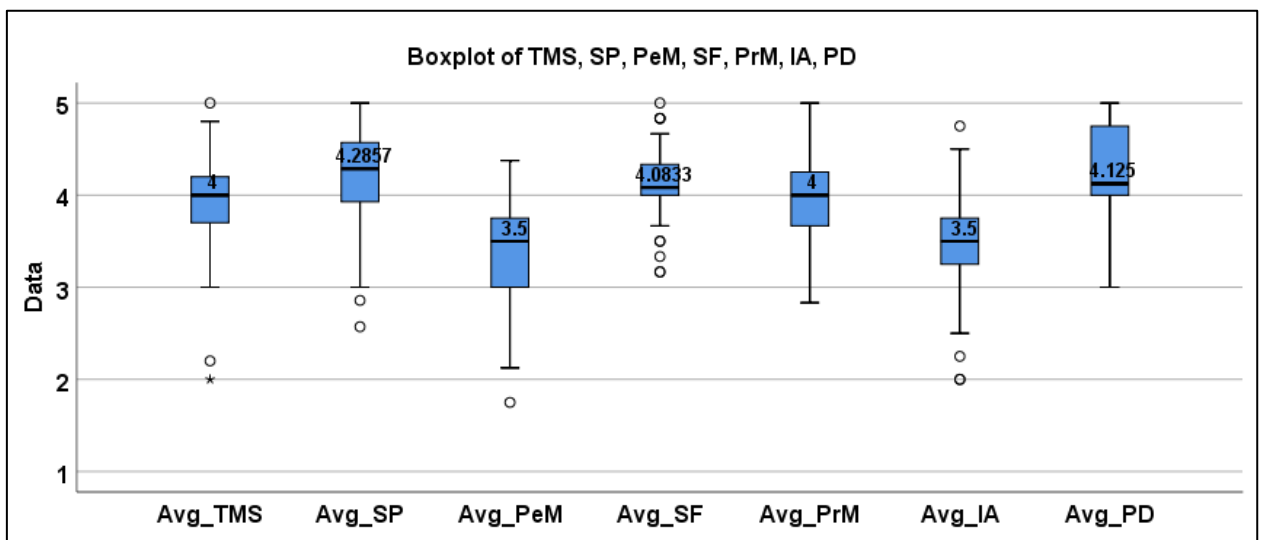
Figure (4-9): TQM Practices Implementation in Palestinian Universities

In addition, a comparison was made between Palestinian universities regarding applying TQM practices separately, and the results were as shown in the table (4-3).

Table (4-3): Comparison between Palestinian universities in TQM practices adoption

	Avg_TMS	Avg_SP	Avg_PeM	Avg_SF	Avg_PrM	Avg_IA	Avg_PD	TQM_Practices
Islamic University	4.0000	4.8571	4.1250	4.0000	4.3333	4.2500	4.7500	4.3308
Arab American University	3.8000	3.9592	3.7143	4.0000	4.1429	4.0714	4.1071	3.9707
Arab Open University	3.8000	3.8571	3.5000	3.5000	3.8333	3.5000	4.0000	3.7129
Al-Istiqlal University	3.4000	3.6190	3.3750	3.7222	3.6111	3.4167	3.6667	3.5444
Al-Quds University	3.8500	4.2500	3.3438	4.2917	4.0000	3.9375	4.1875	3.9801
Al-Quds Open University	4.0000	4.4082	3.9107	3.9286	4.1190	4.1429	4.4286	4.1340
Al-Najah National University	4.1143	4.4490	3.9464	4.2143	3.8571	3.8214	4.2143	4.0881
Palestine Polytechnic University	4.3000	4.4286	3.9375	4.3333	3.9167	3.5000	4.3750	4.1130
Bethlehem University	3.6800	4.0571	3.0250	3.9667	3.4667	3.0000	3.9500	3.5922
Birzeit University	4.4000	4.6857	4.0500	4.4333	4.1667	4.1000	4.3000	4.3051
Gaza University	2.0000	3.0000	1.7500	4.3333	2.8333	2.0000	4.0000	2.8452
Palestine Ahliya University	3.0000	2.5714	2.7500	4.1667	4.0000	3.0000	5.0000	3.4983

Consequently, the ranking of Palestinian universities in terms of adopting total quality management practices is successively as the following: Islamic University, Birzeit University, Al-Quds Open University, Palestine Polytechnic University, Al-Najah National University, Al-Quds University, Arab American University, Arab Open University, Bethlehem University, Al-Istiqlal University, Palestine Ahliya University, and lastly Gaza University.

4.3.3 Innovation in Palestinian Universities

Figure (4-12) illustrates that the technical innovation and the administrative innovation had a median of 3.8 and 3.5 respectively. Furthermore, the variance in administrative innovation (ranged from 2.6 to 4.2) was very close to the variation in technical innovation (ranged from 2.8 to 4.3)
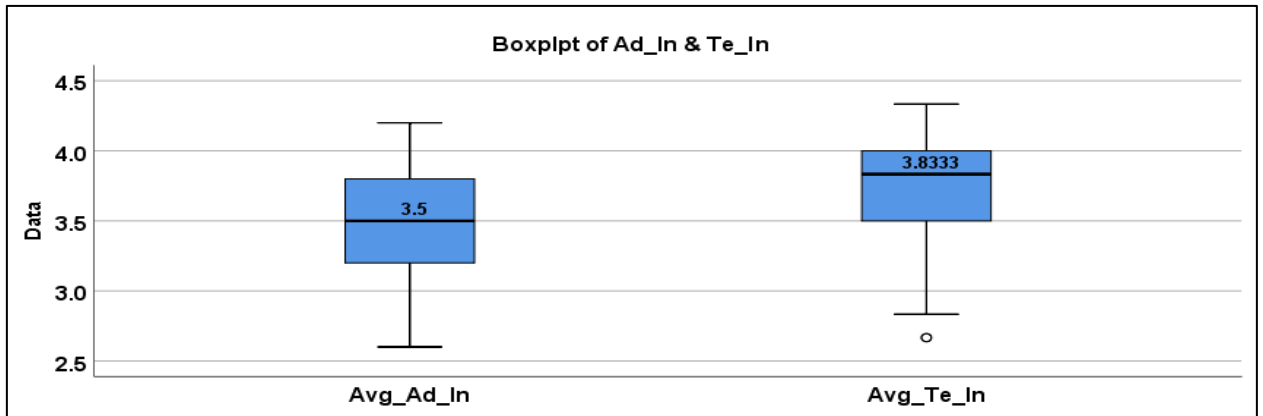
Figure (4-10): Innovation implementation in Palestinian universities

4.3.4 Entrepreneurial Practices in Palestinian Universities

Figure (4-13) below demonstrates that two practices of entrepreneurial universities had a median of 4 for leadership and governance, and external relationships for knowledge exchange. While it equals to 3.8 for internationalization, and 3.4 for both of organizational capacity and preparing entrepreneurs. Although it was 3.3 for both of entrepreneurial teaching and learning, and measuring the impact.

The highest variation in the adopted practices was found in external relationships for knowledge exchange; as it ranged from 2.3 to 5. At the same manner, the adoption of leadership and governance, and preparing entrepreneurs varied from 2.6 to 5 and from 2.3 to 5 respectively, followed by the practice of measuring the impact that ranged from (2 to 4.3). On the other hand, organizational capacity, entrepreneurial teaching and

learning, and internationalization had the least variations as they ranged from (2.4 to 4), (2.5 to 4.1), (3 to 4.6) respectively.
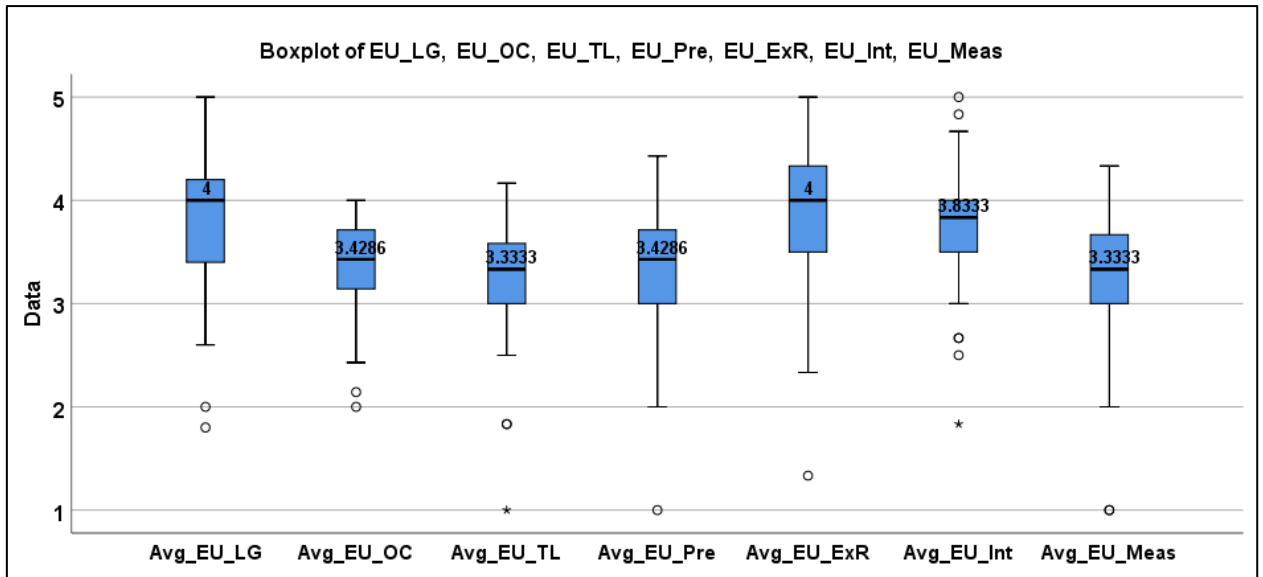
Figure (4-11): Entrepreneurial practices' implementation in Palestinian universities

4.4 SEM-Partial Least Squares (PLS) Analysis

4.4.1 Assessment of Measurement Models (Outer Model)

At the beginning, validity and reliability of the measurement model were checked before analyzing the relationships between the study's variables. Construct validity means the ability of selected indicators to assess the latent construct that they are identified to measure. On the one hand, construct reliability is related to the overall consistency of the measure, in other words: it's about providing same result under various conditions. On the other hand, construct reliability indicates to what extent the selected items are able to measure the construct under various conditions in which those same results are to be obtained in each time, (Ab Hamid et al., 2017).

The outer model assessment includes several examinations, the first is examining convergent validity through measuring item reliability (factor loading), then the internal

consistency reliability that can be measured by Cronbach's alpha and composed reliability (CR), lastly, the average variance extracted (AVE). The second examination is related to assessing the discriminate validity through Cross loading, Variable correlation - Fornell-Larcker criterion, and HTMT criterion, (Hair, 2014).

Convergent Validity

Convergent validity refers to the valuation or assessment that measures the correlation level of multiple indicators that are in agreement within the same construct. The construct shouldn't correlate with neither related variables nor dissimilar, unrelated ones, (Hair et al., 2014). Hence, there are three consecutive approaches to establish the convergent validity within reflective measurement model:

- **Indicator Reliability (Factor Loading)**: item reliability is the proportion of item variance that is demonstrated by the latent construct(variable). A common rule of thumb is that the value of outer loadings should be greater than 0.70 to be considered as a reliable item. Moreover, the value of outer loadings should be pointed for deletion if the indicator removal with outer loadings is between 0.40 and 0.70; if it underwrites an increase in composite reliability and AVE. However, outer loading indicators that are below 0.40 should always be removed and uninvolved, (Hair,2014).

- **Composed Reliability (CR):** This measurement is commonly used as an internal consistency tool in which it measures the reliability according to the interrelationship of the detected items variables. Generally, in exploratory researches; values of the composed reliability/Cronbach alpha are considered acceptable between 0.60 to 0.70. However, values have to be higher than 0.70 in more advanced stages, (Hair, 2014).

- **Average Variance Extracted (AVE):** The AVE indicates if a sufficient constructs validity exists, therefore it should be higher than 0.50 in which it would mean that the construct explains more than half of its indicator's variance. The average variance extracted can be

calculated as the summation of the squared loadings values of the indicators on the construct divided by the number of indicators.

In the assessment process of individual indicator reliability, the current study applied the theory based on the rule that the item with loadings less than 40% should be removed. As a result, 20 items out of 94 were deleted from the model. Table (4-4) summarized the removed items.

Table (4-4): Deleted items (factor loading)

Ad_In4	EU_OC 2	EU_OC 3	EU_OC 7	PeM1	PeM 4	PrM3	SF5	Te_In1	IA3
EU_LG 4	PeM8	PrM4	SP3	TMS 5	PeM 5	EU_Pre 1	EU_Pre 3	EU_Pre 2	EU_Pre 6

After conducting the three above-mentioned tests to evaluate the convergent validity; Table (4-5) summarizes the final results of the convergent validity tests after removing the previously mentioned items. It's clear that all indicators have acceptable loading, and the CR value was more than 0.70 for all indicators, which proves the reliability of all items. In addition, the average extracted variances were above 0.50 for all constructs; indicating an acceptable validity of all constructs.

