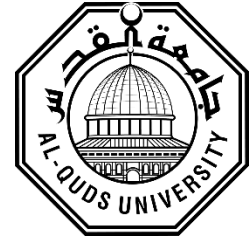


**Deanship of Graduate Studies
Al-Quds University**



**Towards an Entrepreneurial University Model:
Case study of the Palestine Polytechnic University**

Meera Khalil Salaimeh

Master Thesis

Jerusalem – Palestine

1441 / 2020

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Case study of the Palestine Polytechnic University**

**Prepared By
Meera Khalil Salaimh**

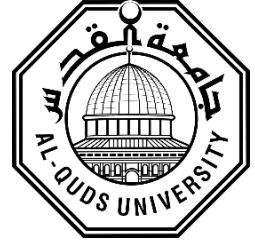
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Supervisor: Dr. Ibrahim M. Awad

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Al-Quds University
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1441 / 2020

Dedication

To whom who taught me to resist whatever the circumstances changed; my mother

To whom who is the reason of my existence in life, the one who raised me; my father

To those who light me the way and always supports me; my dearest sisters

To whom who was a bond to me in my plight and effort; my husband

To my hope of life; my kids Ameer and Rose

To the dear supervisor who lit my study path and gave me the guidance throughout my thesis trip, Dr. Ibrahim Awad

To my supportive friends and beloved people.

To everyone who taught and added value to my brain

To everyone who gave me advice

To everyone who criticized me to correct my steps for the better

To the brave prisoners behind the occupation bars

To the anonymous soldiers

To our beloved country

To all of you, I dedicate this humble thesis

Meera Khalil Salaimah

Declaration:

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and that this study, (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:



Meera Khalil Shuaib Salaimah

Date: 6/6/2020

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Meera Khalil Salaimh

Abstract:

This study aimed to introduce a proposed model for the transformation of the Palestine Polytechnic University (PPU) towards an entrepreneurial university, through studying the reality of entrepreneurship in the university from the perspective of the senior and middle management at PPU. To achieve the study objectives, a descriptive/ exploratory approach was used, and the comprehensive survey was applied to all members of the study population. Furthermore, data was collected from respondents of (38) administrators, which was composed of (university president, vice presidents, deans, heads of academic departments, heads of administrative departments, center managers) using a well prepared a questionnaire as a main tool which analyzed using SPSS program. Moreover, an interview with the university president was conducted to ensure the accuracy of the information.

The main findings show that that there are no statistically significant differences between the responses of senior and middle management towards the availability of entrepreneurship in the university due to the work experience. While there are statistically significant differences between the responses of senior and middle management towards the availability of entrepreneurship in university leadership, the university environment, and university internationalization due to the current position. Moreover, the findings show that the reality of entrepreneurship at PPU was somewhat high consecutively in (curricula appropriate to the needs of the labor market, community relations and partnerships, academic exchange, entrepreneurship culture, entrepreneurial education, and university internationalization). Whereas, the reality of entrepreneurship has a moderate degree consecutively in: (University policies and regulations, scientific research and innovation, university leadership, then the university environment that got the lowest moderate degree. The findings also indicate that the university leadership has a high degree in terms of importance in achieving entrepreneurship, while academic exchange has the lowest degree in its importance .On the other hand, the findings indicate the university's need for funding resources, which is an additional supportive requirement to accelerate the achievement of entrepreneurship at the university. Depending on these results, the study provides a proposed model to transform PPU to an entrepreneurial university and a mechanism to effectively achieve the university's pioneering vision in a way that contributes to the university's development, and in order to present this model to the decision-makers.

Table of Contents

DEDICATION	IV
DECLARATION:.....	V
ACKNOWLEDGMENTS	VI
ABSTRACT:	VII
TABLE OF CONTENTS.....	VIII
LIST OF TABLES	XII
LIST OF FIGURES	XIV
LIST OF APPENDICES.....	XV
ABBREVIATIONS.....	XVI
CHAPTER ONE	1
1 INTRODUCTION	1
1.1 RATIONAL	1
1.2 PROBLEM STATEMENT.....	3
1.3 STUDY MOTIVATIONS.....	4
1.4 STUDY OBJECTIVES	5
1.5 STUDY QUESTIONS.....	5
1.6 SIGNIFICANCE OF THE STUDY	6
1.6.1 Theoretical significance.....	6
1.6.2 Practical significance.....	7
1.7 STUDY BOUNDARIES	7
1.8 DEFINITIONS OF KEY TERMS.....	8
1.9 STUDY MODEL	10

1.10	STRUCTURE OF THE STUDY.....	11
CHAPTER TWO		12
2	THEORETICAL FRAMEWORK AND PREVIOUS STUDIES	12
2.1	ENTREPRENEURSHIP.....	13
2.1.1	Introduction	13
2.1.2	The emergence of entrepreneurship	13
2.1.3	Concept of entrepreneurship.....	14
2.1.4	Entrepreneurship features	16
2.1.5	Dimensions of entrepreneurship.....	17
2.1.6	Entrepreneur concept.....	18
2.1.7	Factors that enhance entrepreneurship.....	18
2.1.8	Academic entrepreneurship.....	19
2.1.9	Entrepreneurship benefits	19
2.1.10	Entrepreneurship risks	22
2.2	ENTREPRENEURIAL UNIVERSITY (EU)	24
2.2.1	Introduction	24
2.2.2	EU concept	24
2.2.3	Importance of EU	26
2.2.4	Characteristics of entrepreneurial university	30
2.2.5	Entrepreneurial university indicators.....	33
2.2.6	Entrepreneurial University challenges.....	43
2.3	PALESTINE POLYTECHNIC UNIVERSITY (PPU)	44
2.3.1	PPU's Vision and mission.....	45
2.3.2	PPU's achievements of entrepreneurial activities	45
2.4	PREVIOUS STUDIES.....	46
2.4.1	Arabic Studies.....	46

2.4.2	English Studies	51
2.4.3	Comments on previous studies	54
2.4.4	Distinctions of the study	55
CHAPTER THREE		57
3	RESEARCH DESIGN AND METHODOLOGY.....	57
3.1	INTRODUCTION.....	57
3.2	METHODOLOGY.....	57
3.3	SOURCES OF DATA COLLECTION	58
3.4	STUDY MODEL AND VARIABLES.....	58
3.4.1	Study Model.....	58
3.4.2	Study operational variables.....	59
3.5	STUDY POPULATION AND SAMPLE	61
3.6	STUDY LIMITATIONS	63
3.7	CHARACTERISTICS OF STUDY POPULATION	63
3.8	STUDY TOOLS.....	68
3.9	DEVELOPMENT OF THE QUESTIONNAIRE	68
3.10	PILOT STUDY.....	69
3.11	ETHICAL CONSIDERATION.....	70
3.12	VALIDITY OF STUDY TOOL	70
3.13	RELIABILITY OF STUDY TOOL	76
3.14	STATISTICAL ANALYSES	77
3.15	METHOD CORRECTION	77
CHAPTER FOUR		79
4	STUDY RESULTS.....	79
4.1	INTRODUCTION.....	79

4.2	RESULTS OF THE STUDY QUESTIONS.....	79
4.2.1	Results of the first question.....	79
4.2.2	Results of the second question.....	110
4.2.3	Results of the third question.....	112
4.3	RESULTS OF THE INTERVIEW.....	121
4.4	SUMMARY.....	124
CHAPTER FIVE.....		127
5	SUMMARY OF RESULTS, CONCLUSIONS AND POLICY IMPLICATIONS.....	127
5.1	INTRODUCTION.....	127
5.2	SUMMARY OF STUDY RESULTS.....	127
5.2.1	Summary of results related to study questions.....	127
5.2.2	Summary of the questionnaire results.....	132
5.3	CONCLUSIONS.....	133
5.3.1	Comparison between the proposed PPU model and OECD framework.....	136
5.3.2	Distinct of the PPU proposed model in comparison with OECD framework.....	138
5.3.3	Mechanism for employing the proposed model.....	139
5.3.4	Repercussions of using the model.....	142
5.4	POLICY IMPLICATIONS.....	143
5.4.1	Future Research.....	147
REFERENCES.....		148

List of Tables

TABLE 3.1: DISTRIBUTION OF THE STUDY POPULATION	61
TABLE 3.2: LIST OF TARGETED DEPARTMENTS AND CENTERS OF THE STUDY POPULATION	62
TABLE 3.3: DEMOGRAPHIC CHARACTERISTICS OF TARGET POPULATION	64
TABLE 3.3.5: PARAGRAPHS' ANSWER SCALE AND WEIGHTS.....	69
TABLE 3.6: PEARSON CORRELATIONS BETWEEN QUESTIONNAIRE'S SECTIONS AND TOTAL DEGREE.....	70
TABLE 3.3.7: RESULTS OF FACTOR ANALYSIS.....	71
TABLE 3.8: RELIABILITY COEFFICIENTS OF QUESTIONNAIRE'S SECTIONS.....	76
TABLE 3.9: LIKERT SCALE	77
TABLE 3.3.10: CORRECTION KEY FOR LIKERT SCALE	78
TABLE 4.1: MEANS AND STD. DEVIATIONS OF THE REALITY OF ENTREPRENEURSHIP AT PPU	80
TABLE 4.2: MEANS AND STD. DEVIATIONS OF THE CURRICULUM AND THE LABOR MARKET THEME.	81
TABLE 4.3: RESULTS OF ONE SAMPLE T-TEST OF THE OF THE CURRICULUM AND THE LABOR MARKET	83
TABLE 4.4: RESULTS OF ANOVA OF THE CURRICULUM AND THE LABOR MARKET THEME.....	83
TABLE 4.5: MEANS AND STD. DEVIATION OF ENTREPRENEURIAL EDUCATION SECTION.....	84
TABLE 4.6: RESULTS OF ONE SAMPLE T-TEST REGARDING THE ENTREPRENEURIAL EDUCATION CRITERIA	86
TABLE 4.7: RESULTS OF ANOVA REGARDING ENTREPRENEURIAL EDUCATION.....	87
TABLE 4.8: MEANS AND STD. DEVIATION OF UNIVERSITY'S POLICIES AND REGULATIONS SECTION.....	88
TABLE 4.9: RESULTS OF ONE SAMPLE T-TEST OF UNIVERSITY'S POLICIES AND REGULATION CRITERIA.	89
TABLE 4.10: RESULTS OF ANOVA REGARDING THE UNIVERSITY'S POLICIES AND REGULATION.	90
TABLE 4.11: MEANS AND STD. DEVIATION OF UNIVERSITY'S LEADERSHIP SECTION.	90
TABLE 4.12: RESULTS OF ONE SAMPLE T-TEST REGARDING THE UNIVERSITY'S LEADERSHIP CRITERIA.	91
TABLE 4.13: RESULTS OF ANOVA REGARDING UNIVERSITY'S LEADERSHIP.....	93
TABLE 4.14: MEANS AND STD. DEVIATION OF THE CULTURE OF ENTREPRENEURSHIP THEME	93
TABLE 4.15: RESULTS OF ONE SAMPLE T-TEST REGARDING THE THE CULTURE OF ENTREPRENEURSHIP.....	94
TABLE 4.16: RESULTS OF ANOVA REGARDING THE CULTURE OF ENTREPRENEURSHIP.	95

TABLE 4.17: MEANS AND STD. DEVIATION OF THE SCIENTIFIC RESEARCHES AND INNOVATIONS SECTION. .	96
TABLE 4.18: RESULTS OF ONE SAMPLE T-TEST REGARDING SCIENTIFIC RESEARCH CRITERIA.	97
TABLE 4.19: RESULTS OF ANOVA REGARDING SCIENTIFIC RESEARCH AND INNOVATIONS.	99
TABLE 4.20: MEANS AND STD. DEVIATION OF COMMUNITY RELATIONS AND PARTNERSHIPS SECTION.	99
TABLE 4.21: RESULTS OF ONE SAMPLE T-TEST REGARDING THE COMMUNITY'S RELATIONS	101
TABLE 4.22: RESULTS OF ANOVA REGARDING THE COMMUNITY'S RELATIONS AND PARTNERSHIPS.	102
TABLE 4.23: MEANS AND STD. DEVIATION OF UNIVERSITY'S ENVIRONMENT SECTION.	102
TABLE 4.24: RESULTS OF ONE SAMPLE T-TEST REGARDING THE UNIVERSITY'S ENVIRONMENT CRITERIA. ...	104
TABLE 4.25: RESULTS OF ANOVA REGARDING THE UNIVERSITY'S ENVIRONMENT.	105
TABLE 4.26: MEANS AND STD. DEVIATION OF THE ACADEMIC EXCHANGE SECTION.	105
TABLE 4.27: RESULTS OF ONE SAMPLE T-TEST REGARDING THE ACADEMIC EXCHANGE CRITERIA.	106
TABLE 4.28: RESULTS OF ANOVA REGARDING THE ACADEMIC EXCHANGE	107
TABLE 4.29: MEANS AND STD. DEVIATION OF THE UNIVERSITY'S INTERNATIONALIZATION SECTION.	107
TABLE 4.30: RESULTS OF ONE SAMPLE T-TEST REGARDING THE UNIVERSITY'S INTERNATIONALIZATION ...	108
TABLE 4.31: RESULTS OF ANOVA REGARDING THE UNIVERSITY'S INTERNATIONALIZATION.	109
TABLE 4.32: RELATIVE FREQUENCIES OF THE PRIORITY TOWRDS ENTREPRENEURIAL UNIVERSITY	110
TABLE 4.33: VALUES OF THE MEAN RANK OF THE EU THEMES ACCORDING TO YEARS OF EXPERIENCE.	112
TABLE 4.34: RESULTS OF KRUSKAL-WALLIS TEST ACCORDING TO THE YEARS OF EXPERIENCE.	114
TABLE 4.35: VALUES OF MEAN RANK ACCORDING TO CURRENT JOB.	114
TABLE 4.36: RESULTS OF KRUSKAL-WALLIS ACCORDING TO THE CURRENT JOB.	116
TABLE 5.1: COMPARISON BETWEEN PPU MODEL AND OECD FRAMEWORK	136
TABLE 5.2: PROCESS TO DEVELOP ENTREPRENEURSHIP AT PPU	144

List of Figures

FIGURE 1.1: THE STUDY MODEL	10
FIGURE 2.1: GUIDE FRAMEWORK FOR ENTREPRENEURIAL UNIVERSITIES	34
FIGURE 2.2: A PROPOSED VISION FOR EGYPTIAN UNIVERSITIES	35
FIGURE 2.3: ENTREPRENEURIAL UNIVERSITY COMPONENTS DIAGRAM	42
FIGURE 3.1: THE RELATIONSHIP BETWEEN INDEPENDENT AND DEPENDENT VARIABLES	58
FIGURE 3.2: DISTRIBUTION OF TARGET POPULATION ACCORDING TO GENDER	65
FIGURE 3.3: DISTRIBUTION OF TARGET POPULATION ACCORDING TO AGE	65
FIGURE 3.4: DISTRIBUTION OF STUDY POPULATION ACCORDING TO ACADEMIC QUALIFICATIONS	66
FIGURE 3.5: DISTRIBUTION OF TARGET POPULATION ACCORDING TO WORK EXPERIENCE	67
FIGURE 3.6: DISTRIBUTION OF STUDY POPULATION ACCORDING TO CURRENT POSITION	67
FIGURE 4.1: PRIORITIES OF THE REQUIREMENTS TOWARDS EU	111
FIGURE 4.2: PAIRWISE COMPARISONS TOWARDS LEADERSHIP ACCORDING TO THE CURRENT JOB	118
FIGURE 4.3: PAIRWISE COMPARISONS TOWARDS ENVIRONMENT ACCORDING TO THE CURRENT JOB	119
FIGURE 4.4: PAIRWISE COMPARISONS OF INTERNATIONALIZATION ACCORDING TO CURRENT JOB	120
FIGURE 5.1: PPU ENTREPRENEURIAL UNIVERSITY MODEL	135