Table (4-5): Results of measurements model (convergent validity)

Constructs	Items	Item Loading	Composite Reliability (CR)	Average Variance Extracted (AVE)
Top Management Support	TMS1	0.845	**0.898**	**0.689**
	TMS2	0.851		
	TMS3	0.795		
	TMS4	0.828		
Strategic Planning	SP1	0.848	**0.914**	**0.64**
	SP2	0.622		

	SP4	0.85	
	SP5	0.835	
	SP6	0.799	
	SP7	0.822	
People management	PeM2	0.706	
	PeM3	0.759	**0.833**	**0.555**
	PeM6	0.723	
	PeM7	0.79	
Student Focus	SF1	0.796	
	SF2	0.756	
	SF3	0.702	**0.838**	**0.511**
	SF4	0.723	
	SF6	0.58	
Process Management	PrM1	0.795	
	PrM2	0.712	**0.875**	**0.637**
	PrM5	0.847	
	PrM6	0.832	
Information and Analysis	IA1	0.9	
	IA2	0.889	**0.88**	**0.711**
	IA4	0.729	
Program design	PD1	0.685	
	PD2	0.788	**0.846**	**0.582**
	PD3	0.661	
	PD4	0.894	
Administrative Innovation	Ad_In1	0.743	
	Ad_In2	0.623	**0.817**	**0.529**
	Ad_In3	0.784	
	Ad_In5	0.749	
Technical Innovation	Te_In2	0.717	
	Te_In3	0.729	
	Te_In4	0.668	**0.846**	**0.525**
	Te_In5	0.72	
	Te_In6	0.784	
Leadership and Governance	EU_LG1	0.907	
	EU_LG2	0.917	**0.932**	**0.775**
	EU_LG3	0.826	

	EU_LG5	0.867		
Organizational capacity	EU_OC1	0.685	**0.831**	**0.553**
	EU_OC4	0.763		
	EU_OC5	0.811		
	EU_OC6	0.709		
Entrepreneurial Teaching and Learning	EU_TL1	0.791	**0.903**	**0.609**
	EU_TL2	0.792		
	EU_TL3	0.782		
	EU_TL4	0.782		
	EU_TL5	0.746		
	EU_TL6	0.79		
Preparing and Supporting Entrepreneurs	EU_Pre4	0.869	**0.822**	**0.61**
	EU_Pre5	0.649		
	EU_Pre7	0.808		
External Relationships	EU_ExR1	0.751	**0.921**	**0.66**
	EU_ExR2	0.859		
	EU_ExR3	0.787		
	EU_ExR4	0.84		
	EU_ExR5	0.747		
	EU_ExR6	0.882		
Internationalization	EU_Int1	0.763	**0.88**	**0.552**
	EU_Int2	0.615		
	EU_Int3	0.767		
	EU_Int4	0.704		
	EU_Int5	0.689		
	EU_Int6	0.892		
Measuring the Impact	EU_Meas1	0.846	**0.938**	**0.715**
	EU_Meas2	0.804		
	EU_Meas3	0.813		
	EU_Meas4	0.858		
	EU_Meas5	0.899		
	EU_Meas6	0.85		

Discriminate Validity

Referred to as the degree of distinct concepts measurement or items differentiation between constructs through investigating the correlations amongst the measures of possibly overlapping constructs (Hair, 2011). Thus, the three criteria to assess the discriminate validity are:

- **Cross-loadings:**

In order to examine validity, the correlation or cross loadings of the specific construct indicators should be greater than all loadings on other constructs in the model (Hair, 2011). It's obvious that the cross loadings discriminant validity method is confirmed; as shown in Table (4-6) that summarizes all cross loadings of other constructs of the model.

Table (4-6): Cross Loading (discriminant Validity)

	Ad_In	EU_ExR	EU_Int	EU_LG	EU_Meas	EU_OC	EU_Pre	EU_TL	IA	PD	PeM	PrM	SF	SP	TMS	Te_In
Ad_In1	0.743	0.409	0.375	0.295	0.151	0.34	0.286	0.264	0.302	0.322	0.411	0.234	0.332	0.409	0.466	0.472
Ad_In2	0.623	0.117	0.298	0.145	0.01	0.208	0.192	0.011	0.144	0.025	0.201	0.069	-0.027	0.223	0.314	0.461
Ad_In3	0.784	0.24	0.293	0.121	-0.055	0.223	0.112	0.178	0.189	0.327	0.307	0.228	0.275	0.204	0.246	0.467
Ad_In5	0.749	0.465	0.381	0.232	0.11	0.279	0.213	0.304	0.318	0.329	0.349	0.116	0.128	0.341	0.376	0.603
EU_ExR1	0.415	0.751	0.529	0.533	0.306	0.302	0.384	0.579	0.252	0.513	0.473	0.281	0.304	0.445	0.314	0.398
EU_ExR2	0.419	0.859	0.505	0.62	0.333	0.404	0.406	0.395	0.399	0.667	0.571	0.432	0.458	0.502	0.512	0.384
EU_ExR3	0.22	0.787	0.393	0.519	0.296	0.332	0.401	0.475	0.242	0.515	0.412	0.228	0.343	0.29	0.354	0.091
EU_ExR4	0.38	0.84	0.461	0.621	0.379	0.598	0.348	0.38	0.37	0.601	0.492	0.353	0.573	0.5	0.52	0.291
EU_ExR5	0.325	0.747	0.451	0.661	0.452	0.542	0.399	0.431	0.418	0.411	0.669	0.437	0.443	0.645	0.507	0.409
EU_ExR6	0.363	0.882	0.676	0.841	0.625	0.778	0.584	0.587	0.544	0.494	0.725	0.582	0.504	0.642	0.638	0.45
EU_Int1	0.313	0.63	0.763	0.577	0.444	0.396	0.541	0.68	0.188	0.196	0.479	0.185	0.1	0.37	0.26	0.363
EU_Int2	0.498	0.473	0.615	0.346	0.309	0.313	0.23	0.272	0.29	0.242	0.431	0.183	0.29	0.433	0.429	0.275
EU_Int3	0.401	0.375	0.767	0.385	0.226	0.359	0.27	0.288	0.111	0.123	0.269	0.058	0.265	0.364	0.315	0.367
EU_Int4	0.457	0.498	0.704	0.443	0.477	0.603	0.28	0.398	0.538	0.314	0.429	0.401	0.317	0.39	0.515	0.524
EU_Int5	0.224	0.328	0.689	0.375	0.344	0.495	0.362	0.348	0.229	0.17	0.344	0.238	0.259	0.278	0.384	0.25
EU_Int6	0.256	0.461	0.892	0.571	0.509	0.603	0.641	0.649	0.268	0.057	0.376	0.19	0.186	0.298	0.351	0.32
EU_LG1	0.237	0.76	0.612	0.907	0.535	0.709	0.576	0.663	0.395	0.395	0.695	0.505	0.312	0.609	0.481	0.4

EU_LG2	0.238	0.645	0.626	0.917	0.552	0.659	0.565	0.652	0.422	0.36	0.694	0.555	0.388	0.63	0.487	0.45
EU_LG3	0.11	0.609	0.387	0.826	0.582	0.55	0.439	0.416	0.496	0.412	0.577	0.702	0.448	0.603	0.551	0.176
EU_LG5	0.375	0.774	0.542	0.867	0.564	0.62	0.426	0.412	0.597	0.531	0.63	0.69	0.525	0.716	0.652	0.501
EU_Meas1	0.144	0.652	0.455	0.651	0.846	0.569	0.487	0.611	0.652	0.356	0.683	0.591	0.422	0.517	0.439	0.386
EU_Meas2	0.036	0.407	0.268	0.511	0.804	0.584	0.174	0.293	0.666	0.196	0.543	0.495	0.229	0.391	0.32	0.252
EU_Meas3	0.114	0.361	0.368	0.362	0.813	0.408	0.163	0.389	0.558	0.168	0.473	0.305	0.224	0.284	0.183	0.359
EU_Meas4	0.077	0.339	0.479	0.538	0.858	0.51	0.214	0.296	0.533	0.091	0.438	0.382	0.164	0.385	0.299	0.286
EU_Meas5	-0.025	0.405	0.531	0.578	0.899	0.478	0.381	0.533	0.575	0.174	0.521	0.486	0.203	0.346	0.214	0.267
EU_Meas6	0.047	0.354	0.579	0.511	0.85	0.452	0.363	0.503	0.428	0.105	0.456	0.254	0.049	0.283	0.158	0.204
EU_OC1	0.199	0.356	0.491	0.384	0.587	0.685	0.161	0.268	0.553	0.204	0.382	0.37	0.254	0.262	0.408	0.276
EU_OC4	0.264	0.576	0.404	0.59	0.299	0.763	0.41	0.45	0.382	0.272	0.488	0.316	0.231	0.4	0.446	0.297
EU_OC5	0.197	0.514	0.405	0.601	0.421	0.811	0.46	0.468	0.443	0.275	0.569	0.4	0.126	0.291	0.346	0.25
EU_OC6	0.417	0.413	0.59	0.559	0.481	0.709	0.275	0.343	0.487	0.178	0.622	0.509	0.305	0.523	0.562	0.508
EU_Pre4	0.116	0.424	0.347	0.465	0.366	0.319	0.869	0.626	0.152	0.222	0.452	0.298	0.288	0.259	0.272	0.335
EU_Pre5	0.167	0.322	0.331	0.169	0.058	0.077	0.649	0.523	-0.125	0.149	0.199	-0.014	0.132	0.102	0.188	0.131
EU_Pre7	0.336	0.467	0.574	0.6	0.355	0.536	0.808	0.59	0.227	0.155	0.497	0.341	0.29	0.383	0.448	0.465
EU_TL1	0.317	0.434	0.524	0.476	0.347	0.428	0.57	0.791	0.185	0.206	0.477	0.228	0.093	0.296	0.203	0.42
EU_TL2	0.09	0.319	0.403	0.393	0.365	0.299	0.527	0.792	0.053	0.041	0.333	0.033	0.082	0.097	0.074	0.227
EU_TL3	0.311	0.364	0.473	0.212	0.195	0.141	0.527	0.782	-0.038	0.088	0.307	-0.057	0.146	0.049	0.08	0.239
EU_TL4	0.255	0.615	0.655	0.591	0.556	0.637	0.616	0.782	0.356	0.263	0.592	0.33	0.244	0.279	0.259	0.319
EU_TL5	0.124	0.378	0.365	0.425	0.348	0.362	0.595	0.746	0.061	0.056	0.329	0.064	0.157	0.145	0.143	0.147

EU_TL6	0.171	0.542	0.449	0.655	0.558	0.423	0.602	0.79	0.343	0.246	0.626	0.421	0.241	0.346	0.29	0.453
IA1	0.256	0.483	0.331	0.593	0.694	0.556	0.229	0.314	0.9	0.401	0.666	0.677	0.222	0.551	0.469	0.442
IA2	0.241	0.438	0.313	0.5	0.697	0.589	0.052	0.201	0.889	0.292	0.626	0.518	0.179	0.438	0.427	0.305
IA4	0.369	0.239	0.279	0.215	0.252	0.416	0.088	0.048	0.729	0.339	0.338	0.448	0.328	0.339	0.398	0.349
PD1	0.002	0.3	-0.011	0.269	0.065	0.066	0.151	0.068	0.223	0.685	0.289	0.507	0.477	0.378	0.366	0.182
PD2	0.29	0.572	0.275	0.492	0.268	0.316	0.311	0.333	0.349	0.788	0.435	0.428	0.627	0.54	0.479	0.372
PD3	0.459	0.432	0.191	0.148	0.088	0.325	-0.061	0.024	0.262	0.661	0.318	0.194	0.252	0.271	0.307	0.276
PD4	0.361	0.636	0.243	0.462	0.21	0.257	0.194	0.149	0.39	0.894	0.434	0.517	0.528	0.499	0.477	0.283
PeM2	0.275	0.583	0.537	0.551	0.531	0.554	0.414	0.535	0.489	0.253	0.706	0.295	0.263	0.424	0.385	0.279
PeM3	0.26	0.58	0.369	0.584	0.532	0.374	0.502	0.462	0.438	0.458	0.759	0.536	0.421	0.524	0.425	0.436
PeM6	0.269	0.398	0.3	0.596	0.28	0.49	0.364	0.392	0.354	0.249	0.723	0.477	0.241	0.62	0.467	0.432
PeM7	0.481	0.532	0.39	0.495	0.51	0.659	0.297	0.413	0.664	0.467	0.79	0.649	0.381	0.51	0.6	0.464
PrM1	0.113	0.318	0.136	0.475	0.219	0.302	0.213	0.15	0.423	0.521	0.381	0.795	0.617	0.48	0.517	0.318
PrM2	0.034	0.519	0.153	0.494	0.404	0.368	0.085	0.152	0.453	0.501	0.464	0.712	0.462	0.357	0.466	0.158
PrM5	0.257	0.23	0.193	0.503	0.325	0.417	0.232	0.128	0.54	0.37	0.516	0.847	0.427	0.517	0.578	0.345
PrM6	0.276	0.501	0.39	0.698	0.626	0.591	0.418	0.35	0.661	0.407	0.75	0.832	0.444	0.615	0.632	0.548
SF1	0.177	0.369	0.277	0.273	0.246	0.091	0.143	0.132	0.142	0.411	0.269	0.353	0.796	0.405	0.486	0.267
SF2	0.25	0.385	0.209	0.232	0.245	0.18	0.181	0.154	0.19	0.539	0.297	0.338	0.756	0.353	0.279	0.357
SF3	0.17	0.391	0.329	0.428	0.13	0.384	0.317	0.159	0.273	0.375	0.384	0.559	0.702	0.54	0.627	0.318
SF4	0.043	0.378	0.155	0.373	0.151	0.122	0.312	0.203	0.089	0.473	0.24	0.434	0.723	0.384	0.505	0.14
SF6	0.248	0.407	0.073	0.332	0.174	0.259	0.161	0.118	0.278	0.501	0.369	0.433	0.58	0.441	0.332	0.399

SP1	0.367	0.481	0.441	0.628	0.273	0.398	0.361	0.337	0.315	0.41	0.619	0.445	0.39	0.848	0.544	0.47
SP2	0.365	0.268	0.352	0.396	0.202	0.301	0.092	0.136	0.342	0.117	0.293	0.34	0.218	0.622	0.324	0.425
SP4	0.422	0.5	0.338	0.61	0.453	0.422	0.339	0.263	0.503	0.51	0.687	0.614	0.542	0.85	0.691	0.519
SP5	0.18	0.481	0.382	0.619	0.448	0.305	0.216	0.149	0.45	0.458	0.559	0.514	0.523	0.835	0.564	0.327
SP6	0.314	0.583	0.277	0.559	0.211	0.416	0.227	0.095	0.425	0.529	0.513	0.51	0.558	0.799	0.627	0.395
SP7	0.339	0.652	0.48	0.627	0.468	0.52	0.368	0.337	0.504	0.598	0.596	0.535	0.589	0.822	0.673	0.497
TMS1	0.364	0.565	0.45	0.524	0.311	0.48	0.33	0.192	0.396	0.37	0.588	0.521	0.47	0.598	0.845	0.288
TMS2	0.301	0.546	0.332	0.575	0.305	0.428	0.428	0.278	0.423	0.447	0.568	0.655	0.59	0.634	0.851	0.277
TMS3	0.49	0.371	0.405	0.322	0.079	0.457	0.156	0.019	0.381	0.413	0.32	0.399	0.403	0.483	0.795	0.36
TMS4	0.464	0.481	0.457	0.568	0.337	0.584	0.407	0.266	0.488	0.561	0.598	0.677	0.629	0.683	0.828	0.633
Te_In2	0.539	0.306	0.195	0.313	0.053	0.121	0.23	0.233	0.142	0.352	0.218	0.286	0.263	0.38	0.319	0.717
Te_In3	0.474	0.343	0.372	0.338	0.356	0.361	0.308	0.317	0.366	0.377	0.477	0.382	0.424	0.276	0.266	0.729
Te_In4	0.421	0.159	0.289	0.343	0.356	0.464	0.225	0.163	0.525	0.132	0.476	0.477	0.196	0.471	0.408	0.668
Te_In5	0.553	0.306	0.396	0.282	0.175	0.192	0.411	0.303	0.283	0.288	0.416	0.293	0.276	0.487	0.447	0.72
Te_In6	0.516	0.408	0.447	0.325	0.328	0.492	0.379	0.413	0.293	0.177	0.412	0.205	0.349	0.374	0.303	0.784

- **Variable correlation - Fornell- Larcker criterion (1981)**

In the Fronell-Lacker measurement tool, the construct's variance and indicators were larger than any other variance of the construct. Therefore, the construct AVE has to be greater than its highest squared correlation with another construct, (Ab Hamid et al., 2017). Thereafter, this has been confirmed for the model that used constructs as presented in Table (4-7).

Table (4-7): Fornell-Larcker Criterion (Discriminant Validity)

	Ad_In	EU_ExR	EU_Int	EU_LG	EU_Meas	EU_OC	EU_Pre	EU_TL	IA	PD	PeM	PrM	SF	SP	TMS	Te_In
Ad_In	0.727															
EU_ExR	0.436	0.813														
EU_Int	0.465	0.63	0.743													
EU_LG	0.275	0.793	0.622	0.88												
EU_Meas	0.078	0.508	0.536	0.631	0.846											
EU_OC	0.363	0.63	0.632	0.724	0.593	0.744										
EU_Pre	0.276	0.528	0.551	0.574	0.369	0.448	0.781									
EU_TL	0.272	0.588	0.626	0.617	0.532	0.52	0.74	0.781								
IA	0.333	0.471	0.366	0.537	0.673	0.622	0.153	0.238	0.843							
PD	0.356	0.651	0.239	0.479	0.223	0.314	0.224	0.21	0.41	0.763						
PeM	0.441	0.699	0.526	0.74	0.621	0.698	0.522	0.596	0.661	0.492	0.745					
PrM	0.224	0.491	0.285	0.688	0.504	0.536	0.311	0.253	0.66	0.557	0.674	0.798				
SF	0.249	0.545	0.301	0.47	0.262	0.304	0.32	0.216	0.28	0.642	0.445	0.606	0.715			
SP	0.409	0.633	0.47	0.725	0.441	0.498	0.347	0.28	0.535	0.572	0.698	0.627	0.607	0.8		
TMS	0.483	0.597	0.495	0.612	0.324	0.591	0.412	0.241	0.513	0.545	0.638	0.693	0.642	0.731	0.83	
Te_In	0.693	0.426	0.472	0.44	0.347	0.447	0.433	0.4	0.436	0.368	0.549	0.445	0.419	0.546	0.479	0.724

- **Hetertrait-Monotrait Ratio (HTMT)**

Heterotrait-Monotrait ratio of correlations (HTMT) is a third approach that is proposed to have better assessment of discriminant validity. Henseler et al. (2015) stated that it must be highlighted that neither the Fornell-Larcker test nor the cross-loadings adequately determine the discriminant validity; as recent research proposes that - under certain circumstances- the Fornell-Larcker criterion is not effective, as the Fornell-Larcker criterion and the assessment of cross loadings have an unacceptably low sensitivity; which means that they are largely unable to detect a lack of discriminant validity. Therefore, Heterotrait-Monotrait ratio of correlations (HTMT) is a new methodology to evaluate discriminant validity in the variance-based SEM. Values less than 1 mean sufficient reliability, (Henseler et al.,2015). The model's discriminate validity is at the satisfactory level as shown in Table (4-8); which shows that the estimated values of HTMS's for all constructs were less than 1.

Table (4-8): Heterotrait-Monotrait Ratio (HTMT) (Discriminant Validity)

	Ad_In	EU_ExR	EU_Int	EU_LG	EU_Meas	EU_OC	EU_Pre	EU_TL	IA	PD	PeM	PrM	SF	SP	TMS	Te_In
Ad_In																
EU_ExR	0.548															
EU_Int	0.632	0.706														
EU_LG	0.356	0.865	0.692													
EU_Meas	0.172	0.528	0.585	0.685												
EU_OC	0.507	0.745	0.806	0.883	0.733											
EU_Pre	0.396	0.647	0.664	0.66	0.446	0.553										
EU_TL	0.353	0.636	0.678	0.651	0.551	0.606	0.946									
IA	0.452	0.53	0.449	0.619	0.763	0.822	0.286	0.276								
PD	0.556	0.783	0.352	0.55	0.268	0.442	0.375	0.296	0.519							
PeM	0.595	0.85	0.681	0.914	0.747	0.946	0.696	0.72	0.835	0.632						
PrM	0.355	0.56	0.331	0.807	0.566	0.687	0.364	0.302	0.803	0.701	0.835					
SF	0.398	0.652	0.419	0.564	0.326	0.435	0.434	0.268	0.363	0.824	0.578	0.766				
SP	0.523	0.68	0.563	0.805	0.468	0.612	0.408	0.302	0.624	0.664	0.845	0.719	0.706			
TMS	0.632	0.662	0.604	0.689	0.344	0.749	0.495	0.264	0.619	0.662	0.779	0.811	0.766	0.812		
Te_In	0.936	0.511	0.606	0.522	0.422	0.639	0.583	0.472	0.565	0.477	0.724	0.564	0.57	0.668	0.582	

After checking the above-mentioned tests, it can be concluded that the discriminant validity of model was established. Figure (4-14) shows the overall measurement model of the study.
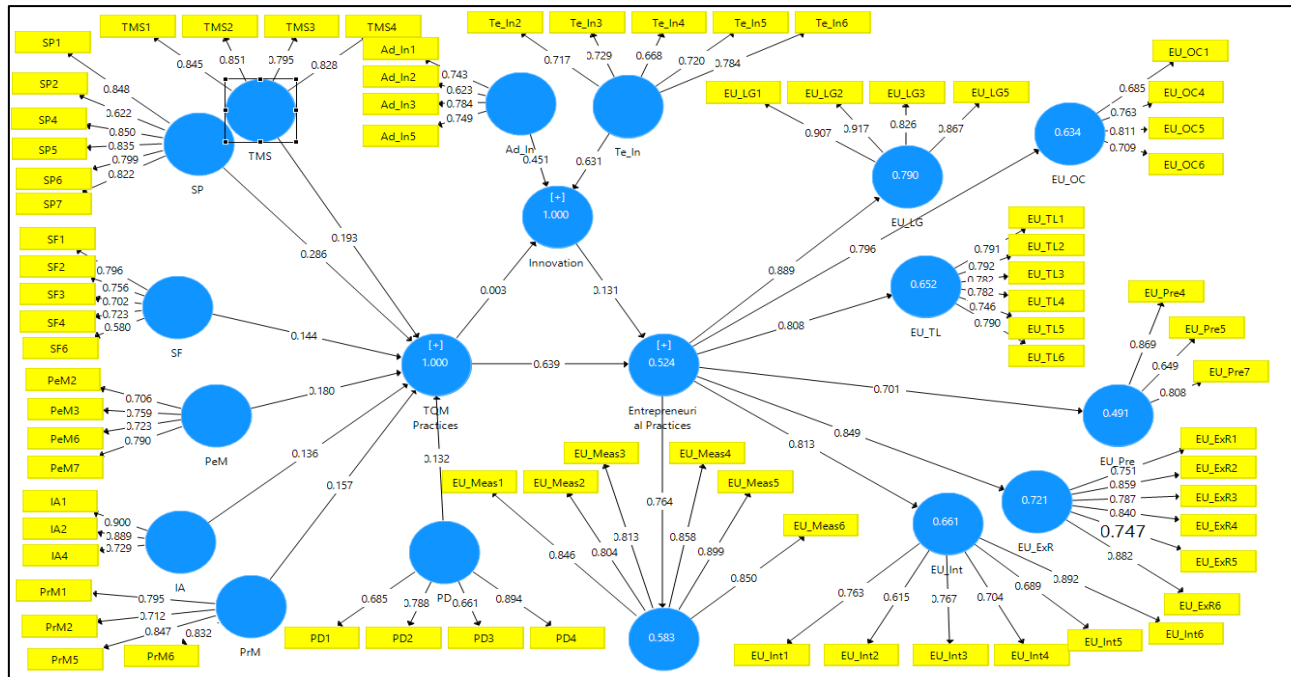
Figure (4-12): Assessment of the study's measurement model

4.4.2 Assessment of Structural Models (Inner Model)

After getting a satisfactory measurement model by confirming both reliability and validity of the model, the structural model results were checked by examining the constructs relationships and the predictive capabilities of the model. Therefore, in order to assess the structural model; four criterions were used: the significance of the path coefficients, the effect size (f^2), the coefficient of determination (R^2 Value), and the predictive relevance (Q^2).

Coefficient of determination (R^2)

The Coefficient of determination (R^2) embodies the model's predictive accuracy. It's a Coefficient that is concerned in measuring the model's explanatory power and the variance enlightened by the endogenous constructs. The R^2 can range from 0 to 1, with lower values indicating lesser accuracy and explanatory power. For a clearer guideline; R^2 values for the dependent variables below 0.25 were considered weak, R^2 values from 0.25 to 0.5 were considered moderate and the R^2 values from 0.50 to 0.75 were considered substantial, (Hair et al., 2019). Table (4-9) displayed the value of R^2 for all endogenous latent variables, which indicates that all-dependent variables had achieved a high score of R^2.

Table (4-9): Coefficient of Determination (R^2)

Construct	R Square	R Square Adjusted	Result
Entrepreneurial Practices	0.59	0.57	High
EU_LG	0.79	0.784	High
EU_OC	0.634	0.625	High
EU_TL	0.652	0.644	High
EU_Pre	0.491	0.479	Moderate
EU_ExR	0.721	0.715	High
EU_Int	0.661	0.653	High
EU_Meas	0.583	0.573	High

The Effect Size (F²)

The effect size F^2 is progressively stimulated and encouraged by journal editors and reviewers. In addition to evaluating the R^2 values of all endogenous constructs, there is the effect size F^2 that measures the change in the R^2 value when a specified exogenous construct is omitted from the model; that can be used to evaluate whether the omitted construct has a substantive impact on the endogenous constructs or not. Guidelines for assessing F^2 values are: if the value less than 0.02 then it means that it has no effect size, between (0.02- 0.15) means having small effect size, between (0.15-0.35) means medium size effect, and values above 0.35 are considered to have a large effect size, (Hair et al.,2016). It can be concluded from Table (2-10) that innovation does not affect entrepreneurial practices (F^2 = 0.024). Whereas TQM practices have a large size effect (F^2=0.567) on entrepreneurial practices.

Table (4-10): The Effect Size (F²)

Construct	Entrepreneurial Practices	Result
Innovation	0.024	No effect
TQM Practices	0.567	Large effect

Blindfolding and Predictive Relevance (Q²)

This is a measure used as an indicator of the out-of-sample predictive relevance of the model. Blindfolding procedure is followed to estimate the Stone-Geisser's (Q^2) value. In comparison, when a PLS path model displays predictive relevance, it precisely forecasts the unused data in the model estimation. Whereas in the structural model, Q^2 values larger than zero for a specific reflective endogenous latent variable specify the path model's predictive relevance for a specific dependent construct, (Hair et al., 2016).

Table (4-11) shows the values of Q² for all endogenous latent variables, all values were larger than zero, the model has sufficient predictive quality.

Table (4-11): Cross-validated redundancy approach (Q²)

Construct	*SSO	**SSE	Q² (=1-SSE/SSO)
Entrepreneurial Practices	1540	1245.303	0.191
EU_TL	264	172.999	0.345
EU_ExR	264	163.523	0.381
EU_Int	264	179.011	0.322
EU_LG	176	71.004	0.597
EU_Meas	264	161.764	0.387
EU_OC	176	121.983	0.307
EU_Pre	132	98.034	0.257
TQM Practices	1320	844.847	0.36
Innovation	396	229.963	0.419

* SSO IS THE SUM OF SQUARES OF OBSERVATIONS

** SSE is the sum of squares of prediction errors

It's significant to know that the Q² value is determined by using the cross-validated redundancy approach -as mentioned in Table (4-10) above- which embodies on the path model evaluations of both the scores of antecedent constructs (structural model) and the target endogenous construct (measurement model) of data prediction. As a result, prediction by means of cross validated redundancy suits the PLS-SEM approach perfectly.

Goodness of Fit Model (GoF)

The goodness of fit model (GoF) refers to the ability of relying on the model that was developed, for both the measurement and structural models. In other words, it represents the degree to which the study model was fit. It's calculated by the geometric mean of both AVE and R² of the endogenous through the following equation (2):

$$GoF = \sqrt{avg. R^2 \times avg. AVE} \qquad (2)$$

For this study, $GoF = \sqrt{(0.632 \times 0.611)} = 0.621$

Wetzels, et al. (2009) derived the following criteria to judge GoF values:

- No fit: If GoF value is less than 0.1 (No fit)

- Small fit: If GoF value between 0.1 and 0.25

- Medium fit: If GoF value between 0.25 and 0.36

- Large fit: If GoF value is greater than 0.36

Thus, -after applying the GoF equation- the calculated GoF value for the study's model was 0.621, which means that the model had a sufficient global PLS model validity.

Path Coefficient (Hypothesis Testing)

The structural model was estimated to test the relationships among the study model after running the PLS-SEM algorithm. Path coefficient test was used for validating the proposed hypotheses and estimating the path coefficient significance. The values of path coefficients were between -1 and + 1. Values close to + 1 represent strong positive relationships and values close to - 1 represent strong negative relationships. PLS bootstrapping was employed by for hypotheses testing, the results from deploying bootstrapping are depicted in Table (4-12). Precisely, the results revealed that there is a strongly positive significant effect of TQM practices on entrepreneurial universities practices as the P-value was less than 0.0 5which supported the proposed hypothesis (H1); where (β=0.639, T-Value=3.412 and P-value=0.001). On the other hand, a slightly positive relationship between TQM practices and innovation was found, but it's an insignificant relationship; as the P-value was higher than 0.05 with (β=0.003, T-Value= 0.475 and P-value=0.635), which indicated that H2 is not supported as its P-value was higher than 0.05. In addition, there was a slightly positive relationship

between innovation and entrepreneurial practices - also insignificant relationship -; since its' P-value was higher than 0.05, which means that H3 is not supported, where (β=0.131, T-Value=1.092 and P-value=0.276).

Table (4-12): Path Coefficient of the Research Hypotheses

Path	HYP.	Standard Beta (β)	Standard Deviation (STDEV)	T-value	P-value	Result
TQM Practices -> Entrepreneurial Practices	H1	0.639	0.187	3.412	0.001	**Supported**
TQM Practices -> Innovation	H2	0.003	0.007	0.475	0.635	Not Supported
Innovation -> Entrepreneurial Practices	H3	0.131	0.12	1.092	0.276	Not Supported

Moderation Analysis

The moderator can be defined as a variable that marks its effect on the direction and/or strength of the relationship between the independent and dependent variables, (Baron and Kenny, 1986).