List of Appendices

Appendix 1: Arabic Questionnaire	161
Appendix 2: English Questionnaire.....	169
Appendix 3: Interview Questions.....	178
Appendix 4: Arbitrators Names.....	179
Appendix 5: Official Letter for Facilitate Task.....	180
Appendix 5: Arabic Abstract.....	181

Abbreviations

EU: Entrepreneurial University

ED: Entrepreneurial education

PPU: Palestine Polytechnic University

OECD: Organization for Economic Cooperation and Development

“Entrepreneurship is neither a science nor an art. It is a practice”

(Drucker, 2002)

“Entrepreneurship is an option and a life style... Whether you are a company owner or an employee you can be an entrepreneur through initiative, innovation and having a sense of responsibility towards the community”

(Saheli, 2016)

“Most universities perform entrepreneurial activities, but not all of them can be defined as entrepreneurial universities”

(Fernández & Sáenz, 2018)

Chapter One

1 Introduction

1.1 Rational

Today's the world economy is going through a transition towards a new economic dynamic that includes rules and practices used to achieve success in industry, they are completely different from those rules and practices used in the past. In the new economy, ideas and intellectual capital have replaced the natural resources, and the innovation mechanics have become the most important factors for economic development. (Heing, 2000)

In its broad concept, entrepreneurship has become one of the pressing issues that receive wide global attention, given the role it plays in economic and social development, in addition to its distinguished role in involving many societal segments in the economic activity, specifically the youth segment, through the establishment of projects and their own business. (Abu Qarn, 2015)

The role of entrepreneurship emerged after the public and private institutions were unable to absorb more working youth, which exacerbated the problem of unemployment among thousands of graduates and pushed them to search for the other alternatives for jobs. This requires restructuring

the university's roles to turn into an entrepreneurial university capable of providing young people with life skills and characteristics to become future entrepreneurs. (Al-Shammari, 2010)

Strambu (2008) notes that the entrepreneurship is one of the most important major means of restructuring any university that wants to be able to compete, evolve and grow over the time, coinciding with the balance between the university being a public institution and a means of marketing and entrepreneurship to maintain the fundamental values of the university's academic role.

Accordingly, Etzkowitz (2006) indicates that the entrepreneurial universities emerged as an inevitable result of the requirements of this era in updating the mission of universities that play an important role in the economic development in various countries, and they are actors in the triple helix partnership which is basically based on the partnership between the university, industry, and government in a way that strengthens the existing relationships in a scientific basis in the field of innovation.

In light of the financial pressures faced by Palestinian universities to become self-sufficient, the speed of the growing economy and its requirements may negatively affect the missions and visions of Palestinian universities, and for this reason a need was required to propose a new model for the transformation of the traditional Palestinian universities into an entrepreneurial university since it is the key to access the knowledge economy, in addition to its role in solving the problem of finance aspect and enhancing the development of society economic. (Etzkowitz, 2006)

Al-Samarrai (2012) pointed out the importance of building and supporting the culture of creativity, innovation and entrepreneurship in universities, taking into consideration the role that our universities play today seeks to align its outputs with the requirements of employment in the labor market. While the entrepreneurial university seeks to graduate students, who are able to create job opportunities in the labor market in addition to spread the culture of self-employment in building future generations.

Universities are usually seen as institutions that focus on academic education with a strong emphasis on theory-based learning. Moreover, some of universities consider the entrepreneurial university as something that can be learned, others consider it as an institution in which graduates are able to set up their own projects. Meanwhile, some universities measure the entrepreneurship

through the ability to create job opportunities for its graduates. Moreover, some universities focus on fostering the entrepreneurial education while others believe that the entrepreneurship can be achieved through applying team work, besides various business-related ideas, cultures and visions. Furthermore, other universities consider that the entrepreneurial university achieved through as a set of skills and beliefs need to be acquired through practice and experimentation such as business development, market analysis, and customer engagement. (Huayller et al., 2014)

The high demand for the higher education leads to the need to present a model for the entrepreneurial Palestinian universities in line with the entrepreneurship of the leading European universities.

1.2 Problem statement

Palestine Polytechnic University (PPU) is considered as one of the Palestinian universities that strive to be an entrepreneurial university in its educational and administrative aspects. It faces a number of crises and obstacles, including financial support, due to the occupation policies based on withholding support and its restrictions on the government and the higher education sector. It is a Palestinian university that have a good reputation in entrepreneurship.(Palestine Polytechnic University site , 2017).From this standpoint, this study came to address this issue because of its importance and value, which is a study from the perspective of the university's senior and middle management to find out the reality of the entrepreneurship at PPU in addition to setting specific requirements for the university to be an entrepreneurial through proposing a model for the transformation of the university into a an entrepreneurial university, as a case study for Palestine Polytechnic University.

Thus, the problem of the study can be determined by the absence of a specific and a clear for the term of entrepreneurship for both: the academic and administrative work at PPU. Moreover, there is a misunderstanding of the characteristics and pillars of the conceptualization of an entrepreneurial university. On the other hand, it is apparent that there is no unified model for the entrepreneurial concept, characteristics and items between universities. (Interview, 2019)

Therefore, in an attempt to peruse this situation, this study formulates a number of questions and proposed an entrepreneurial model to be tested in PPU as a case study so that the findings can be

adopted as well as adapted for a transformative model for other Palestinian universities to be of an entrepreneurial nature in the scope and practice.

1.3 Study Motivations

The study motivations can be summarized as following:

1. The significance of the entrepreneurial university is achieved through the university's contribution and investment in the minds and ideas of students, which can lead to the expansion of the innovation and the use of technology in all aspects of life. Ultimately, these contributions will diversify the economy based on the inexhaustible knowledge wealth. (Asad, 2014)
2. The role of universities can extend to support the entrepreneur or establishing an enterprise or a start-up. Hence the importance of patents, as one of the most important KPIs as a key requirement to categorized any university as the "entrepreneurial university". Moreover, Intellectual property is one of the most important pillars distinguish entrepreneurial universities from others. (Asad, 2014)
3. Improving the university reputation and rankings which give the universities a pioneering transformation to support the linkage to the market and the business world. Thus, this will increase the university competitiveness. (Volkmann, 2009)
4. Developing entrepreneurial values among individuals, including independence, belief in the importance of work, belief in the value of knowledge, and faith in the importance of the individual and society. (Abu labhan, 2018)
5. Enhancing scientific knowledge, progress, and development in all aspects through investing in scientific research, creativity, and innovation in production methods which raise the production efficiency. This will lead countries to progress towards technological, global, and competitive development. (Al-Shara'a, 2016)
6. Entrepreneurial universities have a role in facing the financial crises that occurred in societies, through their important role in generating creative ideas and projects in a way that contributes to comprehensive development. (Nehan, 2012)

7. Encourage the development of the higher education as well as international-based policies to build a society capable of meeting challenges and contributing to economic development, which requires an emphasis on entrepreneurship.
8. The Palestinian circumstances in general, represented by the economic situation and lack of jobs, urgently demands moving towards the entrepreneurship in universities and strengthen these values in higher education institutions through introducing model suitable for Palestinian entrepreneurial university.
9. The need for a unified and effective model that can be exploited and utilized by decision-makers in Palestinian universities.
10. The necessity to keep pace with the world's-class universities in the field of entrepreneurship.

1.4 Study objectives

To peruse the study questions, this study aims at proposing a model to transform PPU towards an entrepreneurial university. Where, this objective can be subdivided into the following objectives:

1. Providing further insights about the entrepreneurial university.
2. Identifying the reality of the entrepreneurship at PPU from the viewpoint senior and middle management.
3. To identify the university requirements necessary to transform PPU towards an entrepreneurial University from the viewpoint of senior and middle management.
4. To test the differences between the study population responses on their assessment of the availability degree of the entrepreneurial university requirements at PPU attributed to the following variables: (Work experience, and Current Position).
5. Providing a set of results and recommendations that help in the implementation of entrepreneurship at the PPU.

1.5 Study questions

To find out the best model, this study addressed the following questions:

The main question is: **What is the proposed model for transforming PPU into an entrepreneurial University?**

To achieve this question, the following sub-questions will take place:

Q1: What is the reality of the entrepreneurship at PPU from the view point of senior and middle management?

Q2: What are the requirements to transform PPU towards an entrepreneurial university from the senior and middle management perspective?

Q3: Are there any potential differences between the study population responses on their assessment of the availability degree of the entrepreneurial university requirements at PPU attributed to the following variables: (Work experience, and Current Position)?

1.6 Significance of the study

This study will provide further insight into an entrepreneurial University models, in order to provide an integrated model, and test this model at PPU. Furthermore, the results will be integrated with prior researches. The study also derives its importance from its impact on universities, students, teachers, employees, community, and market needs. Therefore, this study has both theoretical and practical importance.

1.6.1 Theoretical significance

The theoretical significance of the study is illustrated by the preparation of a theoretical framework derived from the literature and previous studies that dealt with parallel subjects. This will enhance the identification of the intellectual contents, and the extraction of the indicators that may benefit the study in constructing a theoretical framework that helps in achieving the objectives of the study.

The study also offers knowledge and database that may benefit the Palestinian universities on how to build a model that can be used for future research and practice.

The findings of this study may add new values and epistemological dimensions inform to and policy making, which may pave the way for related future studies to be conducted on similar contexts.

1.6.2 Practical significance

The practical importance of the study lies in the pursuit of the entrepreneurship in Palestinian universities. The entrepreneurship of the academic institutions has a major role in building the knowledge and economy. In return, this will lead to further explore the basic requirements for building an entrepreneurial university. This topic first appeared in the United States of America a decade ago, then spread in Europe and Asia. The entrepreneurial concept emphasizes that one of the most important roles of a university is to contribute to economic development through the launch of creative projects and enterprises.

Moreover, the study attempts to achieve the strategic objectives in the field of entrepreneurship for Palestinian universities and academic education. In addition, there seems to be a shortage of studies on this subject especially when it comes to Palestinian universities in particular. This comes under the consideration that the state of Palestine has a special situation among the Arab countries regarding its political situation, the existence of occupation, and community culture. There is also a need for decision making in applying entrepreneurship at all levels in Palestinian universities.

All the previous reasons put forward the practical importance of this study, which is achieved through the development of research tools to collect data related to the study. Above all, it aspires to present a model for the entrepreneurial university as a case study for PPU.

1.7 Study Boundaries

The study boundaries are as follows:

Temporal boundaries: Data related to the study will be collected during the first semester of the academic year 2019/2020

Spatial boundaries: This is a case study on Palestine Polytechnic University (PPU) in the West bank Hebron- Palestine

Human Resources Boundaries: Senior and middle management (President, Vice presidents, Deans, Heads of academic departments, Directors of relevant administrative departments, Managers of relevant centers).

1.8 Definitions of key terms

Entrepreneurship: The individual abilities that transform ideas into actions which include creativity, innovation, risk, responsibility, planning and management. (Dawyer,2016)

Havinal (2009) defines it as an attempt to create a value through the investment in the business opportunity, the management of risk-taking through the communicative and management skills to mobilize individuals; in addition to the financial and material resources necessary to have a successful project.

Entrepreneurial university: "The concept refers to a set of characteristics that distinguish the university from other universities. The most important characteristic is the existence of a catalytic environment for the entrepreneurship in the areas of research, development, innovation and supporting the entrepreneurship culture of the faculty members, students and staff in addition to the establishment of broad partnerships with the government and private business sector. This trend comes as a change base in a higher education through creating a culture of knowledge and sustainable development in a society by focusing on the areas of creativity and innovation in the production and exploitation of knowledge." (Abdulwahab, 2018)

Nicotra et al. (2018) defined the entrepreneurial ecosystem as the combination of social, political, economic and cultural elements in a region that supports the development and growth of innovative start-ups and encourages new entrepreneurs and other actors to take the risk of starting, funding, and in other ways helping high-risk businesses.

The researcher was able to conclude that the entrepreneurial university can be defined as the university that works with unremitting steps towards being distinguished in all its strategic, organizational, educational, human, environmental and financial levels. That can also include the university majors, scientific research and education, based on creativity and innovation that will achieve projects and applied research, which address the problems of the local community. As a result, the university's role expands to not only providing knowledge, but also into making and transferring the knowledge locally and internationally, besides focusing on creating jobs for graduates rather than just employment.

Entrepreneurial education: Creativity-based education that aims to develop in students' minds and abilities necessary for self-employment to be a job creator rather than seekers. (European Commission , 2012)

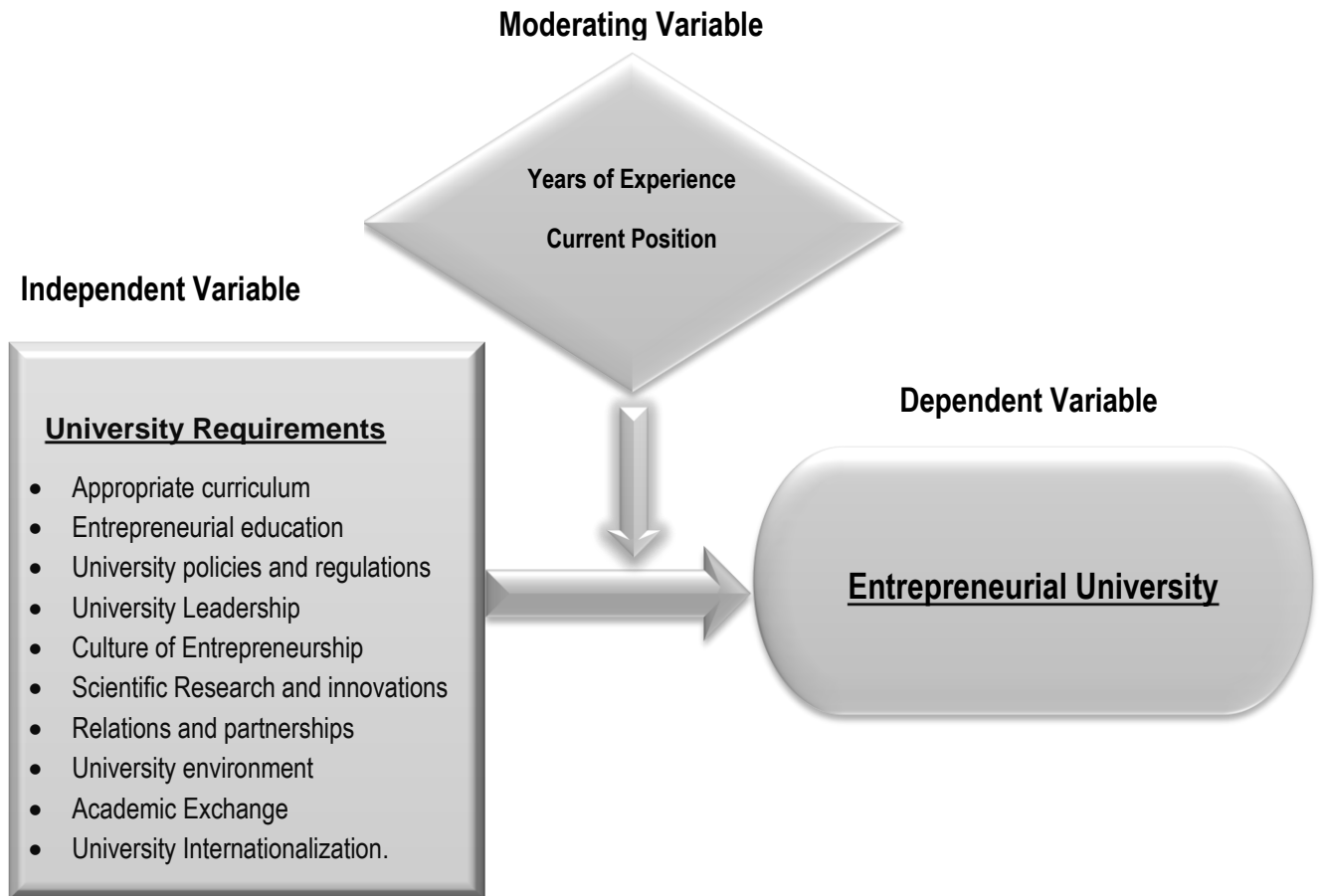
Palestine Polytechnic University (PPU): A Palestinian public university established in Hebron in 1987 as an initiative from the university graduate union UGU to be an technical Institute that offers diplomas to its prospect students which the university was fully developed through its long career to offer a bachelor's degree in some engineering programs in 1991 . It became a university in 1999 with four colleges offering diplomas and bachelor degrees in various programs specializations in line with the needs of the community, it began to offer master's programs in 2006. The University is working to integrate all means of advanced technology available to fulfill their aim, and is also working to keep up with the latest trends in science and technology. (Palestine Polytechnic University site, 2017)