In order to identify the latent variable as a moderator variable, two conditions must be met: (1) Having a significant moderating effect and (2) the Moderator should assist the intention to decrease or increase the effect. It is important to point out that the direct relationship between the DV (Entrepreneurial practices) and IV (TQM Practices) was examined previously, and it was found that there is a strongly significant relationship between them. Thereafter, the moderating effect on the DV was checked. From Table (4-13) it can be concluded that there is an insignificant effect of the moderator variable

(Innovation) on the entrepreneurial universities' practices. Hence, the first moderation condition wasn't met.

Table (4-13): Moderation Test

Path	HYP.	Standard Beta (β)	Standard Deviation (STDEV)	T-value	P-value	Result
Moderating Effect 1 -> Entrepreneurial Practices	H4	-0.208	0.139	1.63	0.104	Not Supported

The second validation condition is how the presence of innovation affects the relationship between TQM practices and the entrepreneurial universities. In other words, to determine what is the direction of the innovation's effect; whether it leads to strenghthening or weakening this relationship. As it is illustrated in Figures (4-15) and (4-16), the presence of innovation reduces the strength of the relationship between TQM practices and entrepreneurial universities.
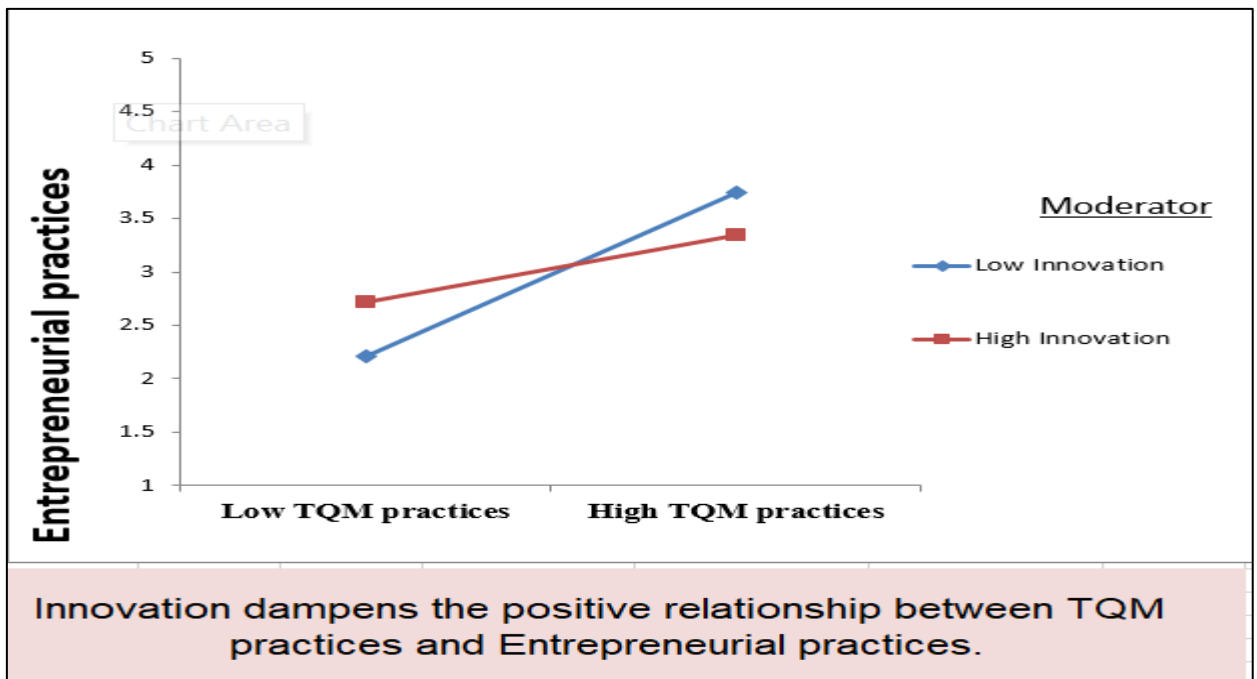
Figure (4-13): Moderation effect
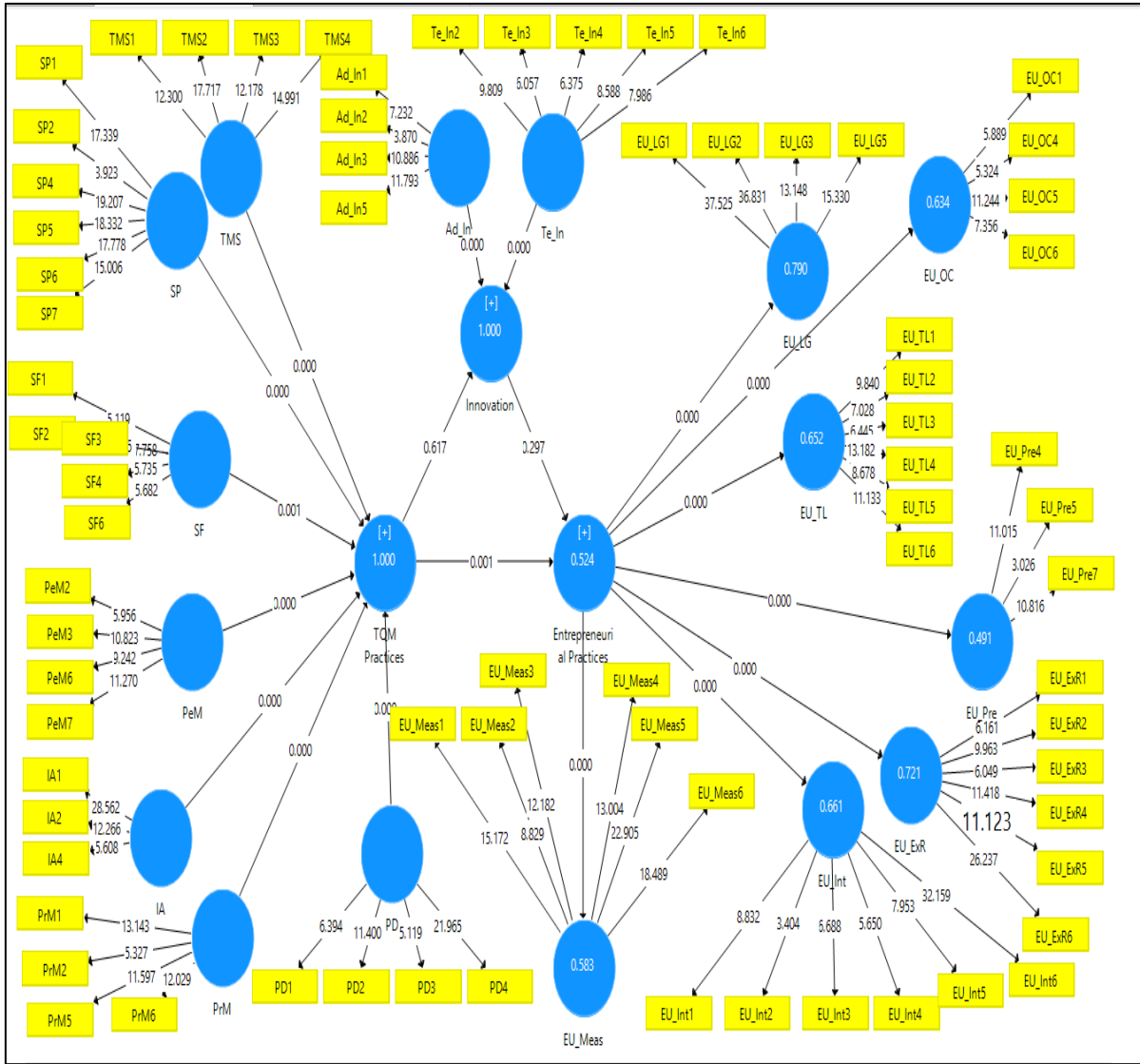
Figure (4-14): Model fit employing PLS (bootstrapping procedure)

Chapter Five

Discussion

5.1 Overview

In this chapter, results of the analysis are interpreted and discussed. At the beginning, the results related to evaluating the degree of adopting total quality management practices in Palestinian universities, innovation adoption, in addition to the adoption degree of pioneering practices in Palestinian universities, are discussed. Then, a discussion of testing the hypothesis of conceptual framework is presented. Finally, the chapter presents the theoretical implications and the limitations of the current study.

5.2 Discussion of Results

5.2.1   TQM Status in the Palestinian Universities

In general, this study concluded that the overall level of TQM practices application in the Palestinian universities is high, although that the implementation degree varies between the practices from medium to high. However, Islamic and Birzeit Universities - respectively- were the highest universities that adopt TQM practices among the Palestinian universities, while Palestine Ahliya, and Gaza Universities had the least adoption of TQM practices.

However, this study proved that Palestinian universities pay the highest attention to these three TQM practices: program design, strategic planning, and student focus. Indeed, this result sounds very realistic because the main challenge for all Palestinian universities is designing and developing diversified academic programs that increase their competitive advantages and achieve customers satisfaction. Logically, this practice is closely related to student focus in order to meet their requirements and expectations.

In regard to the strategic planning, all universities focus on having a clear and well-defined strategic plan in order to survive and grow in the light of the increased globalization competition, and to attract new customers along with retaining their students in the light of the strong and increasing competition between the Palestinian universities. Likewise, it is clear that Palestinian universities have high top-management support towards quality enhancements, in addition to their focus on process management.

On the other hand, results showed that Palestinian universities give the least attention to the practices of information and analysis, and people management. This indicates that Palestinian universities have a weakness in the field of collecting statistical data related to quality and performance indicators and taking them into account when performing daily tasks. Thus, losing the benefits of these data in controlling and improving operations.

In addition, they have less tendency towards employees' participation in the quality improvement and decision-making processes, and lack of having a reward or recognition system for quality achievements, in addition to restricting trainings for employees in this field. This result can be explained as that universities are seeking to cut costs and are not tending to incur additional costs related to quality. Likewise, the weak engagement of employees may be due to the fact that Palestinian universities prefer centralization in the decision-making, and tend to define roles and responsibilities based on job positions. This result is aligned with the recommendations that were given by El Talla et al. (2018) in that universities should give their employees the opportunity to participate in the restructuring of the organizational structure and give them the

opportunity to contribute to solve their own problems, in addition to the need of using the method of employees' periodic rotation.

Furthermore, this study was not restricted to measure the degree of TQM practices adoption in the Palestinian universities. Instead, it was also directed to determine the degree of the adoption of each practice at the respondents' level. Thus, the results showed that there were large variations in the adoption of each of people management, process management, strategic planning, information and analysis, and program design; in which their implementation degree ranged from low to very high. This attributed to the difference in the adaption level of these practices between the universities. These results confirmed the findings of a study that was made by Abu Samra and Shuibat (2012) which concluded that there is a variation in the degree of TQM implementation between the Palestinian universities, as Birzeit University obtained the highest level in implementing TQM practices, followed by Al-Quds University, and the last level was for Al-Najah National University.

5.2.2   Innovation Status in the Palestinian Universities

The assessment of the collected data revealed that the level of innovation implementation in the Palestinian universities is considered high; as it is slightly lower than the high level. This result confirmed the findings of Assaf (2016) study which found that the degree of applying innovation management indicators from the respondents point-of-view was high.

More detailed, the current study found that the technical innovation was highly adopted within the Palestinian universities, while the administrative innovation was adopted moderately. This reflects the universities' interest in developing and adopting new ideas

related to products development; such as developing educational materials and strategies as well as developing new innovative programs and services. In addition to focusing on developing their operations by striving to provide modern equipment that would match the technological development.

It can be explained that the administrative innovation in Palestinian universities is applied less than the technical innovation; since the administrative innovation is related to the essence of management and directly affects the administration systems, organizational structure, and human resources. It is also clear that there is no significant discrepancy in the adoption of innovation among respondents for both technical and administrative innovation.

5.2.3 Entrepreneurship Status in the Palestinian Universities

In light of adopting entrepreneurial universities' practices, the study concluded that the overall level of implementing entrepreneurial practices is medium in Palestine. This result is slightly different compared to the result of Tabib (2021) study, which concluded that the level of implementing entrepreneurial practices is high in the Palestinian universities. On the other hand, the current result is not consistent with another previous study's result -made by Sultan in 2017- in which it showed that entrepreneurial actions in the Palestinian universities are at their infant stage. The difference in results between the current study and the other studies may be attributed to the difference in the study sample; as Sultan's study relied on questionnaires distributed to four Palestinian universities that involved students, top managers, teaching staff, and administrators. Similarly, the sample of Tabib's study included the students, alumni, and staff or the academics. While the current study assessed the entrepreneurship status

from the management perspective as they are the most capable people of whom can evaluate the current situation in terms of adopting entrepreneurial practices.

In fact, there are three entrepreneurial practices that Palestinian universities highly implement. It is not a surprising result that the highest adopted practice is the external relationships for the exchange of knowledge. Hence, it is clear that Palestinian universities focus on improving their external relations in order to enhance knowledge-exchange and raise the level of cooperation and organizing partnerships with different external sectors (business, industries, society, other educational institutions).

The second entrepreneurial practice that is highly adopted by Palestinian universities is leadership and governance; which is in-line with the reality of Palestinian universities that have redesigned their strategies to be compatible with entrepreneurial activities at all levels and departments, and worked to provide an environment that pushes towards the development of entrepreneurship and provide the needed support.

 Lastly, the third followed practice is internationalization, this result proved the fact that Palestinian universities are keen to strengthen their external relations regionally and internationally, whether through students-exchange programs, the exchange of external experiences, or even adopting international strategies with other universities or external networks.

However, Palestinian universities showed less efforts toward organizational capacity, preparing and supporting entrepreneurs, entrepreneurial teaching and learning, and measuring the impact of the entrepreneurial university. All the four previously-mentioned practices were adopted at a moderate level in Palestinian universities. These results revealed that although Palestinian universities seek to adopt entrepreneurship; they need to strengthen their organizational capacities as they lack to obtain diverse and

sustainable funding sources to be directed to support entrepreneurship and enhance the reward and incentive systems that are related to the entrepreneurship. Also, they show the Palestinian universities weakness in engaging and employing entrepreneurial individuals or developing the skills of their employees in the field of entrepreneurship.

Regarding the practice of preparing and supporting entrepreneurs; there's still a need to provide more chances for students and graduates to start their creative projects, provide more business incubators,and provide the support for students to transform entrepreneurial ideas into realistic actions, in addition to providing them with guidance in the field of entrepreneurship.

The results also showed that the Palestinian universities follow an entrepreneurial approach in education at a moderate level. Therefore, they must support the entrepreneurial behavior, starting from raising awareness towards the importance of leadership to the stage of implementation, and cooperating with external stakeholders to develop the entrepreneurial education in the universities.

Finally, regarding the impact measuring of the entrepreneurial practices - which is the least applied practice among universities -, it's obvious that the universities do not focus on evaluating the entrepreneurial business strategies, or conducting a regular monitoring of entrepreneurial activities and projects.

It is important to highlight here that there is a great discrepancy between the respondents; especially in terms of external relationships for knowledge exchange, leadership and governance, and preparing entrepreneurs, in which they varied from low to very high adoption. The reason for this is likely due to the specific barriers that faces each university in regard to its external relationships. In addition to the differences between the universities administration-support towards entrepreneurship efforts,

management trends and aspirations according to the difference in their internal culture.

In addition to the size and branches of each university, the different level of complexity

of the organizational structure within the university, and the different level of

orientation of each university towards supporting and preparing entrepreneurs.

5.2.4 Hypotheses Testing Discussion

At first, the validity of the first hypothesis that is related to the TQM practices -

Entrepreneurial practices - was proven. Thus, it was proven that there is a positive direct

relationship between TQM practices and being an entrepreneurial university; meaning

that when universities adopt TQM practices, the transformation into entrepreneurial

universities would definitely increase. This explains how the American University of

Belgrade became a case study as an entrepreneurial university by focusing on total

quality management and working in accordance with the democratic principles of

governance. In addition to focusing on the advanced facilities such as the easiness of

internet access, and adopting automation for various operations' aspects; such as the

library, (Chambers,1999)

In addition, this result is in-line with Sawaean and Ali (2020) study, which was

concerned with studying the relationship between entrepreneurial leadership and TQM

practices in small and medium companies in Kuwait, where the study found that there is

a close relationship between TQM practices and entrepreneurial leadership, and that

TQM practices play a mediating role between entrepreneurial leadership and

organizational performance.

At second, the findings showed that there is a positive but insignificant relationship

between TQM practices and innovation. Indeed, this result is realistic because it is

difficult to generalize the overall effect of TQM practices on the innovation; as TQM is considered a complex management philosophy that's composed from both hard and soft practices in which each type is linked with contrasted opinions of the organization's types, whether mechanistic or organic. Also, the relationship between TQM and innovation is determined depending on the organization type. That is, executing the TQM approach in an organic-structure rather than a mechanic one would result in having a significant positive TQM-Innovation relationship, (Liao et al., 2010). Although that this result is inconsistent with many researchers such as Sciarelli et al. (2020a) and Aminbeidokhti et al. (2014), it is consistent with the findings of Singh & Smith (2004) study, which concluded that there is inadequate statistical indication to propose that TQM is correlated with innovation.

At third, results also found that there is a positive but insignificant relationship between innovation and entrepreneurship in the universities. This result can be explained by the fact that each of the innovation and entrepreneurship represent a separate concept from each other, as the universities seek innovation to achieve a competitive advantage, while the pursuit of entrepreneurship aims to revitalize the economy in general, which leads the correlation between them to be insignificant. This result confirmed the conclusion of Tarifi and Rawah (2021), who stated that there is no exact explanation in relation to innovation even that there are many studies concerned with entrepreneurship, which can't be summed up into one single statement. There are several models that present the inconsistent relationship between innovation and entrepreneurship.

However, Zhao (2005) found there is a strong positive relationship between entrepreneurship and innovation and they interact together in a complementary relationship to play an important role in flourishing, succeeding, and sustaining

organizations, especially in today's changing environment. The researcher of this study argues that it is possible that the lack of agreement among researchers on one result regarding the relationship between innovation and entrepreneurship is due to the existence of other critical factors affecting the direction of this relationship; such as the management style and organizational culture.

Finally, the moderator effect of innovation between TQM practices and entrepreneurial practices wasn't supported in this study; therefore, H4 is rejected. This study proved that innovation is not a moderator variable between the practices of TQM and entrepreneurship in the Palestinian universities.

5.3 Theoretical and Practical Implications

The current study contributed to enriching the available literature by studying the relationships between three main variables, which are TQM practices, innovation, and entrepreneurship in the context of the higher education in Palestine. As it was previously mentioned, there are no current studies concerned with examining the effects of these three combined variables at the higher education sector in Palestine.

Practically, the current study developed an empirically tested model to assess the impact of TQM on the transformation process into an entrepreneurial university in the Palestinian context. Also, it provided empirical evidence of the level of implementing TQM practices and innovation in the Palestinian higher education sector as well as to the level of implementation of entrepreneurial practices. This in turn will help the universities' top management to assess the current situation for each of TQM, innovation and entrepreneurship levels, and also assist the universities to determine the current weaknesses and strengths in this regard. Moreover, this study investigated how

the deployment of TQM practices is going to lead the universities towards entrepreneurship, and determining whether adopting innovation contributes to strengthening the relationship between TQM and entrepreneurship in universities.

Chapter Six

Conclusions and Recommendations

6.1 Overview

In this chapter, the study findings are concluded and summarized. Moreover, recommendations for the top managements at higher education institutions are highlighted. This chapter also presents the study limitations and gives suggestions for future researches.

6.2 Conclusions

This study sought to explore how TQM practices contribute to adopting the entrepreneurial practices of universities through the adoption of innovation as a moderator variable in higher education sector within the Palestinian context. Many studies dealt with the investigation of TQM practices and innovation relationship, while the extant literature did not link the impact of these TQM practices with innovation on universities practices and their transformation into entrepreneurial universities. These three constructs have not been previously linked together to investigate their interrelated relationships at the high education sector in Palestine.

A model was developed to investigate the relationships between the three main variables, in addition to examining whether innovation plays a moderator variable between TQM practices and entrepreneurship practices in universities or not. According to the data analysis; the study concluded several results, first: the implementation level in Palestinian universities of TQM practices is high, and the implementation level of innovation is also high, while the level of implementing the entrepreneurial practices is medium.

Secondly, with regards to comparing the extent to which Palestinian universities implement TQM practices; it was found that the Islamic University -followed by Birzeit University- has been ranked as the first university in terms of adopting TQM practices, while Gaza University was ranked the last. On the other hand, the most applied TQM practices were program design, strategic planning, and student focus, respectively. While the least applied practices were the information and analysis, and people management. There is also a discrepancy in the degree of TQM practices application between universities, ranging from low to very high level for people management, process management, strategic planning, information and analysis, and program design

Thirdly, regarding the types of innovation; the technical innovation was highly adopted, whereas the administrative innovation was adopted by a medium level in the Palestinian universities. There was no significant discrepancy between the Palestinian universities in adopting technical and administrative innovation.

Fourthly, the highest adopted entrepreneurial practice in Palestinian universities was the external relationships for the exchange of knowledge, followed by leadership and governance, then came the internationalization. On the other hand, Palestinian universities pay the least attention for entrepreneurial teaching and learning, and measuring the impact of the entrepreneurial university. The greatest discrepancy was found between the respondents toward leadership and governance, and preparing entrepreneurs; which varied from low to very high adoption.

Finally, the study proved that there is a significant positive effect of implementing TQM practices on the transformation into entrepreneurial universities, and there was a positive relationship -but insignificant- between TQM practices and innovation, also between innovation and entrepreneurial practices.

To conclude, there is a positive relationship between applying TQM practices and the entrepreneurial universities in Palestine, noting that this study has also proved that innovation did not play a moderating role in this relationship.

6.3 Recommendations

Regarding the study outcomes, some suggestions for Palestinian universities are outlined below to enhance the competitive advantages and become entrepreneurial universities that have capabilities to proceed and excel in the light of globalization, the increasing competition, and the obstacles facing the higher education sector in Palestine. The main recommendation that is presented in this study to decision-makers in Palestinian universities is to focus more on adopting TQM practices to support achieving entrepreneurship in universities; this can be achieved by several ways:

- Increasing the focus on people management by enhancing the participation of university employees in quality improvement meetings and initiates, adopting appropriate channels for sharing experiences and knowledge among employees, empowering employees to improve operations and implementing their suggestions, and increase the employees training in quality topics. Moreover, universities should have a clear incentives and rewards system related to TQM.

- Palestinian universities should pay more attention to the information and analysis practices, in order to monitor, improve and develop operations by taking the needed corrective measures. This can be achieved through the following: Taking quality data into consideration -by the employees- during the implementation of daily tasks, recording and collected quality data, performance indicators (such as errors and non-conformities), and the statistical data (such as error rates in student records, course attendance, and employee turnover rates) in order to evaluate and analyze these data to control and improve operations.

- Universities are strongly advised to develop sustainable financial strategies based on a variety of financing and investment sources to support the goals of entrepreneurship. In addition to focusing on employing individuals who are specialized in the field of entrepreneurship in order to benefit from their experiences and contribute to the implementation of the entrepreneurship agendas in universities.

- The human element is the most important factor leading to the success in the entrepreneurship in universities. Therefore, universities were recommended to focus on preparing and supporting entrepreneurs and encouraging the entrepreneurial behavior of their students and employees, by developing programs that create opportunities to practice entrepreneurship. In addition to establishing more business incubators in the universities.

- Palestinian universities should intensify their efforts of cooperation and participation with external stakeholders, in addition to benefiting from the results of scientific research and integrating these results into entrepreneurship trainings and educational courses.

- Lastly, the impact of entrepreneurship efforts at the Palestinian universities is not being evaluated or measured. Hence, the universities are recommended to develop a system or tools to assess the impact of entrepreneurship. Also, to adopt clear indicators to evaluate the success of knowledge exchange activities along with entrepreneurial education and learning in different stages.

6.4 Research Limitations and Future Researches

There are several limitations that this research countered. First, one of the main limitations is the study sample and the difficulty in communicating with them because of their limited available time and preoccupations; as the study sample was the universities top management including the university president, vice presidents and the directors of main departments who have a direct relationship in quality planning and

entrepreneurship within each university. Accordingly, future researches may investigate other sectors or industries.

Secondly, difficulties in reaching some Palestinian universities; such as universities in Gaza Strip, noting that only two responses were obtained from two universities -one for each- in the Gaza Strip.

Thirdly, the lack of studies that dealt with assessing the relationships between the three variables together (TQM, innovation, and entrepreneurship) in the higher education sector. This made it difficult to compare the results of this study with other researches' results, whether in terms of strengthening or refuting the existing knowledge.

Fourthly, there is a clear and large discrepancy between Palestinian universities in the level of applying TQM practices and entrepreneurial universities practices, which accordingly affected the total results of the adoption of the study's variables. However, this allows potential researchers to conduct new studies of the three variables through a comparative study between specific Palestinian universities or a case study for a specific university.

Lastly, the focus of this study was on collecting data through a quantitative approach (questionnaires) to investigate the relationships between the main variables; so it is possible to use a mixed approach in future researches or using the qualitative approach; by conducting structured or semi-structured interviews for example.

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Appendices

Appendix (A)

Dear Participant,

The researcher is conducting a study of "The Impact of Total Quality Management Practices in Palestinian Universities on Transformation into Entrepreneurial Universities: The Role of Innovation as a Mediator", as a requirement to complete the master's degree at the Arab American University, and the questionnaire was designed to achieve this goal. We kindly ask your assistance in providing honest and objective answers to the questions in this questionnaire, noting that filling out the questionnaire takes approximately 10 minutes of your time.

Your cooperation in filling this questionnaire is highly appreciated, all data that you will provide will be treated confidentially and only used for scientific research purposes.

Researcher:

Hala Dababat

If you have any inquiries or questions, don't hesitate to contact me through the e-mail:

h.dababat1@student.aaup.edu

Section 1:

1.1 General Information

Please answer the below questions by placing (X) in the appropriate box:

1. **Gender:**   Male ☐   Female ☐

2. **Age:** Less than 30 ☐   From 30 to 39 ☐
            From 40 to 49 ☐   50 and over ☐

3. **Academic qualification:**
   Bachelor's degree ☐   Master's degree ☐   Ph.D. ☐

4. **Duration of experience:**

   Less than 5 years ☐   5-8 yea ☐   9-12 years ☐   13 years an ☐
over

4. **Position title:**

University President ☐	Vice President for Academic Affairs ☐	Director of the Innovation and Creativity Center ☐
Vice President for Financial Affairs ☐	Vice President for International Relations ☐	Director of the Technology Incubator ☐
Vice President for Quality and Planning Affairs ☐	Director of Quality and Planning Department ☐	Director of the Center for Excellence in Learning and Teaching ☐
Director of the E-Learning Center ☐	Dean ☐	Other (please specify...........)

5. **I work at:**

Al-Ahliyya Palestine University ☐	Al-Aqsa University ☐	Hebron University ☐
Arab American University ☐	Al-Isra University ☐	Islamic University ☐
Arab Open University ☐	Al-Istiqlal University ☐	Palestine Technical University-Khadoorie ☐
Al-Najah National University ☐	Al-Azhar University ☐	Palestine Polytechnic University ☐
Al-Quds University Abu Dis ☐	Bethlehem University ☐	Palestine University ☐
Al-Quds Open University ☐	Birzeit University ☐	University of Gaza ☐

University Information:

1. The number of university branches in Palestine:

One-branch ☐ Two branches ☐ Three ☐
branches ☐

Four branches ☐ More than five branches ☐

2. Geographical distribution of university branches:

West Bank ☐ Gaza Strip ☐ West Bank and Gaza Strip ☐ ☐
Jerusalem

3. Type of education at the university:

A traditional university ☐ an open education university ☐

4. University type:

Governmental ☐ Public ☐ Private ☐

5. The university is establishment since:

1-15 years old ☐ 16-30 years old ☐

31-45 years old ☐ Over 45 years old ☐

Section Two: Adoption of TQM Practices in Palestine

1. (TMS) Top Management Support

Code	Paragraph	Implementation Level				
		Very high	high	medium	low	Very low
TMS1	The senior management of the university discusses issues related to TQM in their meetings.					
TMS2	Senior management encourages employees to participate in TQM.					
TMS3	Senior management encourages students to participate in TQM.					
TMS4	Top management focuses on improving the skills of employees in solving quality problems.					
TMS5	Senior management focuses on adopting long-term solutions to the quality problems they address.					

2- Strategic Planning (SP)

Code	Paragraph	Implementation Level				
		Very high	high	medium	low	Very low
SP1	The strategic vision of the university is clear.					
SP2	The strategic vision of the university is available to all employees.					
SP3	The university sets clear standards for administrative and academic performance.					
SP4	Departments' strategies align with the mission and vision of the university.					
SP5	Constituency strategies are clearly documented					
SP6	The strategies are reviewed and updated periodically.					
SP7	The needs of stakeholders are taken into account when reviewing strategies.					