Innovation: The process of turning a new concept into a commercial success. It connects everything to work. According to the British standards, innovation is the successful exploitation of new ideas. The process involves converting the invention into a commercial success and encouraging its widespread use. This is the stage when bold ideas, once properly developed, are presented to the public. (Innoway,2020)

Funding: The provision of resources to fund a need, program, or project. While this is usually in the form of money, it can also take the form of effort or time from an organization or company. In general, this word is used when the company uses its internal reserves to meet its need for cash, while the term financing is used when the company obtains capital from external sources. On the other hand, Fund can be for both long-term or short-term purposes. (Wikipedia,2020)

1.9 Study Model

Figure 1.1: The study model showing the requirements for the transformation of Palestine Polytechnic University into an entrepreneurial university (developed by the researcher)



For more information, view chapter three.

1.10 Structure of the study

The study is divided into five main chapters as follows:

Chapter One: Presents the background of the study which introduce the study and illustrates its rationale, statement of problem, importance, study questions, limitations, study terms, and structure.

Chapter Two: Focuses on the contents of the theoretical framework and previous studies.

Chapter Three: Presents the study methodology, tools and population in which the study will be conducted in addition to the procedures to verify the validity, the study tool, stability and statistical analysis of the study population.

Chapter Four: Outlines the findings of statistical analysis for the collected data to present these findings, discuss and answer the questions of the study.

Chapter Five: Contains summary of results, conclusions and policy implications driven from the study findings.

Chapter Two

2 Theoretical framework and previous studies

This chapter presents a comprehensive overview of the concepts and definitions concerned with the entrepreneurial university. It deals with two main axes; first, it presents a historical background of entrepreneurship, its origin, and its various concepts and definitions from the viewpoint of researchers and scholars. Moreover, it presents a detailed definition of the entrepreneurial university that was identified in this study. On the other hand, this chapter will highlight the importance of entrepreneurship, entrepreneurial organizations, in addition to the benefits and risks of entrepreneurship. The second part of this chapter covers the definition of the entrepreneurial university, its importance, characteristics, requirements, and the challenges facing such universities in becoming entrepreneurial.

Furthermore, this chapter includes a literature review, which are derived from other studies that are related to the same topic.

2.1 Entrepreneurship

2.1.1 Introduction

Over the last decades, the interest in entrepreneurship has increased due to technological advancement and the emergence of globalization, which had a great impact on the business environment and the competitiveness of local and international organizations. In this manner, interest has increased because of its role in the growth of the country's economy, which is represented in the expansion of organizations and their access to financial and material resources. As the acceleration in the change rate of the business environment rises, the importance of entrepreneurship magnified as an option used by the organization to adapt to the requirements of competition and change. (Hannon, 2013).

2.1.2 The emergence of entrepreneurship

The history of the word (entrepreneurship) dates back to about 20,000 years when the first known exchange of human beings occurred in New Guinea around 17,000 BC. At that time, local people exchanged volcanic glass with other commodities, such as tools, leather and food. This early type of entrepreneurship continued for thousands of years. (bebusinessed.com,2020)

The behavior of entrepreneurship has also emerged since the beginning of the agricultural revolution, where the human interest was confined to cultivating the land and plants until it evolved to affect all aspects of life. After that, new professions and jobs spread all over the world and caused the progress and development of societies. Long time ago, entrepreneurship has been linked to and constrained by the market's demand, supply and human needs. (bebusinessed.com, 2020)

The term entrepreneurship is derived from the French word (entrepreneur), which means in English "To undertake", so the entrepreneur would mean in this sense as an "undertaker" (Dana,2011). The term can be divided into two parts: "entre" which means in between and "pruerer" which means taker. Hence, the meaning of the term will be entre-pruerer, which means between-taker or go-between (Filion, 2008). Burnett (2000) mentioned that the French economist Richard Cantillon was the first person to introduce this term in his work since 1755, where he associated entrepreneurs with 'risk-bearing' and defined the entrepreneur as a "risk-taker". In the same way, economist Schumpeter (1950) defined the entrepreneur as the person who has the will and the power to transform a new idea or invention into a successful innovation. (Marefa, 2020)

2.1.3 Concept of entrepreneurship

The concept of entrepreneurship has been discussed for many years ago, and was defined differently by many Authors. Some of them view it as ‘risk-bearing’; others call it as ‘innovations’, yet others consider it as ‘thrill-seeking’. Moreover, others defined it as an attempt to create a value through the investment in the business opportunity, the management of risk-taking through the communicative and management skills to mobilize individuals; in addition to the financial and material resources necessary to have a successful project (Havinal, 2009).

Frank Knight (1967) and Peter Drucker (1970) considered entrepreneurship as a risk-oriented. From the business perspective, it means to start a project. In the 20th century, the concept of entrepreneurship expanded to include the questions of how and why people identified opportunities and evaluated them as valuable and viable; therefore, the definition of entrepreneurship can be summarized as a function that exploits opportunities within the market. (Marefa, 2020)

Etzkowitz (2004) defined the entrepreneurship as the process of designing, launching and operating a new company, usually a small company, and then an emerging company that offers a product or a service. Furthermore, it was defined as the desire and ability to organize, manage and develop a business venture along with any of their risks to generate profit.

Zhou & Etzkowitz (2006) defined entrepreneurship as the process of creating a value for the customer through the innovation and exploitation of resources beyond our control. In the same context, Pfeffer & Salanick (2003) said that entrepreneurship is the way towards the end, creating value in the mind of the customer, where the value is the difference between the tangible and intangible value versus tangible and intangible cost. Gibb and Hannon (2006) affirmed that the concept of entrepreneurship is not new and it has many meanings, which may include the concepts of enterprise, innovation, commercialization, the creation of new projects, employability and others. Moreover, it can reflect organizational structures and organizational leadership and can be seen as an organizational response to external challenges and pressures. Peter Drucker says: “*Most of what you hear about entrepreneurship is all wrong. It is not magic; it is not mysterious, and it has nothing to do with genes. It's a discipline and, like any discipline, it can be learned*”. (Huayller et.al,2014).

Entrepreneurship is expressed as the process of finding something from almost nothing, which means the ability to initiate the implementation of a business or create a new organization instead of the old one. The most important thing is the idea and its correct implementation since it is considered as the essence of the project. To achieve this, managers must have an insightful vision, flexibility, and work with the spirit of the teamwork. Likewise, they should develop a plan for the work steps and provide necessary financing. They should not stick to their ideas only, but they must develop the work in a way that will prosper. (Hussein, 2013)

In the academic context, entrepreneurship can be seen as the development of a set of individual behaviors, skills, and attitudes that characterize an entrepreneur (Gibb and Hannon, 2006). The same characteristics can be applied to the internal contractor, social entrepreneur, and technologist and across many other contexts.

In this century, there has been a considerable discussion over the exact definition of entrepreneurship, despite the fact that there is a general agreement that entrepreneurs' function in the society is to identify opportunities and convert them into economic value. It is worth mentioning that there just few authors who have written about this subject. Much of the argument over the definition the entrepreneurship revolves around the basic elements of this concept, and the institutions that are considered as entrepreneurial (Bansal, 2018).

The operational definition for entrepreneurship that this study adopted is what Dwyer, Gowan, and Hampton (2016) identified as the individual abilities that transform ideas into actions, and which include creativity, innovation, risk, responsibility, planning, and management.

The different definitions of entrepreneurship include two basic elements mainly; innovation and risk-bearing.

2.1.3.1 Innovation

It is the basic element of entrepreneurship, and it means doing something new or something different. Entrepreneurs constantly search for something different and unique to meet customers' changing requirements. Entrepreneurs do not need to be inventors of new products or new methods of production or service, but they might possess the ability of making use of the inventions for their enterprises (Havinal,2009).

Drucker (2002) argued that innovation is the specific tool of entrepreneurs, and the way by which they exploit this change is opportunity for a different work or service. It can be presented as a discipline; it can be learned and practiced. He stated that entrepreneurs need to search purposefully for the sources of innovation, the changes and symptoms that indicate opportunities for a successful innovation. In addition, they need to know and to apply the principles of successful innovation.

2.1.3.2 Risk bearing

It is another element of entrepreneurship, which means having or sharing responsibility to accept losses in case a project goes wrong. Starting a new business involves taking risk, and of course performing something new and different is risky as well. The business may earn profit or bear losses, and this process depends on different factors, such as increased competition, shortage of raw materials, and changing customer preferences, etc. An entrepreneur needs to be smart enough to expect the risk involved, as a result, an entrepreneur would be seen as a risk-bearer not risk-avoider. This risk-bearing ability encourages entrepreneur to try on different methods in order to succeed. The Japanese proverb "fall seven times, stand up eight" can be applied on entrepreneurs. (Havinal, 2009)

2.1.4 Entrepreneurship features

Kortel and Nasera (2011) stated some advantages and features that characterize the process of entrepreneurship. They considered it as one of the inputs to the decision-making process that seeks to achieve the optimal use of the available financial and material resources to reach new product production or provide a new service, in addition to the development of new methods of operations. On the other hand, Entrepreneurship is a set of management skills that focuses on individual initiative to make better use of available resources that are characterized by their risk type. Furthermore, they pointed out that entrepreneurship reflects the effort made to achieve full coordination between the production and the sale operations. Moreover, they considered entrepreneurship as the optimal use of the available resources to implement new well-efficiently planned ideas in institutions.

2.1.5 Dimensions of entrepreneurship

Entrepreneurship is a wide concept. Howard Stevenson (1997) showed that entrepreneurship is not a set of personality traits nor an economic function; it is a cohesive pattern of managerial behavior that can be measured. (Cambridgema,2000)

Al-Hadarawi (2013) notes that many researchers and managers are interested in measuring entrepreneurship by using several dimensions, mainly the initiative, risk tolerance, attracting opportunities, and creativity which are explained below:

A. The initiative

It is a process to ensure that individual entrepreneurs enrich the business environment, and to help them exploit the opportunities available by relying on the available resources in the community. The emergence of the initiative in entrepreneurship may lead the adoption of the initiative to be effective for reaching entrepreneurial ideas, and it can provide a competitive value for the enterprise.

B. Risk tolerance

This is performed by using a single method of management. It also depended on alliances with other enterprises because they believe they can provide complementary capabilities. Businesses seek to minimize risk, but if their behavior for entrepreneurs to take the greatest risk, entrepreneurs in general can rationally measure risk. Entrepreneurs can assess and understand risks appropriately.

C. Attracting opportunities

Contributing to building, discovering and developing opportunities, assessing the capabilities based on a strategic relationship, to take advantage of them through all the motives, whether strategic or not; where the work of the pioneer enterprises begins to provide unsatisfied needs, attract opportunities created by competitors and form opportunities are important topics of fixed-income resources. These resources are important to the unsatisfied market needs, and their proper utilization is an advantage for entrepreneurship.

D. Creativity

It is an old phenomenon, but the interest in it is new. Human beings constantly seek to achieve creativity in all fields, and enterprises, regardless of the nature of their work, want to use creativity. The questions are several; namely where are the best establishments that apply creativity? Are the best managers those who provide the right environment to help employees make full use of their creative skills?

2.1.6 Entrepreneur concept

Kortel and Nasera (2011) defined an entrepreneur as the individual who mixes different elements of production (resources, labor, and other assets) with compatible proportions to make their value greater than before. Where the entrepreneurial behavior is characterized by an entrepreneurial spirit and acceptance of various risks that can be exposed to it. In general, an entrepreneur is the individual who performs renewal and change in the market by providing products and services of new forms. Furthermore, entrepreneurship represented by the introduction of a new product, service, or a new change to an existing product or service. In addition to the contribution to opening new markets or establishing a new organization, with the ability to know and respond to market opportunities.

2.1.7 Factors that enhance entrepreneurship

Factors that can promote effective entrepreneurship include high levels of education and training, levels of capital markets, merchandise, information and communications technology as a factor for development, and the added-value. Advanced access to information and communication technology requires a substantial funding and a reform of educational systems to meet the needs of the knowledge society, which promotes the dissemination of new knowledge, and facilitates the use of new information and communications technology. Among the most prominent factors, which promote creative entrepreneurial activity are setting policy, programs and mechanisms to obtain financing, benefit from research and development, opening up to the local market, and training in the field of entrepreneurship. It is necessary to motivate entrepreneurs to innovate, to bring about radical changes- through technological and non-technological processes- to integrate technological innovation in production, distribution, organization of work, and to share knowledge or skills. Additionally, they need to adopt new organizational methods in decision-making,

increase market shares and the quality of goods, and finally develop services and production capacity, business clarity and health and safety guarantees (Motawe', Khail, Ibrahim, 2017).

2.1.8 Academic entrepreneurship

Academic entrepreneurship or university entrepreneurship can be defined as a set of not limited - entrepreneurial activities undertaken by the university, such as receiving patents & licenses, building new campus & institutions, facilitating & transferring technology through incubators & technological parks, and facilitating the economic development. (Rothaermel, Agung and Jiang, 2007)

Academic entrepreneurship is the integration between scientific, academic and commercial activities through which knowledge, technology and products or services are transferred. (Etzkowitz, 2004) In Malaysia, the Academic entrepreneurship can be defined as the integration of research, technology, commercialization within the educational institutions. (Sutter, 2009) (Jain & Yusof, 2007) Academic entrepreneurship may occur at the level of individuals or groups acting independently or as part of a college or university, which would ultimately lead to the creation of new organizations that encourage innovation. Academic entrepreneurship means a variety of ways by which academics can produce useful knowledge (Henrekson & Rosenberg, 2000).