3- People Management (PeM)

Code	Paragraph	Implementation Level				
		Very high	high	medium	low	Very low
PeM1	University employees participate in quality improvement meetings.					
PeM2	There are appropriate channels for sharing and communicating the best practices, knowledge and experiences of the university.					
PeM3	The university enables employees to improve processes and implement their suggestions.					
PeM4	The performance of university employees is evaluated regularly					
PeM5	The university has a system of rewards and incentives related to total quality management.					
PeM6	The university applies employee rewards and penalties transparently.					
PeM7	Financial resources are provided to train workers in work-related skills.					
PeM8	The university organizes training for employees on total quality management.					

4- Student focus (SF)

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
SF1	The university is keen to communicate with students and strengthen relations with them.					
SF2	The university offers a range of extracurricular activities for students.					
SF3	The university supports student clubs and their activities.					
SF4	The university encourages students to submit complaints and suggestions.					
SF5	The university conducts a course evaluation questionnaire at the end of each semester.					
SF6	The university guides graduate students in career counseling.					

5- **Process Management (PrM)**

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
PrM1	The educational activities at the university predict the needs and expectations of students.					
PrM2	University educational activities predict the needs and expectations of institutions in society.					
PrM3	The university has modern facilities (such as laboratories, library, computers, internet and video players).					
PrM4	University facilities (such as classrooms, laboratories, computers, heating and air conditioning systems) are in good condition and maintained regularly.					
PrM5	University research activities predict students' needs and expectations.					
PrM6	University research activities predict the needs and expectations of institutions in society.					

6- **Information and Analysis (IA)**

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
IA1	Quality data is taken into account by university personnel while carrying out daily tasks.					
IA2	Quality data (eg errors and non-conformities) and enterprise performance indicators are recorded and analyzed.					
IA3	The academic and administrative operations are coordinated between the various departments of the university.					
IA4	Statistical data (such as error rates in student records, course attendance, and employee turnover rates) is collected and evaluated to control and improve operations.					

7- **Program Design**

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
PD1	Student requirements are taken into account when designing academic programs.					
PD2	Suggestions of experienced academics are taken into account when designing academic programs.					
PD3	Academic curricula and programs are evaluated and updated annually.					
PD4	University facilities (such as laboratories and equipment) and resources (such as funding and human resources) are taken into account when developing and improving programs.					

Section 3: **Organizational Innovation**

1- **Administrative Innovation** (Ad_In)

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
Ad_In1	The university is improving the existing departmental structures.					
Ad_In2	The university is implementing new structures.					
Ad_In3	University employees are able to apply new methods in carrying out the required work, while adhering to the existing policies in the university.					
Ad_In4	Facilitates the employees' interaction with the new policies adopted by the university.					
Ad_In5	The university encourages employees to work at the university to solve any new problems in the best and most successful way.					

Technical Innovation (Te_In)

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
Te_In1	The university develops educational materials.					
Te_In2	The university develops educational strategies					
Te_In3	The university develops new programs and services for students.					
Te_In4	The university is developing modern training programs for employees.					
Te_In5	The university encourages teamwork within the team among the employees of the university.					
Te_In6	The university is working to provide modern equipment - such as modern computers -					

Section 4: Practices of Entrepreneurial universities

1- Leadership and Governance EU_LG

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_LG 1	Entrepreneurship activities are an essential part of the university's strategy.					
EU_LG 2	There is a commitment at the senior management level to implement the entrepreneurship strategy.					
EU_LG 3	There is coordination and integration of entrepreneurial activities at all levels in the university.					
EU_LG 4	The faculties and departments at the university enjoy independence and freedom of action.					
EU_LG 5	The university constitutes a driving force for the development of entrepreneurship in the field of social and regional development and the community environment.					

2- Organizational Capacity EU_OC

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_OC1	The university has a variety of funding/investment sources to support the goals of entrepreneurship.					
EU_OC2	The university has sustainable financial strategies to support entrepreneurial development.					
EU_OC3	The university works to break the traditional boundaries between students and faculty members at the university.					
EU_OC4	The university employs and engages individuals with entrepreneurial skills, behaviors and experience.					
EU_OC5	The university develops employee skills to support its entrepreneurial goals.					
EU_OC6	The university develops employee skills to support its entrepreneurial goals.					
EU_OC7	The university offers incentives and rewards to employees who support and contribute to the implementation of the university's entrepreneurship agenda.					

3- Entrepreneurial Teaching and Learning EU_TL

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_TL1	The university is structured and organized in a way that stimulates the development of entrepreneurial mindsets and skills.					
EU_TL2	A pioneering approach to education is taken in all departments and innovation and diversity are fostered in the teaching and learning process.					
EU_TL3	Entrepreneurial behavior is supported in all stages of education and extracurricular activities, from creating awareness and stimulating ideas to the stage of development and implementation.					
EU_TL4	The university verifies the outcomes and outcomes of entrepreneurial learning.					
EU_TL5	Collaboration and engagement with external stakeholders is a key element in the development of teaching and learning at the University.					
EU_TL6	The results of scientific research are integrated into entrepreneurship education and training courses.					

4- Preparing and Supporting Entrepreneurs EU_Pre

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_Pre1	The university seeks to create awareness among staff and students of the importance of developing capabilities and skills in the field of entrepreneurship.					
EU_Pre2	The university supports the entrepreneurial behavior of individuals in order to become entrepreneurs.					
EU_Pre3	The university provides opportunities for students and staff to practice entrepreneurship.					
EU_Pre4	The university provides and facilitates opportunities to benefit from the facilities of business incubation.					
EU_Pre5	The university supports students and alumni to turn entrepreneurial ideas into real business.					
EU_Pre6	Guidance and guidance are available from academics or private sector individuals in the field of entrepreneurship.					
EU_Pre7	The university facilitates ways for potential entrepreneurs to obtain the necessary funding.					

5- University–Business/external relationships for knowledge exchange: EU_ExR

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_ExR1	The university is committed to cooperation and knowledge exchange with the industrial, public and community sectors.					
EU_ExR2	The University is actively involved in forming partnerships and relationships with a wide range of stakeholders.					
EU_ExR3	The university has strong links with business incubators and other external initiatives to create opportunities for knowledge exchange.					
EU_ExR4	The university provides opportunities for staff and students to engage in entrepreneurial activities with the outside business environment.					
EU_ExR5	The university supports the mobility of staff and students between academic institutions and the external environment.					
EU_ExR6	The university links research, education and industry activities together to influence knowledge in the ecosystem.					

6- Internationalization (The Entrepreneurial University as an internationalized institution) EU_Int

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_Int1	The university considers the internationalization strategy an essential part of the university's entrepreneurship strategy.					
EU_Int2	The university is keen to maintain the international dimension and the presence of the university regionally and internationally as part of the implementation of the internationalization strategy.					
EU_Int3	The university supports student and staff exchange programs with regional and international universities.					
EU_Int4	The university adopts a clear international recruitment policy to attract international entrepreneurs.					
EU_Int5	The university's teaching environment reflects the internationalization strategy.					
EU_Int6	The university has strategies for international partnerships with pioneering universities, international networks, and other university innovation groups.					

7- **Measuring the impact of the Entrepreneurial University EU_MI**

Code	Paragraph	Implementation Level				
		Very high	**high**	**medium**	**low**	**Very low**
EU_Meas1	The university assesses the impact of the entrepreneurial strategy through a periodic system of evidence collection and evaluation.					
EU_Meas2	The university evaluates the extent to which pioneering learning and teaching methods are adopted in all academic programs.					
EU_Meas3	The university periodically and regularly evaluates the impact of entrepreneurial education and learning in different stages of entrepreneurial education activities.					
EU_Meas4	The university adopts clear indicators and criteria for the success of knowledge exchange activities.					
EU_Meas5	The university regularly monitors and evaluates knowledge exchange activities.					
EU_Meas6	The university adopts a monitoring and evaluation system for start-up projects supported by the university.					

Thank you

Appendix (B)

استبانة الدراسة

السيدات والسادة المحترمون,,

تقوم الباحثة بدراسة حول "تأثير ممارسات إدارة الجودة الشاملة على التحول إلى جامعات ريادية في فلسطين: دور الابتكار كوسيط" , كونه متطلب لاستكمال درجة الماجستير في الجامعة العربية الأمريكية، وقد تم تصميم الاستبيان لتحقيق هذا الهدف. نرجو مساعدتكم في تقديم إجابات صادقة وموضوعية على الأسئلة الواردة في هذا الاستبيان علماً بأن تعبئة الاستبيان يستغرق من وقتكم 10 دقائق تقريباً.

تشكر الباحثة مساعدتك وتعاونك في تعبئة هذا الاستبيان وكما سيتم التعامل مع جميع البيانات التي ستقوم بتعبئتها بسرية تامة ولن يتم استخدامها الا لأغراض البحث العلمي.

الباحثة:
هالة ضبابات

اذا كان لديكم أي استفسار، يمكنكم مراسلتنا على البريد الإلكتروني أدناه:

h.dababat1@student.aaup.edu

❖ **القسم الأول:**

1.1 المعلومات الديموغرافية - Demographic Information

▪ الجنس: 1. ذكر ( )   2. انثى ( )

▪ العمر: 1. أقل من 30 ( )   2. من 30 الى 39 ( )   3. من 40 الى 49 ( )

4.   50 فأكثر ( )

▪ المؤهل العلمي: 1. بكالوريوس ( )   2. ماجستير ( )   3. دكتوراة ( )

▪ مدة الخبرة: 1. اقل من 5 سنوات ( )   2. من 5 – 8 سنوات ( )   3. من 9 – 12 سنة ( )

4. 13سنة فأكثر ( )

■ المسمى الوظيفي:

7. مدير دائرة الجودة و التخطيط	1.رئيس الجامعة ( )
8. مدير مركز الابداع و الابتكار	2. نائب الرئيس للشؤون الأكاديمية ( )
9. مدير الحاضنة التكنولوجية	3. نائب رئيس الجامعة للشؤون المالية ( )
10. مدير مركز التميز في التعلم والتعليم	4.نائب الرئيس للعلاقات الدولية ( )
11. مدير مركز التعليم الالكتروني	5. نائب رئيس الجامعة لشؤون الجودة والتخطيط ( )
12. غير ذلك (يرجى التحديد............)	6. عميد ( )

■ الجامعة التي أعمل بها:

جامعة فلسطين	15	جامعة بوليتكنك فلسطين	8	الجامعة الإسلامية	1
جامعة الخليل	16	جامعة بيت لحم	9	الجامعة العربية الأمريكية	2
جامعة الأقصى	17	جامعة بيرزيت	10	الجامعة العربية المفتوحة	3
جامعة الإسراء	18	جامعة غزة	11	جامعة الاستقلال	4
جامعة الزيتونة للعلوم والتكنولوجيا	19	جامعة فلسطين الأهلية	12	جامعة القدس ابو ديس	5
		جامعة فلسطين التقنية-خضوري	13	جامعة القدس المفتوحة	6
		جامعة الأزهر	14	جامعة النجاح الوطنية	7

2.1 معلومات الجامعة - University Information

■ عدد فروع الجامعة في فلسطين:

1. فرع واحد ( )   3. ثلاث فروع ( )   5. اكثر من 5 فروع ( )

2. فرعين ( )   4. اربع فروع ( )

■ التوزيع الجغرافي لفروع الجامعة:

1. الضفة الغربية ( )   2. قطاع غزة ( )   3. الضفة الغربية و قطاع غزة ( )

4. القدس ( )

■ نوع التعليم في الجامعة:

1. جامعة تقليدية ( )   2. جامعة تعليم مفتوح( )

■ نوع الجامعة:

1. حكومية ( )   2. عامة ( )   3. خاصة

( )

■ سنوات تأسيس الجامعة:

1. من 1-15 سنة ( )   2. من 16-30 سنة ( )

3. من 31-45 سنة ( )   4. اكثر من 45 سنة ( )

❖ **القسم الثاني: تبني ممارسات إدارة الجودة الشاملة في الجامعة** Adoption of TQM Practices

1. دعم والتزام الإدارة العليا (TMS) Top Management Support

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
TMS1	تقوم الإدارة العليا في الجامعة بمناقشة القضايا المتعلقة بإدارة الجودة الشاملة في اجتماعاتهم.					
TMS2	تشجع الإدارة العليا الموظفين على المشاركة في إدارة الجودة الشاملة.					
TMS3	تشجع الإدارة العليا الطلاب على المشاركة في إدارة الجودة الشاملة.					
TMS4	تركز الإدارة العليا على تحسين مهارات الموظفين في حل مشاكل الجودة.					
TMS5	تركز الإدارة العليا على تبني حلول طويلة الامد لمشاكل الجودة التي توجهها.					

2. التخطيط الإستراتيجي (SP) Strategic Planning

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
SP1	الرؤية الاستراتيجية للجامعة واضحة.					
SP2	الرؤية الاستراتيجية للجامعة متاحة لجميع الموظفين.					
SP3	تتوافق استراتيجيات الدوائر مع مهمة و رؤية الجامعة.					
SP4	يتم توثيق استراتيجيات الدوائر بشكل واضح.					
SP5	يتم مراجعة وتحديث الاستراتيجيات بشكل دوري .					
SP6	يتم مراعاة احتياجات أصحاب المصلحة عند مراجعة الاستراتيجيات .					
SP7	تضع الجامعة مقاييس واضحة للأداء الإداري و الاكاديمي.					

3. إدارة العاملين (PeM) People Management

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
PeM1	يشارك العاملين في الجامعة في الاجتماعات الخاصة بتحسين الجودة.					
PeM2	يوجد قنوات مناسبة لمشاركة وايصال أفضل الممارسات ، المعارف و الخبرات في الجامعة.					
PeM3	تمكن الجامعة العاملين من تحسين العمليات وتنفيذ اقتراحاتهم.					
PeM4	يتم تقييم أداء العاملين في الجامعة بانتظام					

					الفقرة	الرمز
					تمتلك الجامعة نظام مكافآت وحوافر متعلق بإدارة الجودة الشاملة.	PeM5
					تطبق الجامعة مكافآت وعقوبات العاملين بشفافية.	PeM6
					يتم توفير الموارد المالية اللازمة لتدريب العاملين على المهارات المتعلقة بالعمل.	PeM7
					تنظم الجامعة تدريب للعاملين يختص بإدارة الجودة الشاملة.	PeM8

4. التركيز على الطلاب (SF) Student Focus

درجة التحقيق/ التبني					الفقرة	الرمز
قليلة جدا	قليلة	متوسطة	كبيرة	كبيرة جدا		
					تحرص الجامعة على التواصل مع الطلاب و تعزيز العلاقات معهم.	SF1
					تقدم الجامعة مجموعة من الانشطة اللامنهجية للطلاب.	SF2
					تدعم الجامعة الأندية الطلابية وأنشطتها.	SF3
					تشجع الجامعة الطلاب على تقديم الشكاوى و الاقتراحات.	SF4
					تجري الجامعة استبيان لتقييم المقرر الدراسي في نهاية كل فصل دراسي.	SF5
					ترشد الجامعة الطلاب الخريجيين في مجال الاستشارات الوظيفية.	SF6

5. إدارة العمليات (PrM) Process Management

درجة التحقيق/ التبني					الفقرة	الرمز
قليلة جدا	قليلة	متوسطة	كبيرة	كبيرة جدا		
					الانشطة التعليمية في الجامعة تتنبأ باحتياجات الطلاب و توقعاتهم.	PrM1
					الانشطة التعليمية في الجامعة تتنبأ باحتياجات وتوقعات المؤسسات في المجتمع.	PrM2
					تمتلك الجامعة مرافق حديثة (مثل المختبرات والمكتبة وأجهزة الكمبيوتر والإنترنت ومشغلات الفيديو) .	PrM3
					مرافق الجامعة (مثل الفصول الدراسية والمختبرات وأجهزة الكمبيوتر وأنظمة التدفئة ومكيفات الهواء) في حالة جيدة ويتم صيانتها بشكل دوري.	PrM4
					الأنشطة البحثية في الجامعة تتنبأ باحتياجات الطلاب وتوقعاتهم.	PrM5
					الأنشطة البحثية في الجامعة تتنبأ باحتياجات المؤسسات في المجتمع و توقعاتهم.	PrM6

6. المعلومات والتحليل (IA) Information and Analysis

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
IA1	يتم أخذ بيانات الجودة في الاعتبار من قبل العاملين في الجامعة أثناء تنفيذ المهام اليومية.					
IA2	يتم تسجيل بيانات الجودة (مثل الأخطاء وعدم المطابقة) ومؤشرات أداء المؤسسة كما يتم تحليلها.					
IA3	يتم تنسيق العمليات الأكاديمية والإدارية بين دوائر الجامعة المختلفة .					
IA4	يتم جمع البيانات الإحصائية (مثل معدلات الخطأ في سجلات الطلاب وحضور المقررات التعليمية ومعدلات دوران الموظفين) ويتم تقييمها للتحكم في العمليات وتحسينها.					

7. تصميم البرامج الأكاديمية (PD) Program Design

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
PD1	يتم مراعاة متطلبات الطلاب عند تصميم البرامج الاكاديمية.					
PD2	يتم أخذ اقتراحات الأكاديميين ذوي الخبرة في الاعتبار عند تصميم البرامج الاكاديمية.					
PD3	يتم تقييم المناهج والبرامج الأكاديمية وتحديثها بشكل سنوي.					
PD4	يتم أخذ مرافق الجامعة (مثل المختبرات والأجهزة) والموارد (مثل التمويل والموارد البشرية) في الاعتبار عند تطوير وتحسين البرامج.					

❖ **القسم الثالث: الإبتكار التنظيمي في الجامعة** Organizational Innovation

1. الابتكار الإداري (Ad_In) Administrative Innovation

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
Ad_In1	تقوم الجامعة بتحسين هيكليات الدوائر القائمة.					
Ad_In2	تقوم الجامعة بتطبيق هيكليات جديدة .					
Ad_In3	يتمكن موظفي الجامعة من تطبيق طرق جديدة في تنفيذ العمل المطلوب، مع الالتزام بالسياسات القائمة في الجامعة.					
Ad_In4	يسهل تعامل العاملين مع السياسات الجديدة التي تعتمدها الجامعة.					
Ad_In5	تقوم الجامعة بتشجيع العاملين على العمل الجامعي لحل اي اشكاليات جديدة بأفضل وأنجح السبل.					

2. الابتكار التقني (Te_In) Technical Innovation

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
Te_In1	تقوم الجامعة بتطوير المواد التعليمية.					
Te_In2	تقوم الجامعة بتطوير الاستراتيجيات التعليمية					
Te_In3	تقوم الجامعة بتطوير برامج وخدمات جديدة للطلاب.					
Te_In4	تقوم الجامعة بتطوير برامج تدريبية حديثة للموظفين.					
Te_In5	تشجع الجامعة العمل الجماعي ضمن الفريق بين الموظفين في الجامعة.					
Te_In6	تعمل الجامعة على توفير معدات حديثة – كالحواسيب الحديثة –					

❖ **القسم الرابع: ممارسات الجامعات الريادية Practices of Entrepreneurial universities**

1. القيادة والحوكمة EU_LG Leadership and Governance

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_LG 1	تعتبر انشطة ريادة الأعمال جزء أساسي من استراتيجة الجامعة.					
EU_LG 2	يوجد التزام على مستوى الادارة العليا بتنفيذ استراتيجية ريادة الاعمال.					
EU_LG 3	يوجد تنسيق و تكامل بأنشطة ريادة الأعمال على جميع المستويات في الجامعة.					
EU_LG 4	تتمتع الكليات و الأقسام في الجامعة باستقلالية و حرية التصرف.					
EU_LG 5	تشكل الجامعة قوة دافعة لتطوير ريادة الاعمال في مجال التنمية الاجتماعية والاقليمية والبيئة المجتمعية.					

2. القدرة التنظيمية EU_OC Organizational Capacity

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_OC1	تمتلك الجامعة مصادر تمويل/ استثمار متنوعة لدعم اهداف ريادة الأعمال.					
EU_OC2	تمتلك الجامعة استراتيجيات مالية مستدامة لدعم التطوير الريادي.					
EU_OC3	تعمل الجامعة على كسر الحدود التقليدية بين الطلاب واعضاء الهيئة التدريسية في الجامعة.					

الرمز	الفقرة	كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_OC4	تعمل الجامعة على توظيف و اشراك الأفراد الذين لديهم مهارات وسلوكيات وخبرات ريادية.					
EU_OC5	تعمل الجامعة على تطوير مهارات الموظفين لدعم أهدافها الريادية.					
EU_OC6	تقدم الجامعة حوافز ومكافآت للموظفين الذين يدعمون ويساهمون في تنفيذ أجندة ريادة الأعمال بالجامعة.					
EU_OC7	يوجد نظام شكر و تقدير للشركاء الخارجيين الذين يساهمون في دعم ريادة الأعمال بالجامعة.					

3. التعلم والتعليم الريادي EU_TL Entrepreneurial Teaching and Learning

الرمز	الفقرة	كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_TL1	يتم هيكلة و تنظيم الجامعة بطريقة تحفز تطوير العقليات والمهارات الريادية.					
EU_TL2	يتم اتخاذ منهج ريادي للتعليم في جميع الأقسام و تعزيزالابتكار و التنوع في عملية التعليم والتعلم.					
EU_TL3	يتم دعم السلوك الريادي في جميع مراحل التعليم والأنشطة اللامنهجية بدءاً من خلق الوعي وتحفيز الأفكار إلى مرحلة التطوير والتنفيذ.					
EU_TL4	تتحقق الجامعة من مخرجات و نتائج التعلم الريادي.					
EU_TL5	يعد التعاون والمشاركة مع أصحاب المصلحة الخارجيين عنصراً رئيسيًا في تطوير التعليم والتعلم في الجامعة .					
EU_TL6	يتم دمج نتائج الابحاث العلمية في مساقات تعليم وتدريب ريادة الأعمال.					

4. إعداد و دعم الرياديين EU_Pre Preparing and Supporting Entrepreneurs

الرمز	الفقرة	كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_Pre1	تسعى الجامعة لخلق الوعي بين الموظفين والطلاب بأهمية تطوير القدرات والمهارات في مجال تنظيم المشاريع الريادية.					
EU_Pre2	تدعم الجامعة السلوك الريادي للأفراد لكي يصبحوا رياديين.					
EU_Pre3	توفر الجامعة فرصًا للطلاب والموظفين لممارسة ريادة الأعمال.					
EU_Pre4	تدعم الجامعة الطلاب والخريجيين لتحويل الأفكار الريادية إلى أعمال واقعية.					
EU_Pre5	يتوفر الإرشاد والتوجيه من قبل الأكاديميين او افراد القطاع الخاص في مجال الريادة.					

					الفقرة	الرمز
					تسهل الجامعة طرق حصول رواد الأعمال المحتملين على التمويل اللازم .	EU_Pre6
					توفر وتسهل الجامعة فرص الاستفادة من مرافق حاضنات الاعمال" "Business incubation.	EU_Pre7

5. العلاقات الخارجية لتبادل المعرفة EU_ExR: External relationships for knowledge exchange

درجة التحقيق/ التبني					الفقرة	الرمز
قليلة جدا	قليلة	متوسطة	كبيرة	كبيرة جدا		
					تلتزم الجامعة بالتعاون وتبادل المعرفة مع القطاعات الصناعية والعامة والمجتمع.	EU_ExR1
					تشارك الجامعة بنشاط في تكوين الشراكات والعلاقات مع مجموعة واسعة من أصحاب المصلحة.	EU_ExR2
					تتمتع الجامعة بروابط قوية مع حاضنات الأعمال والمبادرات الخارجية الأخرى لخلق فرص لتبادل المعرفة .	EU_ExR3
					توفر الجامعة فرصًا للموظفين والطلاب للمشاركة في أنشطة ريادة الأعمال مع بيئة الأعمال الخارجية.	EU_ExR4
					تدعم الجامعة تنقل الموظفين والطلاب بين المؤسسات الأكاديمية والبيئة الخارجية.	EU_ExR5
					تربط الجامعة أنشطة البحث والتعليم والصناعة معًا للتأثير على المعرفة في النظام العام (ecosystem)	EU_ExR6

6. سياسة تدويل الجامعة (The Entrepreneurial University as an Internationalization internationalized institution) EU_Int

درجة التحقيق/ التبني					الفقرة	الرمز
قليلة جدا	قليلة	متوسطة	كبيرة	كبيرة جدا		
					تعتبر الجامعة استراتيجية التدويل جزءًا أساسيًا من استراتيجية ريادة الأعمال بالجامعة.	EU_Int1
					تحرص الجامعة على الحفاظ على البعد الدولي و حضور الجامعة اقليما و دوليا كجزء من تطبيق استراتيجية التدويل.	EU_Int2
					تدعم الجامعة برامج تبادل الطلاب والموظفين مع الجامعات الإقليمية والدولية.	EU_Int3
					تتبنى الجامعة سياسة توظيف دولية واضحة لجذب رواد الاعمال الدوليين.	EU_Int4
					تعكس بيئة التدريس في الجامعة استراتيجية التدويل.	EU_Int5
					تمتلك الجامعة استراتيجيات للشراكات الدولية مع الجامعات الريادية والشبكات الدولية ومجموعات الابتكار الجامعية الاخرى.	EU_Int6

Measuring the impact of the Entrepreneurial University EU_MI قياس تأثير الجامعة الريادية .7

الرمز	الفقرة	درجة التحقيق/ التبني				
		كبيرة جدا	كبيرة	متوسطة	قليلة	قليلة جدا
EU_Meas1	تقوم الجامعة بتقييم تأثير استراتيجية ريادة الاعمال من خلال نظام دوري لتتجميع الأدلة وتقييمها.					
EU_Meas2	تقوم الجامعة بتقييم مدى تبني أساليب التعلم والتعليم الريادي في جميع البرامج الأكاديمية .					
EU_Meas3	تقوم الجامعة بالتقييم الدوري و المنتظم لتأثير التعليم والتعلم الريادي في مراحل مختلفة من أنشطة التعليم الريادي.					
EU_Meas4	تتبنى الجامعة مؤشرات ومعايير واضحة لنجاح لانشطة تبادل المعرفة.					
EU_Meas5	تقوم الجامعة بالمراقبة والتقييم المنتظمين لأنشطة تبادل المعرفة .					
EU_Meas6	تتبنى الجامعة نظام لمراقبة وتقييم للمشاريع الناشئة التي تدعمها الجامعة.					

شكرا لجهودك

Appendix (C)

Descriptive Statistics

indicator	items	Mean	Standard deviation
TMS1	تقوم الإدارة العليا في الجامعة بمناقشة القضايا المتعلقة بإدارة الجودة الشاملة في اجتماعاتهم.	3.95	0.806
TMS2	تشجع الإدارة العليا الموظفين على المشاركة في إدارة الجودة الشاملة.	3.98	0.698
TMS3	تشجع الإدارة العليا الطلاب على المشاركة في إدارة الجودة الشاملة.	3.48	0.731
TMS4	تركز الإدارة العليا على تحسين مهارات الموظفين في حل مشاكل الجودة.	3.89	0.754
TMS5	تركز الإدارة العليا على تبني حلول طويلة الامد لمشاكل الجودة التي توجهها.	4.11	0.868
SP1	الرؤية الاستراتيجية للجامعة واضحة.	4.34	0.861
SP2	الرؤية الاستراتيجية للجامعة متاحة لجميع الموظفين.	4.23	0.803
SP3	تتوافق استراتيجيات الدوائر مع مهمة و رؤية الجامعة.	4.23	0.711
SP4	يتم توثيق استراتيجيات الدوائر بشكل واضح.	4.14	0.702
SP5	يتم مراجعة وتحديث الاستراتيجيات بشكل دوري.	4.16	0.745
SP6	يتم مراعاة احتياجات أصحاب المصلحة عند مراجعة الاستراتيجيات.	3.95	0.714
SP7	تضع الجامعة مقاييس واضحة للأداء الإداري و الاكاديمي.	4.23	0.711
PeM1	يشارك العاملين في الجامعة في الاجتماعات الخاصة بتحسين الجودة.	3.30	0.878
PeM2	يوجد قنوات مناسبة لمشاركة وايصال أفضل الممارسات ، المعارف و الخبرات في الجامعة.	3.66	0.645
PeM3	تمكن الجامعة العاملين من تحسين العمليات وتنفيذ اقتراحاتهم.	3.45	0.663
PeM4	يتم تقييم أداء العاملين في الجامعة بانتظام.	3.57	1.021
PeM5	تمتلك الجامعة نظام مكافآت وحوافر متعلق بإدارة الجودة الشاملة.	2.91	1.158
PeM6	تطبق الجامعة مكافآت وعقوبات العاملين بشفافية.	3.64	1.014
PeM7	يتم توفير الموارد المالية اللازمة لتدريب العاملين على المهارات المتعلقة بالعمل.	3.36	0.838
PeM8	تنظم الجامعة تدريب للعاملين يختص بإدارة الجودة الشاملة.	3.09	0.802
SF1	تحرص الجامعة على التواصل مع الطلاب و تعزيز العلاقات معهم.	4.14	0.510
SF2	تقدم الجامعة مجموعة من الانشطة اللامنهجية للطلاب.	4.09	0.563
SF3	تدعم الجامعة الأندية الطلابية وأنشطتها.	3.95	0.569
SF4	تشجع الجامعة الطلاب على تقديم الشكاوى و الاقتراحات.	4.16	0.568