Entrepreneurial education is another concept that is related to academic entrepreneurship. Dwyer, Gowan and Hampton (2016) indicate that this term is more than starting a new job; it helps graduates to prepare themselves with long-term life skills, such as risk-taking, creativity, responsibility and decision-making.

2.1.9 Entrepreneurship benefits

Surveys have shown that owners of small organizations believe that hard work yields better returns and more satisfactory results than working for another person. Before submitting any new project, the entrepreneur must pay attention to the economic benefits that will be resulted to him from this entrepreneurship (Zimmerer & Scarborough, 2008)

2.1.9.1 Individual benefits

- The opportunity for exclusivity: Entrepreneurs begin the business because they see it as an independency and an opportunity to achieve excellence in production or service to obtain a competitive advantage and to ensure rapid growth and good quality.
- The opportunity to achieve the maximum potential: In the beginning of the business, many individuals do not see that there are challenges or difficulties, but entrepreneurs see the opposite. Work needs to be serious, persistent, and challenging (working with deliberate plans); therefore, the entrepreneur's work is an instrument of self-realization and expression. It is worth mentioning that the boundaries to success are creativity, vision, and enthusiasm.
- An opportunity to earn respectable profits: Although money is not the primary force of an entrepreneur, profits can be a catalyst in their decisions to present new projects to the market. To explain more, most entrepreneurs have never become very rich, but they may achieve good fortunes.

2.1.9.2 Economic benefits

Entrepreneurship plays a big role in the national economy, as it can contribute effectively to the recalibration and restructuring of production in many developing countries. Since it is the basis for the comprehensive development, it has many economic effects and benefits that can be explained as follows:

- **The average increase in per capita income:** Entrepreneurship increases the average per capita income. As entrepreneurship is accompanied by the growth and increase in outputs in many locations, this allows wealth formation for individuals by increasing the number of participants in development.
- **Increase in the supply and demand sides:** Securing a new capital expands the growth side of supply, and the utilization of new outputs and energies in the project leads to the growth on the demand side as it increases both supply and demand.
- **Renewal and innovation:** Development depends on innovation. It does not only depend on developing a specific product or a new service for the market, but also the interest of investment in securing new projects, hence entrepreneurship is a source of innovation.

- **Directing activities to the targeted development areas:** The state can encourage the trend towards entrepreneurship in specific areas or businesses, such as technological works, by encouraging entrepreneurs to establish their projects in those areas or specialties.
- **Integration with large organizations and the interconnection of business:** Entrepreneurs give the blood of life to the modern economy. As for the need, it remains necessary on the level of the national economy because modern work is not self-standing. Since the business owner buys and sells to and from other projects, this confirms the entrepreneur's opportunity to present something with an added value effectively for large organizations, which in turn would reduce the cost of production.
- **Developing the economy:** Small entrepreneurial projects are mostly the basis for the development of the economy. They are also the nucleus that later supplies the national economy through large and giant projects, whether by developing these projects or providing them with new ideas. Today's small projects are tomorrow's big projects.
- **Absorbing unemployment and securing new job opportunities:** Entrepreneurs in small and medium organizations play an important role in the modern economy because of their flexibility and creativity. They also have a key role in creating job opportunities, and absorbing unemployment as the cost of work in them is less compared with the cost of work in large organizations, and thus accommodates numbers of labors.
- **Contributing to the employment of women:** Entrepreneurship plays a major role in caring for working women through its active role introducing many jobs appropriate to the capabilities of women. These jobs may include working on computers, sewing workshops, and others.

2.1.9.3 Social benefits

- **The opportunity to contribute to the work of society:** the entrepreneur is often among the most respected and trusted people in the community. Since, commercial transactions depend on a mutual trust, the opportunity is great for him/her to serve the community by contributing to developing the economy and increasing growth. They also play a fundamental role in the local work system, and the impact of their business on local economy jobs is noticeable.
- **The opportunity to do what is interesting:** Because entrepreneurs choose their work, they will feel pleased as their work is one part of ideas. Feeling that they have long dreamed of achieving, this will be reflected on the society in which the entrepreneur lives.

- **Innovations in entrepreneurial organizations have a major impact on society:** New products and services make life easier for individuals, improve work productivity, improve health and well-being, and generate many social benefits.
- **Social development justice and wealth distribution:** Entrepreneurs and their various projects, whether small or medium (and through their geographical spread and large-scale) can create a comprehensive, efficient and balanced regional development. They can achieve this by exploiting the available local resources and capabilities, which in turn, will distribute the gains of economic and social development to various regions. As a result, this will contribute to achieving social justice between these regions.

As for Barringer & Ireland (2008), they made it clear that entrepreneurship has social benefits that have a major impact on society. These benefits can be summarized as follows:

- **The health field:** Entrepreneurship has an important role in supporting health innovations and patents and developing solutions for treatment.
- **The service field:** Entrepreneurial organizations contribute to finding and providing services needed by individual. It also helps expanding and developing them in a way that is compatible with the requirements of society.
- **Welfare:** It helps to pay attention to the welfare of society by providing job opportunities, improving and developing products, and keeping pace with technological progress.

Through the literature review and previous studies, it is clear that the social benefits provided by entrepreneurship play an important role in improving the health, social and psychological situation. They also contribute to the stability of societies through the equitable distribution of economic wealth, treatment of unemployment, and the growth of the national economy.

2.1.10 Entrepreneurship risks

As entrepreneurship has benefits, it also has some risks. Some risks appear in early stages. Once small projects are presented, they may face major risks represented by the fact of not knowing the outputs of the activity or decision. Furthermore, the common assumption is that starting small businesses usually carry a great risk, but this hypothesis is as all hypotheses related to entrepreneurship. Failure is rare in new businesses, especially if we define failure as the closure of the entrepreneurial organization due to bankruptcy or the inability to repay loans and their benefits.

Most small entrepreneurial businesses that are closed were not closed for the reason of failure, but because the entrepreneur is not convinced of the returns or because of his/her transfer to another field. It may also be a pioneering idea, and moving from one entrepreneurial field to another would not be seen as a failure. Although the risk of failure is exaggerated, many entrepreneurs face the following risks: (Ivancevich, 1997)

1 - Financial risks: The financial risk is embodied in the inability to achieve sufficient profits to cover the costs at the beginning of the work. As it is not certain that the entrepreneur will obtain sufficient revenues to cover these costs, or make a profit, since he/she invests all or part of his money in the work; this invites him/her to study the possibilities and abilities to bear the consequences of failure before starting work. Sometimes the results of failure are great in the beginning. Although many entrepreneurs calculated the expected financial risks, they are subject to unexpected conditions and factors.

2- Functional Risks: When entrepreneurs leave their position in the organization to another to a future with full of uncertainties, they may be exposed to the loss of that job due to uncertainties or unexpected circumstances. In turn, this affects the entrepreneurial character of the organization when losing an element that carries the characteristics of entrepreneurship that is not available to others.

2.2 Entrepreneurial University (EU)

2.2.1 Introduction

The past two decades have witnessed many various discussions about the concept of the Entrepreneurial University. UNESCO's report on the trends and developments of higher education in Europe (2003) indicated that the concept of the Entrepreneurial University (EU) as an idea began to emerge in Europe at the end of the 1990s. They started to consider this trend as an inevitable result of the desire of many institutions of higher education to be more innovative and effective in its internal management and operations. At the same time, it strongly participates in cooperative programs with the broad business environment. This trend to entrepreneurship has been associated with bringing changes in the culture of the academic institution, so that academics and administrative employees are more positive in dealing with applied problems of knowledge. They also move as entrepreneurs to facilitate the transfer of knowledge and technology and focus on applied research so that the university contributes seriously to building a knowledge economy and sustainable development in society instead of being repositories of knowledge. (European Center for High Education, 2003)

The main goal of the EU is not to transfer technology and create start-ups and business only, it also has the concerns to encourage the entrepreneurial way of thinking, doing actions and developing institutions (Fernández, Arruti, and Sáenz, 2018). The EU is more than to increase its functions; it leads to expand its role and the way of thinking.

2.2.2 EU concept

Etzkowitz (2003) defines EU as the natural incubator that provides the supportive structure for the faculty and students to start new intellectual and commercial projects by creating multiple knowledge, scientific fields, and new complementary industrial sectors. Salem (2014) defined the EU concept as a university that provides environments, cultures, practices, and opportunities that help foster entrepreneurship among workers, students, and alumni.

The university possesses a wide range of mechanisms to promote entrepreneurship. These mechanisms include entrepreneurship courses; organizational restructuring of the university to allow effective promotion of entrepreneurship among students and the faculty, and a comprehensive internal system for the marketing of knowledge that has produced. This would also

include technology transfer offices and research budgets to meet public and private sector requirements, consulting services, which contribute to the creation of companies for students. (Jacob, Laundqvist, & Hellsmark, 2003). It is also known as the university that actively identifies and invests opportunities in research and education for the purpose of developing itself, transferring knowledge to the surrounding community through the interaction between the university, government, and industry. Hence, these steps will meet the requirements of the knowledge economy, strengthen the national economy, and keep pace with global developments (Sam & van der Sijde, 2014).

Abu Labhan (2018) defined the EU as the university that adopts a comprehensive approach to achieve economic and social development at the national and regional levels by preparing a generation of entrepreneurs with work opportunities. The achievement of this step requires an entrepreneurial spirit that encourages the investment of opportunities and ideas in various fields. This will be conducted by translating such opportunities into business through managing and investing resources in cooperation with the various internal and external stakeholders.

Fernández, Arruti, and Sáenz (2018) say that: *“Most universities perform entrepreneurial activities, but not all of them can be defined as entrepreneurial universities”*

The EU is the university that influences the economic development and economic growth through its entrepreneurial activities that depend on technological development and is concerned and interested in research, the development of research abilities, and the transformation of technology (Zhou& Peng, 2008)

Guerrero & Urbano (2010) defined the EU as a university that meet the community and market needs by developing the organizational potentials, innovation, creativity, creating opportunities while taking into consideration risks that may occur.

According to Isenberg (2011), an entrepreneurial ecosystem consists of elements that can be grouped into six domains: conducive culture, facilitating policies and leadership, availability of dedicated finance, relevant human capital, venture-friendly markets for products, and a wide set of institutional and infrastructural supports.

Al-Hajjar (2018) defined it as the university, which provides innovative programs and services in the fields of teaching, scientific research and community service. It occupies a distinctive place

among universities, and can absorb or predict risks and invest them as positive opportunities. It is always a leader in every progress and development felt by workers, beneficiaries and the society as a whole.

Rice, Fettes & Greene (2014) indicated that the university should have (university-based Entrepreneurship ecosystem) to be considered as an entrepreneurial one. Nicotra et al. (2018) defined the entrepreneurial ecosystem as the combination of social, political, economic and cultural elements in a region that supports the development and growth of innovative start-ups and encourages new entrepreneurs and other actors to take the risk of starting, funding, and in other ways helping high-risk businesses.

Abdel Wahab (2018) defined the EU as the university that has succeeded through practical paths in shifting from the traditional university style related to education and research to another style that gives non-traditional attention to integrating university jobs from education and scientific research and community service to play a significant role in supporting the system of innovation and entrepreneurship and contributing to economic and social development and providing the requirements of the knowledge economy By investing in innovative knowledge.

Based on the previous definitions, and from the point view of the researcher, the entrepreneurial university can be defined as the university that works with unremitting steps towards being distinguished in all its strategic, organizational, educational, humanities, environmental, and financial levels. This can also include the university curriculums, scientific research, and entrepreneurial education, for the aim of achieving projects and applied research, that supposed to address the problems of the local community. Besides, the university's role expands to not only providing knowledge, but also into making and transferring the knowledge locally and internationally, in addition to focusing on creating jobs for graduates rather than just employment.

2.2.3 Importance of EU

Entrepreneurial universities are an important source for generating knowledge in the era of the knowledge economy. Entrepreneurial universities have exceeded their traditional role in disseminating knowledge through teaching the students different courses and curricula. They became a complex of teaching, scientific research, community service, and development, correcting their path in education programs, systems and focusing on active learning communities.

They also work in teams, establish partnerships at the local and global level, employ technology in all of its operations and systems, work to spread a culture of professional development, and build a human being able to live in a knowledge society. (Al-Sughayer, 2005)

Currently, entrepreneurial universities have a role in facing the financial crises that occurred in societies, through their important role in generating creative ideas and projects in a way that contributes to comprehensive development. Entrepreneurial universities have become knowledge centers that support creativity, leadership and integration with regional and national development goals. (Nehan, 2012)

2.2.3.1 Justifications for the transition towards entrepreneurial university

There are several justifications for the need to transfer the university to an entrepreneurial university; the most important of which are as follows:

- **Keeping pace with the rapid global changes**

The development of higher education is a general requirement for all nations in light of the era of the knowledge economy because knowledge and technical changes are accelerating and the scope of international mutual relations is expanding (Khader, 2009). This places a greater responsibility on higher education institutions and universities to keep pace with development by adopting the concept of entrepreneurial university.

- **Responding to global trend towards entrepreneurship in higher education**

The concept of an entrepreneurial university has become a contemporary phenomenon and a global trend in light of the challenges in the continuous decline in government funding and successive economic crises, and severe competition in the field of scientific research and education. Therefore, universities have moved towards the entrepreneurial university by focusing on innovation and creativity in producing knowledge. In addition, if the universities do not go towards entrepreneurship, they will become one of the most important constraints to the sustainable development. (Arnaut, 2010)

- **The need to stay in a highly complex competitive environment**

The EU is one of the most important innovative formulas in a highly complex dynamic environment that has imposed important challenges in different universities, such as local and international competitiveness at the level of its students, scientists and researchers. EU is also able to provide various resources. The importance of improving its academic reputation and rankings gave the universities a pioneering transformation to support the linkage to the market and the business world. The universities also moved towards focusing on strong self-reliance in seizing opportunities and protection from risks that may carry new challenges. This will cause the universities to start thinking about relying on what gives new competitive advantages. (Volkman, 2009)

- **The desire of universities to make a real orientation towards their societies**

Universities are interested in directing their students' creative and research potential to serve the requirements of industry and labor market in the era of competitiveness and open markets. This is a reason that made universities to move towards an entrepreneurship formula that harnesses all their energies to serve the needs of the production sector and other development sectors in society. (Subotzky, 1998)

- **Successive economic crises and declining public spending on university education**

The need for increased efforts to provide alternatives for funding resources by universities comes with a steady decline in government funding. This calls the adoption of an entrepreneurial university formula, which depends on creative provision of unconventional sources of funding by investing knowledge and marketing its products to achieve complementary financing flows (the source of government funding on one hand - and its contribution to economic and productive development on the other). All of this calls the university to guarantee its commitment to its tasks and roles that allows it to achieve its goals, and meets the requirements and needs of the visions of development, renewal and sustainability. (Abdel Wahab, 2018)

- **The severe imbalances in the labor market and the need for solutions**

Muhammad (2011) indicated that the phenomenon of unemployment among university graduates and its poverty is an evidence of the divergence between university education and the labor market

needs. Thus, entrepreneurship is one of the solutions to meet these challenges. Governments have recognized the importance of entrepreneurial activity and the role it plays in the national development process and sustainability. It rushed to exert efforts, plans, policies, and trainings for entrepreneurial education to create an appropriate environment for the establishment of new projects in various fields.

The researcher Abu labhan (2018), pointed out that the entrepreneurial university is needed for the following reasons:

- **Development of human and organizational capacity**

The entrepreneurial university contributes to developing entrepreneurial and organizational capabilities so they can participate effectively in scientific research, proper decision-making, the ability to communicate, strategic thinking, problem-solving, the ability to negotiate and persuade, calculate the expected risks, work under pressure, cooperative work, work flexibly for long hours, and making a proper evaluation.

- **Development of entrepreneurial values among individuals**

The entrepreneurial university contributes to developing entrepreneurial values, including independence, belief in the importance of work, belief in the value of knowledge, and faith in the importance of the individual and society.

- **Promote entrepreneurial teaching and learning**

The promotion of entrepreneurial teaching and learning includes the surrounding community, supports creativity, and encourages initiative and action. Moreover, it also includes content that stimulates knowledge about entrepreneurship, and educational methods that develop entrepreneurial behavior for students in light of the ongoing digital transformation.

- **Preparing appropriate researches**

The importance of new knowledge and technology in scientific research makes universities to play a unique role in promoting development, welfare and economic sustainability. This requires the existence of entrepreneurs and an environment that enables knowledge and technology to be shared around the world. The results of these studies should be transformed into products and services to

solve real-world problems. To achieve this end, this requires creative and entrepreneurial capabilities for universities, including their focus on specific approaches for sharing knowledge rather than transferring it.

- **Promote the employment of students and graduates**

The entrepreneurial university contributes to the promotion and employment of students and graduates since universities qualify and equip them with the capabilities necessary to launch entrepreneurial projects and face their challenges.

- **Integrating internationalization into the university's activities**

Internationalization is an engine for change and development as it contributes to stimulating strategic thinking and innovation, cooperation between students and the faculty with the use of new assessment methods for learning, and opens new horizons for research bargaining. It can enhance the international mobility of scientists and students by establishing partnerships with institutions of higher education, developing the spirit of academic leadership through dealing with new research environments, enhancing job opportunities, and giving the university a global dimension.

Based on the foregoing, the need for the entrepreneurial university can be summarized in the university's desire to face the global challenges of knowledge and technology revolution and the economic crisis, and the contribution to the development of universities, societies, competitiveness and mitigating the problem of unemployment. On the other hand, the entrepreneurial university contributes to economic development that causes an improvement to the quality of life. This study seeks to focus on this importance by highlighting the most important requirements that needs to be taken into account so that the university can be considered entrepreneurial (This will be completely discussed in the fifth chapter of this study).

2.2.4 Characteristics of entrepreneurial university

The availability of entrepreneurial characteristics in universities represents one of the most effective starting points for their progress, in a way that makes them the subject of interest and an impact for workers, beneficiaries and competitors. These characteristics have varied from

researchers in administrative thought. Clark (2004) explained five characteristics of the entrepreneurial university:

- Leadership that integrates traditional academic values with modern managerial perspectives to develop academic culture
- Practical departments that work with their centers to manage coordination between the university and the external environment, and create partnerships and cooperation that lead to new jobs, such as working to develop knowledge and technology.
- A system of incentives for all academic departments that offer pioneering ideas in the essence of academic work.
- An administrative unit that spreads the culture of creativity and entrepreneurship throughout the university.
- Adequate funding to support any entrepreneurial activity in all scientific departments and research centers. In addition to other work that provides renewable sources of funding (government, private sector, donor institutions)

Lautenschlager (2011) summarized the outcomes of the entrepreneurial university in the following aspects:

- Innovative businesses that have a strong impact on creating new jobs, systems and programs.
- Creating new projects that guarantee economic development and product effectiveness.
- Outstanding efforts act as a key driver to foster creativity and change in the work procedures and systems.

Al-Hajjar (2018) indicated the pioneering characteristics of the leading university with the following matters:

A. Creativity: Creativity expresses the organization's orientation to adopt new ideas and implement them to provide new products, services, processes or systems or improve existing ones, and finding appropriate solutions to existing problems (Rasheed & Al-Ziyadi, 2013). Universities need to be creative to be able to present what is new, to be able to continue and stay in the dynamic environments, to find solutions to problems, and to be able to keep pace with developments and face challenges (Omran & Soghayer, 2014).

B. Proactive: As summarized by (Fox,2005), it is the constant search for market opportunities and rapid response to changing environmental trends and focusing on the future, creating ideas, assuming responsibility, anticipating problems and trying to prevent them from occurring, effective communication and maintaining adaptation, and perseverance through implementing new operations or launching new products.

C. Competitiveness: The presence of a competitive climate between universities leads to the improvement of the academic and administrative performance of universities, helps to push universities towards learning about the experiences of advanced universities, encourages them to improve their competitive capabilities to preserve and develop their human cadres. Likewise, it helps them to see curricula, educational programs, and innovative practical research, and enables competitiveness with universities from the around the globe. It also pushes them to develop education systems, programs and methods to meet the needs of beneficiaries, direct research to achieve the goals of society, and achieve comprehensive and sustainable development (Darweesh, 2006).

Competitiveness in higher education includes two basic aspects: first is the distinction in vital areas, such as study programs, teaching staff, libraries, halls, study and research facilities, practical training facilities for students, management style, and quality systems. Second is the ability to attract students (Mustafa, 2003).

D. Independence: Administrative and financial independence represents an important dimension of universities' independence. It is embodied in the right of the university to draw its administrative structure and freedom to exercise its basic functions of planning, organizing, supervising and following up; in addition to its freedom to make decisions, conduct its internal affairs without any external interference, and to set its financial rules and conduct them in all approved budget sections. (Abbas, 1998). Academic financial independence also represents one of the areas of academic freedom, which is represented in the freedom from the university's choice of its systems, programs, curricula and teaching methods therein (Abu Heimed, 2007)

E. Risk tolerance: The risk-bearing feature means the ability of the leadership to bear the consequences arising from any actions, to the extent that it places a degree of loss in the conduct of any behavior, and in the way that leads to the recruitment of its ability to deal with complex situations (Al Nofal & AL Murad & Najib, 2011). It is linked to the realization of uncertainty, and the likelihood of loss or negative consequences. Risk-taking behavior arises

as a result of the organization's tendency to invest its resources in projects whose results may be uncertain. (Madesn, 2007)

From the researcher's point of view, the university should focus on these features and characteristics to be entrepreneurial in its nature. It should focus more on creativity in adopting new ideas and products, services, processes, or systems or improve existing ones, and finding appropriate solutions to existing problems. On the other hand, the university has to invest in opportunities and rapid response to changing in environment trends, focusing on the future, and avoiding problems from occurring. Furthermore, the university should increase its competitiveness with universities from around the globe through striving for excellence in all fields (education, services, research, reputation). Meanwhile, the university has to be independent in its administrative and financial aspects taking into consideration the risk tolerance and bear the consequences arising from any actions.

2.2.5 Entrepreneurial university indicators

There is a shortage in the empirical studies that talk about the factors and pillars, which influence the emergence of the entrepreneurial university (Fernández, Arruti, and Sáenz, 2018).

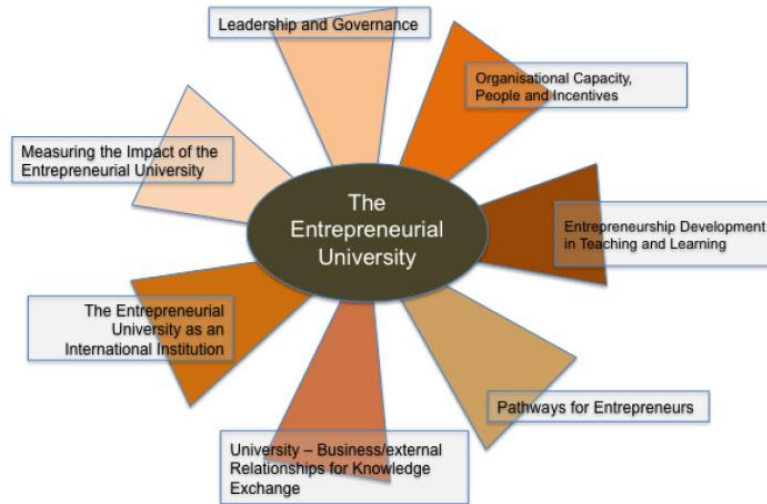
Röpke (1998) noted that there are three important elements for the entrepreneurial university; the first is the adaptation of entrepreneurial management style, the entrepreneurial individuals and the entrepreneurial interaction with the community and environment.

The Organization for Economic Co-operation and Development (OECD) has designed a framework for the universities concerned with strategic planning and decision-making that seek advice, guidance and inspiration for the effective management of institutions of higher education. It is designed for universities interested in self-assessment to keep pace with the development of universities and to reach the required levels. The OECD pointed out that the framework factors are dedicated in the following seven sections:

- Leadership and governance
- Organizational capacity, people and incentives
- Entrepreneurship development in teaching and learning
- Pathways for entrepreneurs
- University – business/external relationships for knowledge exchange

- The Entrepreneurial University as an internationalized institution.
- Measuring the impact of the Entrepreneurial University

Figure 2.1: Guide Framework for Entrepreneurial Universities



Source: (Organization for Economic Co-operation and Development (OECD),2012)

On the other hand, the Abu labhan (2018) suggested a proposed model for strengthen the implementation of entrepreneurial universities criteria which consist of: leadership and governance, organizational ability, entrepreneurial teaching and learning, supporting entrepreneurs, sharing and exchange knowledge, internationalization, institutional impact measurement. The below figure (2.4) shows the proposed model for abu labhan (2018) study.

Figure 2.2: A proposed vision for Egyptian universities to become an entrepreneurial universities



Source: (Abu labhan, 2018)

This study will adopt the entrepreneurial framework of OECD (2012) and Abu labhan (2018) model as they agree about the entrepreneurship requirements for universities which are explained as follows:

2.2.5.1 Leadership and Governance

Entrepreneurship is an essential part of the university's strategy. whereas, the university is an organization with common objectives for achieving entrepreneurship such as, enhancing entrepreneurial motivations, developing competencies and entrepreneurial skills, supporting emerging partnerships, and marketing research results by transferring technology, revenue generation for the university while promoting cooperation between the university and local partnerships.

on the other hand, the university should have a strong commitment to implementing the entrepreneurial strategy for all students, employees, academic staff, and community parties through internal and external communication networks. the university should have a model for integrating entrepreneurship activities at all levels across the university, which requires coordination between departments and colleges, and avoiding duplication.

colleges and units should be independence at work, as overcoming bureaucratic barriers is the key to entrepreneurship, while encouraging the registration of license and patent of entrepreneurial initiatives.

The university should provide facilities for external stakeholders, supporting local cultural activities while providing opportunities for startups, and playing an active role in defining the strategic direction for local development.

2.2.5.2 Organizational Capacity, People and Incentives

The university needs to reduce organizational restrictions, and develop its organizational capacity to achieve its entrepreneurial objectives through a sustainable financial strategy that includes diversified funding sources while reducing dependence on public funding. Furthermore, the university has to promote new relationships between students, the faculty, and workers to support the entrepreneurial agenda while adding links across various colleges to break the traditional boundaries. For example, sharing facilities between different colleges, multidisciplinary administrative structures, and research and teaching groups across colleges.

Universities can promote an entrepreneurial culture by employing individuals who have entrepreneurial attitudes, behaviors, and experience. Entrepreneurial universities require an official professional development policy to support entrepreneurship, and it also requires incentive systems for entrepreneurial behavior to individuals involved in entrepreneurial activities to support commitment to development and innovation.

2.2.5.3 Entrepreneurship development in teaching and learning

The university should be structured in a way that stimulates and supports the development of entrepreneurial skills by adding some jobs, including teachers for entrepreneurship to manage entrepreneurial activities. Moreover, those teachers have to use various teaching and learning methods that give more independence and responsibilities in the student learning process including; case studies, games, simulation, experimental and cooperative learning to support the entrepreneurial process. Furthermore, it is important to ensure verification of the entrepreneurial education outcomes by regularly reviewing the curriculum of the entrepreneurial courses. On the other hand, Cooperation with external stakeholders is a key component in developing teaching and learning at the entrepreneurial University, as it is an important source of expertise and experience that can be used in education and training in entrepreneurial activities through partnerships with communities and local organizations.

The results of the research are incorporated into teaching and learning of entrepreneurship by updating the educational curriculum with the results of recent research while encouraging sharing and exchange of knowledge.

2.2.5.4 Pathways for entrepreneurs

The decision to commit to entrepreneurship is not an individual act but rather it is a process that aims to support the paths taken by the academic staff, workers, and students to move from the stage of generating ideas to employing and implementing them. Furthermore, entrepreneurship requires increasing awareness of the value and importance of developing the entrepreneurial capabilities of the individuals in all areas of the university, and encouraging them to become entrepreneurs by providing opportunities for entrepreneurial expertise by the university. taking into account integrating entrepreneurial activities with educational activities to ensure that entrepreneurs are adequately prepared to establish startups through the implementation of what

they have learned. Moreover, the university should provide facilitates to access funding opportunities for potential business entrepreneurs from undergraduate and graduate students through links with leading institutions. furthermore, it is important to present ideas to investors, establishing business incubators, invest in laboratories, provide research facilities, present information technology services, and to provide training and guidance about entrepreneurship.

2.2.5.5 University – business/external relationships for knowledge exchange

The active participation of the parties concerned is an important factor to the success of the entrepreneurial universities, as the university should commit to sharing knowledge in cooperation with the industry, society and the public sector through partnerships with regional and local organizations, companies, scientific centers, social and educational institutions, graduates, and entrepreneurs. universities should have strong links with incubators, scientific parks, and other external initiatives to give opportunities to share knowledge dynamically. the university should provide opportunities for the teaching staff and students to participate in establishing entrepreneurship with the external environment through scientific trips, courses, field training, research programs, and entrepreneurial social and cultural activities.

The university has to link researches with educational and community activities to influence the cognitive ecosystem. Whereas the knowledge that has been accessed and shared through the entrepreneurial education, research, industry, and society needs to be reviewed again through teaching such as hosting external entrepreneurs, and through Research, such as establishing collaborative research partnerships and working contracts with external stakeholders.

2.2.5.6 The Entrepreneurial University as an internationalized institution.

Internationalization is an essential part of the university's entrepreneurial strategy, as it is the process of integrating the international, cultural or global dimensions into the objectives of teaching and learning, its tasks, operations, research and knowledge exchange. Internationalization itself is not a goal in the end but rather a tool for change and development, taking into account that it is not possible for the university to be entrepreneurial without being international but It can be international without being entrepreneurial.

Therefore, universities must ensure that the internationalization strategy reflects the strategy of entrepreneurship, they have to support the international mobility of its teaching staff and students

through exchange and scholarship plans. on the other hand, the university should seek towards attracting the international teaching staff and business leaders to teach, learn and research through exchange and scholarship programs while providing incentives and rewards. Furthermore, implementing new ideas for teaching and learning in an international environment may increase the university's competitiveness in the international market, and this requires international teaching and learning activities, including study abroad, international exchange, grants, and scholarships.