SF5	تجري الجامعة استبيان لتقييم المقرر الدراسي في نهاية كل فصل دراسي.	4.14	0.765
SF6	ترشد الجامعة الطلاب الخريجيين في مجال الاستشارات الوظيفية.	4.07	0.728
PrM1	الانشطة التعليمية في الجامعة تتنبأ باحتياجات الطلاب و توقعاتهم.	3.91	0.603
PrM2	الانشطة التعليمية في الجامعة تتنبأ باحتياجات وتوقعات المؤسسات في المجتمع.	3.93	0.661
PrM3	تمتلك الجامعة مرافق حديثة (مثل المختبرات والمكتبة وأجهزة الكمبيوتر والإنترنت ومشغلات الفيديو)	4.39	0.655
PrM4	مرافق الجامعة (مثل الفصول الدراسية والمختبرات وأجهزة الكمبيوتر وأنظمة التدفئة ومكيفات الهواء) في حالة جيدة ويتم صيانتها بشكل دوري.	4.05	0.714
PrM5	الأنشطة البحثية في الجامعة تتنبأ باحتياجات الطلاب وتوقعاتهم.	3.64	0.838
PrM6	الأنشطة البحثية في الجامعة تتنبأ باحتياجات المؤسسات في المجتمع و توقعاتهم.	3.64	0.750
IA1	يتم أخذ بيانات الجودة في الاعتبار من قبل العاملين في الجامعة أثناء تنفيذ المهام اليومية	3.45	0.875
IA2	يتم تسجيل بيانات الجودة (مثل الأخطاء وعدم المطابقة) ومؤشرات أداء المؤسسة كما ويتم تحليلها.	3.41	0.923
IA3	يتم تنسيق العمليات الأكاديمية والإدارية بين دوائر الجامعة المختلفة .	3.50	0.591
IA4	يتم جمع البيانات الإحصائية (مثل معدلات الخطأ في سجلات الطلاب وحضور المقررات التعليمية ومعدلات دوران الموظفين) ويتم تقييمها للتحكم في العمليات وتحسينها.	3.52	0.664
PD1	يتم مراعاة متطلبات الطلاب عند تصميم البرامج الاكاديمية.	4.05	0.645
PD2	يتم أخذ اقتراحات الأكاديميين ذوي الخبرة في الاعتبار عند تصميم البرامج الاكاديمية.	4.43	0.695
PD3	يتم تقييم المناهج والبرامج الأكاديمية وتحديثها بشكل سنوي.	4.05	0.680
PD4	يتم أخذ مرافق الجامعة (مثل المختبرات والأجهزة) والموارد (مثل التمويل والموارد البشرية) في الاعتبار عند تطوير وتحسين البرامج.	4.27	0.585
Ad_In1	تقوم الجامعة بتحسين هيكليات الدوائر القائمة.	3.73	0.544
Ad_In2	تقوم الجامعة بتطبيق هيكليات جديدة .	3.50	0.665
Ad_In3	يتمكن موظفي الجامعة من تطبيق طرق جديدة في تنفيذ العمل المطلوب، مع الالتزام بالسياسات القائمة في الجامعة.	3.48	0.590
Ad_In4	يسهل تعامل العاملين مع السياسات الجديدة التي تعتمدها الجامعة.	3.07	0.789
Ad_In5	تقوم الجامعة بتشجيع العاملين على العمل الجامعي لحل اي اشكاليات جديدة بأفضل وأنجح السبل.	3.61	0.618
Te_In1	تقوم الجامعة بتطوير المواد التعليمية.	3.80	0.462
Te_In2	تقوم الجامعة بتطوير الاستراتيجيات التعليمية	3.66	0.645
Te_In3	تقوم الجامعة بتطوير برامج وخدمات جديدة للطلاب.	3.64	0.613
Te_In4	تقوم الجامعة بتطوير برامج تدريبية حديثة للموظفين.	3.30	0.851

Te_In5	تشجع الجامعة العمل الجماعي ضمن الفريق بين الموظفين في الجامعة.	3.77	0.476
Te_In6	تعمل الجامعة على توفير معدات حديثة – كالحواسيب الحديثة–	3.93	0.587
EU_LG1	تعتبر انشطة ريادة الأعمال جزء أساسي من استراتيجة الجامعة.	3.91	0.802
EU_LG2	يوجد التزام على مستوى الادارة العليا بتنفيذ استراتيجية ريادة الاعمال.	3.93	0.846
EU_LG3	يوجد تنسيق و تكامل بأنشطة ريادة الأعمال على جميع المستويات في الجامعة.	3.66	0.805
EU_LG4	تتمتع الكليات و الأقسام في الجامعة باستقلالية و حرية التصرف.	3.48	0.762
EU_LG5	تشكل الجامعة قوة دافعة لتطوير ريادة الاعمال في مجال التنمية الاجتماعية والاقليمية والبيئة المجتمعية.	3.84	0.834
EU_OC1	تمتلك الجامعة مصادر تمويل/ استثمار متنوعة لدعم اهداف ريادة الأعمال.	3.20	0.851
EU_OC2	تمتلك الجامعة استراتيجيات مالية مستدامة لدعم التطوير الريادي.	3.00	0.807
EU_OC3	تعمل الجامعة على كسر الحدود التقليدية بين الطلاب واعضاء الهيئة التدريسية في الجامعة.	3.57	0.625
EU_OC4	تعمل الجامعة على توظيف و اشراك الأفراد الذين لديهم مهارات وسلوكيات وخبرات ريادية.	3.61	0.655
EU_OC5	تعمل الجامعة على تطوير مهارات الموظفين لدعم أهدافها الريادية.	3.50	0.762
EU_OC6	تقدم الجامعة حوافز ومكافآت للموظفين الذين يدعمون ويساهمون في تنفيذ أجندة ريادة الأعمال بالجامعة.	3.11	0.841
EU_OC7	يوجد نظام شكر و تقدير للشركاء الخارجيين الذين يساهمون في دعم ريادة الأعمال بالجامعة.	3.64	0.892
EU_TL1	يتم هيكلة و تنظيم الجامعة بطريقة تحفز تطوير العقليات والمهارات الريادية.	3.34	0.805
EU_TL2	يتم اتخاذ منهج ريادي للتعليم في جميع الأقسام و تعزيزالابتكار و التنوع في عملية التعليم والتعلم.	3.39	0.754
EU_TL3	يتم دعم السلوك الريادي في جميع مراحل التعليم والأنشطة اللامنهجية بدءاً من خلق الوعي وتحفيز الأفكار إلى مرحلة التطوير والتنفيذ.	3.18	0.786
EU_TL4	تتحقق الجامعة من مخرجات و نتائج التعلم الريادي.	3.25	0.719
EU_TL5	يعد التعاون والمشاركة مع أصحاب المصلحة الخارجيين عنصراً رئيسيًا في تطوير التعليم والتعلم في الجامعة .	3.20	0.823
EU_TL6	يتم دمج نتائج الابحاث العلمية في مساقات تعليم وتدريب ريادة الأعمال.	2.95	0.861
EU_Pre1	تسعى الجامعة لخلق الوعي بين الموظفين والطلاب بأهمية تطوير القدرات والمهارات في مجال تنظيم المشاريع الريادية.	3.57	0.759
EU_Pre2	تدعم الجامعة السلوك الريادي للأفراد لكي يصبحوا رياديين.	3.52	0.927
EU_Pre3	توفر الجامعة فرصًا للطلاب والموظفين لممارسة ريادة الأعمال.	3.52	0.876
EU_Pre4	تدعم الجامعة الطلاب والخريجيين لتحويل الأفكار الريادية إلى أعمال واقعية.	2.89	0.689

EU_Pre5	يتوفر الإرشاد والتوجيه من قبل الأكاديميين او افراد القطاع الخاص في مجال الريادة.	2.82	0.657
EU_Pre6	تسهل الجامعة طرق حصول رواد الأعمال المحتملين على التمويل اللازم .	3.05	0.806
EU_Pre7	توفر وتسهل الجامعة فرص الاستفادة من مرافق حاضنات الاعمال" "incubation Business.	3.61	0.970
EU_ExR1	تلتزم الجامعة بالتعاون وتبادل المعرفة مع القطاعات الصناعية والعامة والمجتمع.	3.84	0.888
EU_ExR2	تشارك الجامعة بنشاط في تكوين الشراكات والعلاقات مع مجموعة واسعة من أصحاب المصلحة.	4.00	0.807
EU_ExR3	تتمتع الجامعة بروابط قوية مع حاضنات الأعمال والمبادرات الخارجية الأخرى لخلق فرص لتبادل المعرفة .	3.95	0.861
EU_ExR4	توفر الجامعة فرصًا للموظفين والطلاب للمشاركة في أنشطة ريادة الأعمال مع بيئة الأعمال الخارجية	3.89	0.655
EU_ExR5	تدعم الجامعة تنقل الموظفين والطلاب بين المؤسسات الأكاديمية والبيئة الخارجية.	3.84	0.834
EU_ExR6	تربط الجامعة أنشطة البحث والتعليم والصناعة معًا للتأثير على المعرفة في النظام العام.	3.64	0.780
EU_Int1	تعتبر الجامعة استراتيجية التدويل جزءًا أساسيًا من استراتيجية ريادة الأعمال بالجامعة .	3.70	0.954
EU_Int2	تحرص الجامعة على الحفاظ على البعد الدولي و حضور الجامعة اقليما و دوليا كجزء من تطبيق استراتيجية التدويل.	3.98	0.628
EU_Int3	تدعم الجامعة برامج تبادل الطلاب والموظفين مع الجامعات الإقليمية والدولية.	3.98	0.731
EU_Int4	تتبنى الجامعة سياسة توظيف دولية واضحة لجذب رواد الاعمال الدوليين.	3.36	0.990
EU_Int5	تعكس بيئة التدريس في الجامعة استراتيجية التدويل.	3.61	0.754
EU_Int6	تمتلك الجامعة استراتيجيات للشراكات الدولية مع الجامعات الريادية والشبكات الدولية ومجموعات الابتكار الجامعية الاخرى.	3.77	0.831
EU_Meas1	تقوم الجامعة بتقييم تأثير استراتيجية ريادة الاعمال من خلال نظام دوري لتجميع الأدلة وتقييمها.	3.20	0.930
EU_Meas2	تقوم الجامعة بتقييم مدى تبني أساليب التعلم والتعليم الريادي في جميع البرامج الأكاديمية .	3.43	0.900
EU_Meas3	تقوم الجامعة بالتقييم الدوري و المنتظم لتأثير التعليم والتعلم الريادي في مراحل مختلفة من أنشطة التعليم الريادي.	2.84	0.745
EU_Meas4	تتبنى الجامعة مؤشرات ومعايير واضحة لنجاح لانشطة تبادل المعرفة.	3.36	0.838
EU_Meas5	تقوم الجامعة بالمراقبة والتقييم المنتظمين لأنشطة تبادل المعرفة .	3.27	0.817
EU_Meas6	تتبنى الجامعة نظام لمراقبة وتقييم للمشاريع الناشئة التي تدعمها الجامعة.	3.09	0.858

الملخص

يواجه قطاع التعليم العالي في الوقت الحاضر تغييرات سريعة نتيجة المنافسة المتزايدة محليًا وعالميًا، بالإضافة إلى التطورات التكنولوجية التي تحدث عالميا؛ الأمر الذي فرض ضغوطات كبيرة على الجامعات لتطوير عملياتها وكفاءاتها التعليمية. علاوة على ذلك، لم تترك هيمنة التوجه السوقي أي خيارات للجامعات سوى تبني أنظمة نوعية من أجل تحسين كفاءتها التعليمية، بالإضافة إلى مزاياها التنافسية. ومع ذلك، فإن الميزة التنافسية المستدامة تحتاج إلى تطبيق إدارة الجودة الشاملة والتنفيذ الفعلي، إلى جانب تعزيز وتشجيع الابتكار.

أدى الطلب المتزايد بسرعة على وجود اقتصاد قائم على المعرفة والعولمة في الآونة الاخيرة إلى دفع قطاع التعليم العالي في جميع أنحاء العالم إلى تجربة تحول كبير؛ مما دفع الجامعات إلى التحول من جامعات تقليدية إلى جامعات ريادية. أي التحول من مهمات التدريس والبحث فقط إلى المهمة الثالثة المتمثلة في دور الجامعة الريادي في التنمية الاجتماعية والاقتصادية.

ركزت هذه الدراسة على تسليط الضوء على قطاع التعليم العالي في فلسطين وخاصة الجامعات. تمثلت الأهداف الرئيسية للدراسة في تقييم الوضع الحالي للجامعات الفلسطينية من خلال قياس درجة تطبيق الجامعات لممارسات إدارة الجودة الشاملة واعتماد الابتكارات الإدارية والفنية، بالإضافة إلى قياس مدى ريادة الأعمال في الجامعات. ثم اهتمت الدراسة بدراسة تأثير تطبيق ممارسات إدارة الجودة الشاملة على تعزيز تحول الجامعات التقليدية إلى جامعات ريادية، والتحقق مما إذا كان الابتكار يشكل عاملاً وسيطًا في تعزيز التحول إلى جامعات ريادية من خلال تبني ممارسات إدارة الجودة الشاملة. تم إجراء ذلك من خلال تطوير نموذج مفاهيمي واختبار العلاقات تجريبيًا.

بعد ذلك، تم استخدام طريقة البحث الكمي في هذه الدراسة؛ حيث تم استخدام استراتيجية المسح لجمع البيانات المطلوبة عن طريق إرسال الاستبيان المصمم إلكترونيًا الى الجامعات المستهدفة. على وجه التحديد، كانت عينة الدراسة تتمثل في الادارات العليا في 18 جامعة فلسطينية؛ حيث تم جمع 44 استبانة من 12 جامعة فلسطينية. تم تحليل البيانات التي تم جمعها باستخدام نمذجة المعادلات الهيكلية بالمربعات الصغرى الجزئية (SEM-PLS) من خلال برنامج SMART-PLS.

تضمنت النتائج الرئيسية للدراسة أن مستوى تنفيذ ممارسات إدارة الجودة الشاملة في الجامعات الفلسطينية ومستوي تطبيق الابتكار هو مستوى عالي. بينما وجد أن تبني ممارسات ريادة الأعمال كان عند مستوى متوسط. أخيرًا ، خلصت الدراسة إلى أن تطبيق ممارسات إدارة الجودة الشاملة يساهم بشكل كبير وإيجابي ويؤثر على التحول إلى جامعات ريادية. ومع ذلك، لا يمثل الابتكار دورًا وسيطا في تلك العلاقة.