All of the above requires the university's departments and colleges to participate in international networks and seeking to strategic international partnerships in the fields of teaching and research.

2.2.5.7 Measuring the impact of the entrepreneurial university

The university should assess the impact of its entrepreneurial strategy by collecting evidence on the impact of entrepreneurial activities, which in turn is used as a tool for reviewing the university's strategy and mission. moreover, the university should assess the impact of the entrepreneurial education in all colleges and departments at various stages of the educational process, comparing results, setting results, plans for development, improvement implementation, measuring the level of participant satisfaction and changes in the participant's motivation, measuring the level of efficiency of skills acquired from entrepreneurial learning activities. furthermore, the university should assess the impact of knowledge sharing activities including the number of startups, the number of international partnerships, the number of patents, the number of research projects, and the impact of these activities on the surrounding community.

Whereas, Al-Shammari (2010) indicated that there are five requirements for the transformation into an entrepreneurial university as following:

First: Transforming the university's role from a focus on employment to focusing on job creation

Traditional universities seek to search for the compatibility of their outputs with the requirements of employment in the labor market, while the entrepreneurial university builds and designs its curricula and specializations to produce students who are able to create job opportunities in the market. This new role means that the curricula and teaching methods revolve around investing research, ideas and inventions to enable the university to contribute to the country's global competitiveness. Furthermore, the entrepreneurial university prepare its graduate students to a

more complex and less stable working environment which is compatible with the nature of the temporary job, merit-based work contract, international mobility, cultural communication, affiliation with multinational companies, and greater reliance on self-employment. In this sense, the university certificate turns from being a document of sustainable employment to being merely an entry card to the work world.

Second: True partnership with stakeholders from public and private sectors and graduates

Partnership with the stakeholders surrounding the university is an old requirement where many universities seek to ensure for applying it. But what is required is a balanced partnership that allows the university to benefit and interact with the various segments of the local community. Especially the graduates who are considered huge investment assets when the university improves communication with them in the concept of customer-centricity. Moreover, it is important to focus on the partnership of small enterprises, entrepreneurs, and not-for-profit associations, in addition to expanding the establishment of joint ventures, and small enterprises strengthened to build a culture of entrepreneurship in the local community. It's worth to say that communicating with large companies may be investigated by large projects, but spreading a sustainable culture of entrepreneurship needs not to lose sight of small enterprises. Also, obtaining financing for projects through major companies is an achievement that will undoubtedly contribute to supporting entrepreneurial projects. While creating the university organizational culture and behavior requires focusing on the surrounding community and local pioneers.

Third: Technology and knowledge transfer

This is done through close contact with advanced western and eastern universities in the fields of entrepreneurship. technology transfer is achieved through the establishment of scientific parks, innovation centers, intellectual property programs, real and virtual incubators with various purposes and sizes. These incubators, whose role extends from encouraging small self-employment within the university, through providing advisory services and office supplies, to hosting and sponsoring students projects until they graduate from the university. In the same context, these incubators contribute in the embodiment of Triple-Helix theory based on universities, business sectors, and government, which is reinforced through twining contracts with advanced universities in the desired fields.

Fourth: Education based on creativity and innovation

The traditional methods of teaching based on memorization and preservation are no longer suitable for modern university education. As well as being a major obstacle to achieving an entrepreneurial university. Entrepreneurship requires focusing on experiential education which became the common field of university education methods, in addition to education based on generating ideas, reflection, innovation, and unleashing the creativity that is free from stereotypes, framed thinking, and monotonous logical progression. Entrepreneurial thinking also requires the student to focus on the thinking and creativity to the components, activities, and skills of establishing an “institution” during the study period. Moreover, the On the other hand, education based on creativity and innovation requires the adoption of a multi-disciplinary educational system that allows the student to multiply the qualification and choose among the various disciplines. Thus, this develops the scope of the horizon, the spaciousness of thinking, the linking of ideas, and creating a climate of multidimensional education that contributes to reaching an idea that can be converted into a product project.

Fifth: Leadership capable of providing material and moral capabilities to entrepreneurs

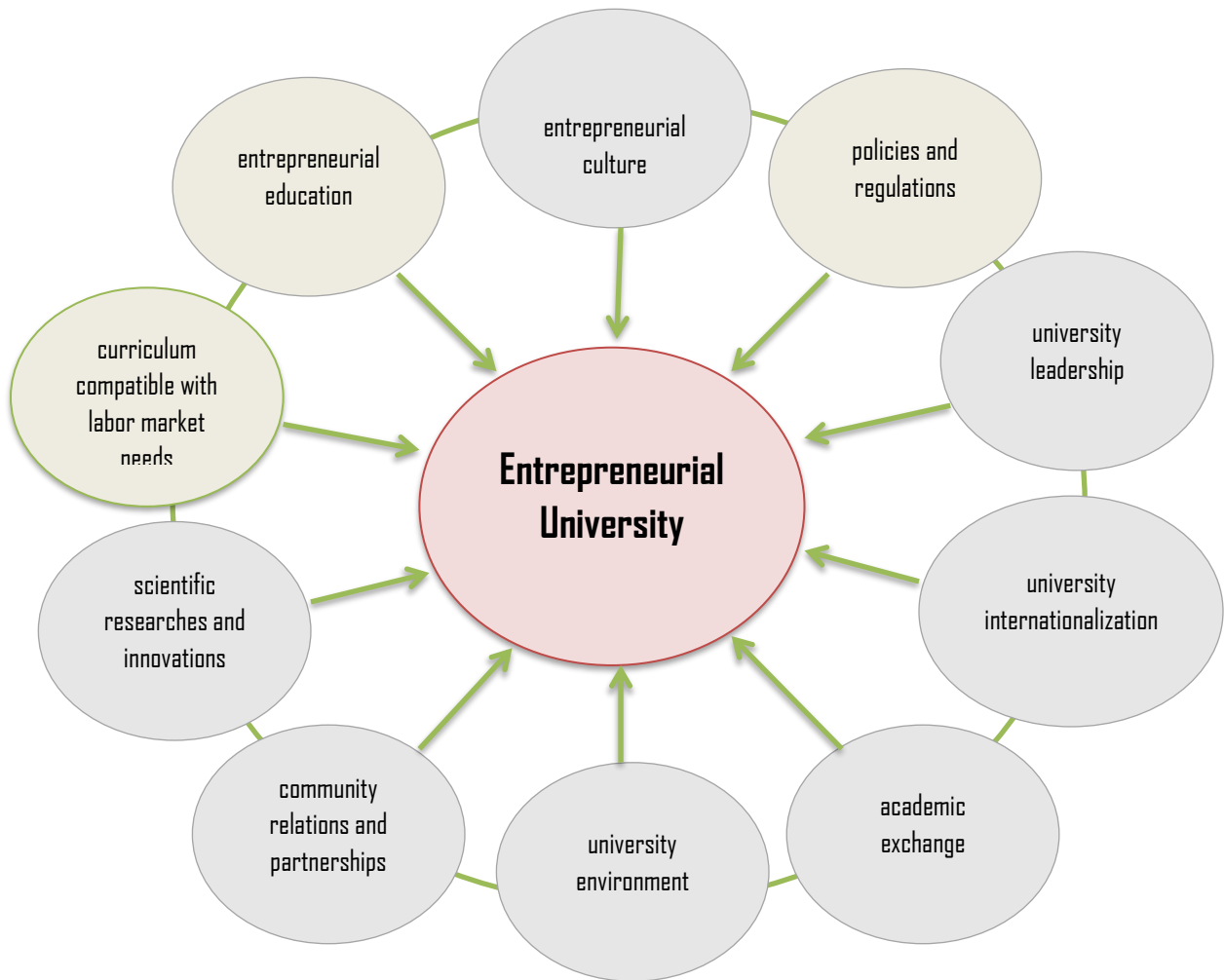
The existence of management which is aware of the transformation importance towards entrepreneurship and convinced of the knowledge generation's mechanisms is one of the most important elements for establishing an entrepreneurial university. Spreading the culture of entrepreneurship requires a period of time, varied programs, and an ongoing commitment. This leadership must be characterized by a deep belief in the idea, serious adoption of an entrepreneurial university, development of strategic plans, and executive programs for its stages. This includes developing programs that support entrepreneurs in university education, such as centers of excellence for entrepreneurship, clubs, student companies, business plan competitions, business fellowships, and entrepreneurship competitions.

In the same context, there are other studies that dealt with the subject of the of an entrepreneurial university requirements, such as (Al-Sirr, 2017) study which recommended the necessity of concerning the culture of entrepreneurship at Palestinian universities in the Gaza strip, in addition, to provide an entrepreneurial environment that supports innovation, creativity, excellence, and achievements. Whereas, the study (Haboush,2017) also recommended working on developing

special courses for entrepreneurship, developing courses and curricula for entrepreneurship, and the need for the university to pay attention to scientific research and link it with the labor market.

Based on the previous entrepreneurial university models for both OECD (2012) and Abu labhan (2018), taking into account the findings and recommendations for other related studies such as Al-Sirr (2017), Haboush (2017), and Al-Shammari (2010); the researcher concludes that the requirements for achieving the entrepreneurial university that this study derived are: (curriculum that meets labor market, entrepreneurial education, university's policies and regulations, university leadership, the culture of entrepreneurship, scientific researches and innovations, community relations and partnerships, university environment, academic exchange, and university internationalization). This is shown below in figure (2.3) for the Entrepreneurial university components that the researcher derived from related studies.

Figure 2.3: Entrepreneurial university components diagram (Prepared by the researcher)



2.2.6 Entrepreneurial University challenges

Various challenges face the universities in their transition into an entrepreneurial one. These challenges can be summarized as follows (OECD, 2012) (Kirby, et.al, 2011) (Hannon, 2013):

- The organizational structure without realistic entrepreneurial goals and clear policies to achieve the goals, which is impossible to achieve the coordinated work for it.
- Some universities believe that entrepreneurship is not the primary job of universities, which depends on the profit and this does not commensurate with the independence of the university, besides the preference of students to become employees in the state.
- Ensuring sustainable financing for entrepreneurial activities in universities with dependence on the state and government, and this is risky due to the occurrence of any unexpected events that can reduce revenues.
- Ensuring the quality of entrepreneurship teaching, especially when there is a lack of experience in entrepreneurship.
- Weak links and connections with the parties concerned, as these links are a key factor for changing mentalities, improving skills, and establishing entrepreneurial projects.
- Lack of academic career paths for those seeking entrepreneurship in higher education institutions and universities.
- Incompatibility between entrepreneurship and research goals.
- Non-fulfilment of entrepreneurial cultural values
- Use of the traditional teaching methods.
- Inappropriate rewards system.
- Impact measurement challenges: There are expectations about the positive effects of entrepreneurial learning on mentalities, skills, and behaviors as well as on the national economy; but a few global universities follow the impact measurement due to its difficulties and the long time it takes in collecting and analyzing data.

The biggest challenge still appears in the funding issue and the low level of quality in both the administrative and academic aspects. On the other hand, the limited roles for different aspects, especially concerning scientific research. These challenges call for the movement towards another role which is the productivity that is based on the integration between teaching, scientific research, and community service. This integration focuses on the partnership between the university and

other sectors of production and services that work on solving the problems of society through the implementation of research results. (Interview with PPU president,2020)

Based on the foregoing, and from the view point of the researcher, the transformation towards an entrepreneurial university is a phenomenon that faces various challenges that prevent the performance of expected and appropriate roles in the epoch of which we live now. Therefore, universities need to adopt new models for the entrepreneurial university formula that has proven its success in developing their educational systems in some developing countries that preceded us. In light of this, there is an urgent need to review and update mechanisms for developing the higher education systems and institutions to reformulate their vision, mission, goals, and pioneering strategic directions to face all scientific developments and global transformations.

2.3 Palestine Polytechnic University (PPU)

PPU is a Palestinian public university that was established in Hebron city since 1978 as an initiative from university graduate union to be an engineering technical. The academic institution offers a diploma degree which then developed through its long career to offer a bachelor's degree in some engineering programs in 1991. It has become a university in 1999 with four colleges offering intermediate diplomas and bachelor's degrees in many programs. In line with the needs of the community, it began to offer master's programs in 2006.

The university adheres to the laws of the Palestinian Ministry of Higher Education. It is a member of the Palestinian Higher Education Council, as well as the union of Arab Universities, the Association of Islamic Universities, and the World union of Universities. It has cooperative relations with many Arab and foreign academic and community institutions.

The University provides students with an academic atmosphere committed to Arab and Islamic values, taking into consideration the circumstances and needs of the Palestinian people and traditions, harnesses all available resources to serve the educational process in both its theoretical and practical aspects. The University is working to employ all means of technology available in the service of this process, and is also working to keep up with the modern trends in this science. (Palestine Polytechnic University site, 2017)

2.3.1 PPU's Vision and mission

PPU put its vision from the year 2017- present as "Towards Science, Technology, and Innovation Entrepreneurial University", while its mission is summarized as a public Palestinian university, which seeks to meet the requirements of the local and global community through offering various scientific degrees and meeting the community needs in the modern, human, scientific and technological fields. It seeks to supply the community with specialized graduates capable of making a positive change in human and environmental development, and economic growth through the use of the finest and most recent methods in teaching and learning, scientific research, and entrepreneurship. In addition to the introduction of advanced technical means in the transfer of information, interest and advancement of scientific research, plus strengthening the university entrepreneurship through continuous training and development, and upgrading the level of performance and continued communication and interaction with the community and academic institutions. (Palestine Polytechnic University site, 2017)

2.3.2 PPU's achievements of entrepreneurial activities

Despite the challenges related to the occupation procedures that still put obstacles for achieving constructive communication, PPU still able to open horizons of cooperation with many international institutions, whether in Europe or America. Whereas, many researchers and academics participated in many international academic and research exchange programs, in addition to the cooperation with prestigious research centers and universities. To enhance the competitiveness of PPU, it focused on the student exchange programs as possible. On the other hand, the university continues to build on its accumulated achievements, through serving its society, which distinguished it from all similar national institutions. Moreover, it continues to enhance the efficiency of the service departments and the excellence of the services they provide. In addition to the endeavor to achieve integration between the various axes that the university is working on, and achieve the goals of its strategy towards enhancing the competitiveness of the university. (Palestine Polytechnic University site ,2017)

It is worth to say that despite the lack of national financial support for scientific research activities, researchers have managed to win support for their research projects from international and regional funds. In the year 2019, the value of the research projects that were funded exceeded one million

dollars, and this was accompanied by an increase in scientific publishing for researchers and specialized research centers. (Palestine Polytechnic University site ,2017)

2.4 Previous studies

Several previous studies have demonstrated the importance of the entrepreneurial university because of its positive impact on achieving quality and excellence in performance in addition to its effects on achieving economic and social development. This section presents a brief explanation of the efforts of researchers on the subject of the entrepreneurial university, classified in Arab and foreign studies.

2.4.1 Arabic Studies

The study (Nassar, 2018) aimed to evaluate the role of Palestinian universities in achieving entrepreneurial education from the viewpoint of deans and faculty members. The study followed the descriptive analytical approach, where the study sample consisted of (180) individuals from faculties deans and faculty members, who were randomly selected from Palestinian universities (Al-Azhar, Islamic, Al-Aqsa). The findings of the study showed the importance of the role of Palestinian universities in achieving entrepreneurial education from the viewpoint of deans and faculty members. The findings also showed the inclusion of the strategic plan for the role of Palestinian universities in achieving entrepreneurial education in these universities. As well as the presence of obstacles limiting the role of Palestinian universities from achieving entrepreneurial education. The study recommended strengthening the philosophy of entrepreneurial education, providing the environment , supporting infrastructure for that , bringing financing and training to entrepreneurship and consulting services in marketing, in addition to raising the level of cooperation between Palestinian universities , seeking international expertise and communicate with the community, optimal using of financial and material capabilities, interesting in capital intellectual development, enhancing entrepreneurial capabilities, and developing flexible plans and policies in applying entrepreneurial education.

In the same context, a study (Al-Sirr, 2017) aimed to identify the availability degree of the entrepreneurial education requirements in Palestinian universities in the Gaza strip, and to come up with the most prominent suggestions for strengthening them. The study relied on the descriptive-analytical method where the questionnaire and interview were used. The study sample

consisted of all the deans, deans' deputies and heads of departments in the Palestinian universities in the Gaza strip (Islamic, Al-Aqsa, Palestine) and their number (166) individuals. The findings showed the availability of entrepreneurial education requirements with a high degree in Palestinian universities, with differences between the answers of the sample individuals to the availability degree of the entrepreneurial education requirements in the Palestinian universities due to the university variable in favor of the Islamic University, where the variable of service years in favor of less than 5 years. The study also recommended the necessity for Palestinian universities to adopt the requirements of entrepreneurial education, activate the role of colleges in adopting a leadership culture, and provide an entrepreneurial environment that supports innovation and excellence.

The study (Al-Hajjar, 2018) aimed to prepare a proposed strategy for converting Al-Aqsa University in Palestine towards an entrepreneurial university, where the study relied on a descriptive and prospective approach in the future, using a questionnaire to measure the degree of availability of entrepreneurial characteristics in the university and the obstacles it faces, where the questionnaire was distributed to a sample of its size (102). Academically, the results showed that the degree of availability of the characteristics of creativity and anticipation is medium, the characteristics of competition and risk tolerance are weak, and the independence feature is very weak, and the overall assessment of the pioneering characteristics was weak, and the degree of availability of obstacles is great. The researcher extracted from these results a matrix strategic analysis which have been relied upon to build the proposed strategy. It is worth mentioning that the goals focused on entrepreneurship in learning and education, scientific research, and in community service.

(Abu Labhan, 2018) in his study entitled "Towards an entrepreneurial university in Egypt: a proposed vision" he focused on the conceptual framework and criteria for evaluating entrepreneurial universities, and monitoring the most important practices of some models of global entrepreneurial universities. To achieve this, he followed the descriptive approach and come up with a proposed vision for transferring Egyptian universities to entrepreneurial universities. The proposed vision is summarized in strengthening the entrepreneurial institutional environment through concerning on institutional culture, organization, practices and entrepreneurial leadership. The vision also focused on enhancing the entrepreneurial spirit among the concerned internal and external parties through entrepreneurial qualification, and giving them opportunities and

entrepreneurial participation. In addition to enhancing entrepreneurial teaching and learning, and internationalization activities. All of the above affect universities with all its internal and external stakeholders, to transform the community into a developed, pioneering society. The study concluded a proposed model for strengthen the implementation of entrepreneurial universities criteria which consist of: leadership and governance, organizational ability, entrepreneurial teaching and learning, supporting entrepreneurs, sharing and exchange knowledge, internationalization, institutional impact measurement.

In a study (Abdel Wahab, 2018) entitled " Pathways of transformation in Egyptian university education institutions towards an entrepreneurial university formula, a forward-looking study ", the study followed the forward-looking approach which aimed to present a set of future scenarios as possible alternatives to the paths of transformation expected to be taken by Egyptian university education institutions to achieve the entrepreneurial university formula. The research focused on three scenarios: the extension scenario that focused on the stability of the current reality. While, the second one is the reform scenario that depended on means starting in establishing a strategic approach that allows the integration of entrepreneurial thought with the existing strategic thought. Whereas, the third is the innovative scenario that referred to the entrepreneurial university model. The researcher shows that the transformation to the university's entrepreneurial formula as an innovative formula depends on the activities of human performance in setting a comprehensive formation structure based on the characteristics of the entrepreneurial university. This requires a transformation in the quality of the human forces from knowledge carriers and consumers to creators and innovators within the framework of the knowledge economy. Furthermore, the transformation in social awareness from a culture of dependency to a culture of entrepreneurship and self-employment. This is a necessary transformation within the framework of a growing global trend towards entrepreneurship to meet the requirements of a knowledge economy based on excellence, leadership, proactive and risk.

Whereas Sultan (2017), analyzes current entrepreneurial characteristics of the Palestinian universities in his research paper entitled "Moving from a Traditional into an Entrepreneurial University: Evidencing from Palestine". The research paper followed the framework of the European Commission / OECD. The researcher applied a structured survey by taking appropriate samples of (200) respondents from four local universities, in-depth interviews and a focused group

discussion that includes the university top management, faculty, students, and external stakeholders. The findings indicate that entrepreneurial activities in Palestinian universities are still in their early stages. The research paper recommends the issues that these universities need to overcome to move from traditional universities to leading universities. The development of entrepreneurship is considered a priority in Palestine as a tool for employment by the dominant youth, in which universities are expected to contribute in it significantly. The study findings show that the Palestinian university needs several requirements to be entrepreneurial such as: An entrepreneurial university development model , staff sensitization in key enterprise and entrepreneurship issues, sensitization and training of academic staff in enterprising teaching methods , sensitization and training of faculty staff in ‘entrepreneurship careers’ , widespread promotion of current entrepreneurship provision , development of a broad staff ‘industry/community placement program’ , and guidelines to assess impact of entrepreneurship provision. Furthermore, there is one weakness in the overall strategy, which is that it does not address any financial issues, in addition to the need for much more detailed project with individual units, colleges and centers that provide various entrepreneurship.

(Haboush, 2017) the study entitled “The Role that Palestinian Universities in Gaza Strip Play in Reinforcing and Developing Their Students Entrepreneurship Skills” which aimed to define the role of Palestinian universities in Gaza strip in enhancing the entrepreneurial skills of their students, according to the variables of the study (university, college, gender) according to the following fields (technical skills, administrative skills, personal skills). The study followed the integrated approach where the questionnaire was used for students and interviews with experts and specialists. The study population consisted of (16224) male and female students, while the sample of the study was limited to (550) students from colleges (engineering, information technology, trade, education) from all levels in the three universities (Islamic, Al-Azhar, Palestine) in the governorate of Gaza. The findings of the study showed that Palestinian universities have an average role in enhancing entrepreneurial skills for students from the viewpoint of students, where the field of technical skills obtained an average rate, while the field of administrative skills got a low percentage of the problem, while the field of personal skills got a high rate. The study recommended spreading the culture of entrepreneurship among students, developing special courses for developing entrepreneurial skills, and paying attention to scientific research in the field of entrepreneurship.

The study (Gulab and Jannah, 2016) aimed at knowing the role of entrepreneurial capabilities represented in opportunity ability, relational ability, conceptual ability, organization ability, strategic ability, commitment ability, learning ability, , and ability of personal strength in promoting strategic entrepreneurship represented by exploration and investment strategies .Where a questionnaire was applied to a sample consisting of (60) deans in private universities in the Middle Euphrates region. The findings showed that the universities adopt new methods to attract these capabilities, with the intention of strengthening strategic entrepreneurship.

(Abdel Azim, 2016) study aimed to propose a suggestion for the activation of entrepreneurship education in Egyptian universities in the light of the experiences of foreign and Arab universities in this field. To achieve this goal, the study relied on the comparative approach with its descriptive-analytical approach. After analyzing the Egyptian experience in the field of education for entrepreneurship, the study suggested a scenario to activate education for entrepreneurship in Egyptian universities in the light of being guided by the experiences of some universities, where the study focused on themes: the need to employ programs and courses, and the development of teaching methods used to make these decisions, and the establishment of institutions and centers responsible for promoting the spirit of leadership in the Egyptian universities, and the strengthening of entrepreneurship education by.

(Mosaeida, 2015) study revealed the effect of transformational leadership in achieving entrepreneurship and institutional innovation at Al-Zarqa University. Where a questionnaire was applied to a sample of (53) academically, and the findings showed that there is a significant effect of each dimension of transformational leadership on achieving entrepreneurship and institutional creativity.

The study (Abdel-Qader, 2014) showed the obstacles facing the College of Administration and Economics at Anbar University in the transition towards the pioneering organization, where a questionnaire was applied to a sample of (76) academically, and the findings showed that the most influential obstacles are the low level of outputs, then social obstacles, then organizational obstacles Then, the obstacles of senior management, then the financial obstacles, then the technical obstacles, and finally the cognitive obstacles.

(Ameen, 2014) study revealed the relationship between the components of entrepreneurial quality (independence in work, personal factors for entrepreneurs, motivation, entrepreneurial behavior,

external environmental factors) and strategic reputation at the University of Duhok. Where a questionnaire of (67) administrative leaders was applied, and the study showed a relationship correlation between entrepreneurial quality and strategic reputation.

(Al-Moamni, 2014) study examined the effect of workers entrepreneurial characteristics in achieving future directions of Jordanian private universities. where a questionnaire was applied to a sample of (53) deans, and the results showed a moral impact of the workers entrepreneurial characteristics (self-confidence, initiative, love of achievement, independence, tolerance Responsibility, creativity and risk) in achieving strategic directions.

Furthermore, the study (Rasheed and Al-Ziyadi, 2013) showed the role that the entrepreneurial approach plays in achieving distinguished university performance, where a questionnaire was applied on a study sample which consisted of (100) leaders at the University of Al-Qadisiyah and Karbala, Babil and Kufa. The entrepreneurial approach was represented in the dimensions of (creativity and acceptance of risk and anticipation). While the distinguished university performance represented in the dimensions of (the results of student learning, operations, the results of the focus on the beneficiary, the results of focusing on the work force, the results of leadership and governance, the results of the budget and financial and market results). The results revealed a strong positive correlation between the dimensions of the entrepreneurial approach and outstanding university performance.

The study (Rasheed and Al-Sultani, 2013) examined the relationship between the characteristics of high-performance organizations and entrepreneurial orientation. As a questionnaire was applied to a sample of (101) leaders in the Emirates University as it ranked (227) in the list of the best (500) universities in the world for the year (2008) .The findings showed a strong positive relationship between the characteristics of high performance organizations (design, strategy, process, technology, leadership, individuals and their roles, culture, external orientation) and entrepreneurial orientation (creativity, risk tolerance, and proactive).

2.4.2 English Studies

The study (Bonwell, 2016) proposed strategies to enhance activities to shift towards an entrepreneurial university, where interviews and a focused group were conducted with (20)

academic leaders, and the findings showed that the most suggested areas for Entrepreneurship development were in programs, curricula, cooperation and partnership with the industrial sector.

Meanwhile, the study (Pereze, 2016) diagnosed the entrepreneurial orientation of workers towards academic entrepreneurial activities, according to the theory of planned behavior. Where a questionnaire was applied to a sample of (146) academic at Turabo University. The findings showed an entrepreneurial orientation for activities related to entrepreneurial education, then activities related to discovering knowledge, then the activities related to marketing.

The study (Zaharia & Gibert, 2005) aimed to address the requirements of establishing world-leading universities in the age of knowledge. The methodology of the study relied on the use of one of the qualitative research tools, which is content analysis. To achieve the objectives of the study, the tool was applied to a selected sample of studies published in scientific periodicals during the time period (1998-2005). The study findings showed that there are four basic requirements for establishing the world's leading universities in the era of knowledge, which is: institutional building, effective human resource management, management and organizational government, internationalization.

A study (Einnar & Sorheim, 2005) aimed to identify work-based learning through studying work-based activities to encourage entrepreneurship and entrepreneurial education in five Swedish universities where the study used the descriptive analytical approach. To achieve the purposes of the study the questionnaire tool was applied in addition to conducting interviews with (20) individual (managers, faculty members, project coordinators, and education programs) in five universities. In addition to that it has collected information through other secondary sources such as books, reports, articles and websites. The study concluded that the traditional educational activities that depend on teaching students in the classroom are few, and that many initiatives are increasing significantly towards work, with a focus on learning by doing and groups, by relying on methods of entrepreneurial education, establishing new projects, and marketing university research.

A study (Savetpanuvong & Pankasem, 2014) aimed to propose an integrated model for the University of Entrepreneurship by combining the Timmons model, the triple Helix model, a resource-based perspective, and innovation and learning theories to answer the definition, characteristics, and processes of an entrepreneurial university. An in-depth interview was applied

with academic experts in entrepreneurship, which reveals that the Entrepreneurial University creates entrepreneurial students through a mentoring instructor who explores opportunities across government and industry communication. Learning resources are re-focused to learn to work and plan business flexibly. Innovation is a shared value among actors including students, teachers, employees, alumni, industry, government, the funding agency, and society.

The study (Nehan and Olcay, 2012) identified entrepreneurial trends in public universities in Turkey, by researching the characteristics of the university that determine entrepreneurial trends, through analyzing the content of universities' websites. The findings showed that universities' entrepreneurial orientations are embodied in strategies, culture, institutional structure, cooperation, and partnerships Organized by the university.

(Liano, 2010) examined a multi-level model for academic entrepreneurship, where (2649) engineering professor from (103) American universities were surveyed. The findings showed that the intentions towards entrepreneurship is related to the awareness of its feasibility and applicability, especially if university values encourage entrepreneurial behavior, and is also linked to increased technological innovation and implementation of innovative projects.

The study (Case, 2006) examined the entrepreneurial and external leadership behaviors, and their role in improving student achievement, through a sample interview of (33) high school principals and (17) community members from five regions in Southern California. The findings showed that most entrepreneurial behaviors practiced by the directors are: supporting creative ideas and programs, building working partnerships with individuals and institutions to obtain resources, building internal and external leadership capacity, focusing on resources related to student needs, monitoring and evaluating school programs, improvement in students, and programs funding.

Furthermore, (Riggs, 2005) study examined the entrepreneurial attitudes and their relationship to colleges' income-generating activities, where (4) interviews were conducted, and the opinions of (47) colleges heads were surveyed. The findings indicated that the characteristics of entrepreneurial attitudes are highly available, and the characteristics are: creativity, risk tolerance, innovation, change, team building, competitiveness, proactive, persuasion, and the presence of high efficiency in practicing fundraising activities, which makes them entrepreneurs.

2.4.3 Comments on previous studies

As a conclusion from the above previous studies, the researcher noticed that there is a lack of Arabic and Palestinian studies that dealt with the entrepreneurial universities from all of its aspects. Most of these studies are concerned basically on the entrepreneurship culture, leadership, education, skills, and internationalization. On the other hand, only both of the studies (Abu labhan, 2017) and (Sultan, 2017) covered the topic of proposing a model for entrepreneurial university which basically depends on the OECD framework. Whereas, Abu labhan (2018) indicates that the entrepreneurial university criteria are consist of: leadership and governance, organizational ability, entrepreneurial teaching and learning, supporting entrepreneurs, sharing and exchange knowledge, internationalization, institutional impact measurement. Meanwhile, Sultan (2017) show that the Palestinian university needs several requirements to be entrepreneurial such as an entrepreneurial university development model, staff sensitization in key enterprise and entrepreneurship issues (culture, leadership, and policies), sensitization and training of academic staff in enterprising teaching methods (culture, policies, leadership, and entrepreneurial education), sensitization and training of faculty staff in ‘entrepreneurship careers’ (leadership ,culture, relations and partnership), widespread promotion of current entrepreneurship provision (polices, leadership, community relation and partnership) , development of a broad staff ‘industry/community placement program’(development of curriculum that meet the labor market needs, leadership, academic exchange, internationalization, relations and partnership, and scientific research), and guidelines to assess the impact of entrepreneurship provision(through knowing the number of and startups, projects, which will affect and improve the university reputation). So, the studies (Abu labhan,2018),(Sultan, 2017) and (OECD, 2012) covered the entrepreneurial university requirements that the researcher derived which are: entrepreneurial leadership, entrepreneurial culture, entrepreneurial education, entrepreneurial environment, scientific research and innovation, policies and regulations, community relations and partnerships, academic exchanges, university internationalization, curricula compatible with the labor market needs.

The current study benefited from the previous studies in writing the theoretical framework and preparing the questionnaire in the applied study, and in interpreting the results. Where, this study is distinguished by its reliance on an analysis and description of the reality of entrepreneurship at

PPU and followed by proposing a model for the EU depending on the requirements that the researcher derived from the related studies.

The current study differed with most of the previous studies in terms of the approach used in the study, which is the exploratory/descriptive approach. It differed with the studies (Abu Labhan,2018), (Nassr,2018) where the analytical descriptive approach was used. likewise, it differs with the study (Abdel Wahab, 2018) that followed the prospective approach.

In terms of the study tool, the current study agreed with most of the previous studies in terms of the instrument used, which is the questionnaire and interview, as it agreed with the study (Al-Sirr, 2017), (Nassr,2018), (Al Hajjar,2018), (Sultan,2017), (Gulab and Jannah, 2016).

In regard of the study population, the current study was characterized by the use of a comprehensive survey method as the study sample is the complete population which is represented in the senior and middle management at PPU. Thus, it differs from previous studies, where the study population consists in most studies of students and teachers.

2.4.4 Distinctions of the study

This study was distinguished from previous studies by the following:

- The study subject is an important aspect in the current era which receives attention from universities in most countries around the world in general and in Palestine in particular. This requires determining the requirements for the EU in order to propose a model as a case study on PPU. Where PPU is a Palestinian university that strives to achieve its entrepreneurial mission and vision. It is also concerned with conducting entrepreneurial activities and events such as spreading the entrepreneurship culture among its staff, in addition to focusing on entrepreneurial education. (Interview with PPU president, 2020) From this standpoint, this study will provide insights into entrepreneurship by proposing a model to be tested at PPU.
- The study dealt with the subject of the transformation towards an entrepreneurial university in one of the important Palestinian universities in the Hebron city, which is striving to achieve entrepreneurship in various fields, to reach its vision of "towards a university of science and technology and pioneering creativity" and a university that serves society , Which is Palestine Polytechnic University.

- The study differed from previous studies in the objectives that it seeks to achieve, as the sub-objectives of the study came from its main goal of proposing a model for PPU transformation into an entrepreneurial university, through studying the reality of entrepreneurship at the university. Taking into account that there is a lack in the Arabic and Palestinian studies about this topic.
- Most of the Palestinian studies focused on leadership, entrepreneurial culture, and education requirements. In contrast, this study differs from other studies in its comprehensive topic "entrepreneurial university" which covers other university aspects that the researcher derived from related studies such as: curriculum, policies, university environment, scientific research and innovation, relationships and partnerships, academic exchange, and internationalization.

Chapter Three

3 Research Design and Methodology

3.1 Introduction

This chapter represents an illustration of the study's population and sample, and describes the tools and procedures followed during its implementation. It also outlines the statistical treatments that have been used in the analysis of the results.

3.2 Methodology

To achieve the objectives of the study, the descriptive/exploratory methodology was used. Where the study based on the description of the entrepreneurship at (PPU) at the current time. It is also considered as an exploratory methodology that investigates the phenomenon of entrepreneurship at the university to get the results about the necessary requirements to transform the university into an entrepreneurial. After reviewing literature review from previous studies, a questionnaire was designed to collect the data which was processed and analyzed. furthermore, an interview was conducted to explain some facts about the reality of entrepreneurship at PPU.

3.3 Sources of data collection

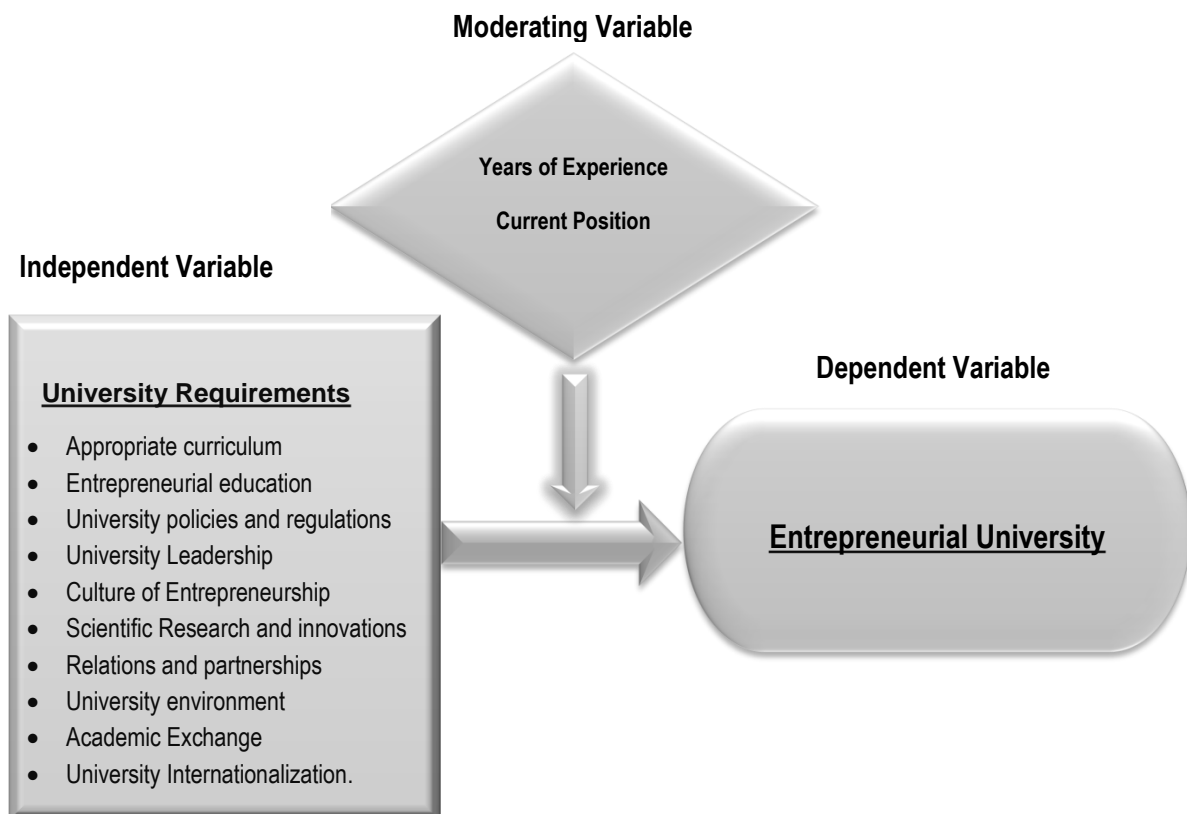
1. Primary sources: The primary data was collected through a questionnaire and an interview. The questionnaire was developed based on the literature review and previous studies which were then presented to arbitrators, who offered their remarks and suggestions that helped the researcher to better develop the questionnaire to serve the purposes for which it was designed.

2. Secondary sources: The study relied on previous studies and other literatures, such as books, thesis, articles, periodicals, and online articles related to the topic of universities' transformation towards entrepreneurship.

3.4 Study Model and variables

3.4.1 Study Model

Figure 3.1: An illustration of the relationship between independent and dependent variables, (Prepared by the researcher)



3.4.2 Study operational variables

With reference to the previous studies that dealt with the subject of the study, it was found that the variables are as follows:

- A. Independent Variables:** Curricula, entrepreneurial education, policies and systems, university leadership, culture of entrepreneurship, scientific research and innovation, community relations and partnerships, university environment, academic exchange, and university internationalization.
- B. Moderate Variable:** Years of experience and current position.
- C. Dependent variable:** Entrepreneurial University which is characterized by: creativity, innovation, good reputation, and startups that are established through its innovative graduated students.

3.4.2.1 Description of study variables

In this section of the study, the researcher will present the definition of variables that were derived from the literature review and previous studies according to what was designed in the questionnaire in order to meet the study objectives.

A. Independent variables

1. **Curriculum:** Content, teaching methods, classroom and extra-curricular activities, teaching aids and appropriate assessment methods which keep pace with the changes and developments of the current and future society to produce individuals compatible with the current community requirements to achieve their personal and community goals. (Abdul Hai, 2016)
2. **Entrepreneurial education:** Creativity-based education that aims at developing students' minds and abilities necessary for self-employment, so that they can be job creators rather than job seekers. (European Commission, 2012)
3. **University's policies and regulations:** The formal statements of principle that regulate, direct, and control the University's operations. They reinforce decision-making and/or the way members of the University's community conduct the activities which protect the integrity of the university's mission, operations, and reflect the university's governance structure. (Federation University ,2019)

4. **University leadership:** A university's leadership that combines the inspiration for change and the art of influence in a dynamic environment, which works within the vision, innovation, and creativity for the proactive in all administrative and academic work. It also includes the ability for competitiveness, sustainability, independence and risk bearing to invest in the opportunities that lead to the university's progress and development. (Qahtany, Makhlafy, 2019)
5. **Culture of entrepreneurship:** An environment where individuals are motivated to innovate, create and take risks and are encouraged to brainstorm new ideas or products. (Reference,2020)
6. **Scientific research and innovation:** The development of practical research that aims at consolidating the concepts of innovation and contributing effectively and quickly in the development of education and community through several patents and new industries that serve society because of industrial research in several disciplines. (Al-Anzi ,2009)
7. **Community relations and partnerships:** Creating and sustaining relationships with key partners and collaborators. This step is considered essential to achieve the full potential of entrepreneurship at a university; in research, teaching and relationships with the public sector, regions, businesses, alumni, and professional bodies etc. (OECD, 2012)
8. **University's environment:** The environment that offers diverse opportunities, such as funding resources, research, innovation, entrepreneurial programs, flexible interaction, and networking mechanisms (Nedeva, 2013).
9. **Academic exchange:** An exchange program between the university and another university abroad. The program allows students from the university to spend one or two semesters in the other institution while taking courses. This is one of the most effective methods to develop students' international experience, which allows them to join a student exchange or study program for one or two semesters. (Atalar,2019)
10. **University's internationalization:** The integration of international and culturally interdependent dimensions into the basic functions of universities, i.e. teaching, research, and service, with a view to improve the quality and competitiveness. (Abdel Raouf, 2016)
11. **Funding resources:** a supportive requirement for accelerating the transition towards an entrepreneurial university. It is defined as the provision of resources to fund a need, program, or project. While this is usually in the form of money, it can also take the form

of effort or time from an organization or company. In general, this word is used when the company uses its internal reserves to meet its need for cash, while the term financing is used when the company obtains capital from external sources. On the other hand, Fund can be for both long-term or short-term purposes (Wikipedia,2020)

B. Dependent variables:

Entrepreneurial University: "The concept refers to a set of characteristics that distinguish one university from other universities. The most important characteristic of this concept is the existence of a catalytic environment for the entrepreneurship in the areas of research, development, innovation, which support the entrepreneurship culture for the faculty members, students and staff, in addition to the establishment of broad partnerships with the government and private business sector. This trend comes as a change base in a higher education through creating a culture of knowledge and sustainable development in a society by focusing on areas of creativity and innovation in the production and exploitation of knowledge." (Abdulwahab, 2018)

3.5 Study population and sample

The study population consisted of employees in the senior and middle management at Palestine Polytechnic University, whose total number was (38). Tables (3.1) and (3.2) indicate the categories of the employees who participated in the study and they are: (President, Vice presidents, Deans, Heads of Academic Departments, Directors of relevant Administrative Departments, Managers of relevant Centers). This study was conducted over the first semester of the academic year 2019/2020.

Table 3.1: Distribution of the study population

Category	Study Population #
Presidents	1
Vice Presidents	4
Deans	8
Heads of Academic Departments	14
Directors of Administrative Departments	3
Center Managers	8
Total	38

- **Study sample:** All elements of population were undertaken in this study; therefore, the complete population was adopted.

As the study sample has undertaken the whole study population, table (3.2) below describes the study population in details.

Table 3.2: List of targeted departments and centers of the study population

No	Category	Category Name
1.	Presidents	President
2.	Vice Presidents	Academic Affairs
3.		Administrative Affairs
4.		Planning Affairs
5.		Community Services
6.	Deans	Registration and Admission
7.		Scientific Research
8.		Students Affairs
9.		Faculty of Engineering
10.		Faculty of IT and Computer Engineering
11.		Faculty of Applied Science
12.		Faculty of Administrative Science and Informatics
13.		Faculty of Applied Professions
14.		Heads of Academic Departments
15.	Electrical Engineering Department	
16.	Civil and Architectural Engineering Department	
17.	Mathematics Department	
18.	Computer Engineering Department	
19.	Computer Science and IT Department	
20.	Chemistry Department	
21.	Administrative Science Department	
22.	Information System and Multimedia Department	
23.	Civil and Architectural Engineering Professions Department	
24.	Mechanical and Electrical Engineering Professions Department	
25.	Administrative Sciences Department	
26.	Computer and Information Technology Department	
27.	Banking and Finance Department	
28.	Directors of Administrative Departments	Technical Consultancy Department
29.		Quality Assurance Department
30.		Public Relation Department
31.	Managers of Centers	Language and Translation center
32.		Computer Center
33.		Biotechnology Research Center
34.		Excellence in teaching and learning Center
35.		Continuous Education Center

36.		Stone and Marble Center
37.		Industrial Synergy Center
38.		Occupational Safety and Health Center

A comprehensive survey method was used for all study population in the senior and middle management at PPU (president, vice presidents, deans, heads of academic departments, heads of administrative departments, and centers managers).

The (38) questionnaires were distributed to all of the study population, and they were all recovered. All of the questionnaires were (100%) valid for statistical analysis.

3.6 Study limitations

The following deans, directors and managers were excluded from the study population for the following reasons:

- Medicine Faculty. Due to its recent inception, The Faculty of Medicine has not yet have any graduate students and was unable to provide the needed data for this study.
- Human Resources Department, This HR department at the university is limited to personnel affairs and not human resources and therefore the department cannot give information related to the subject of the study.
- Store, Library, and Procurement departments. These departments are not relevant to the subject of study due to their purely administrative work as this study specialized in the academic side of the university.
- Centers of Car Inspection and Employment Services, because these centers are not related to the subject of the study and cannot provide information the relevant data needed.

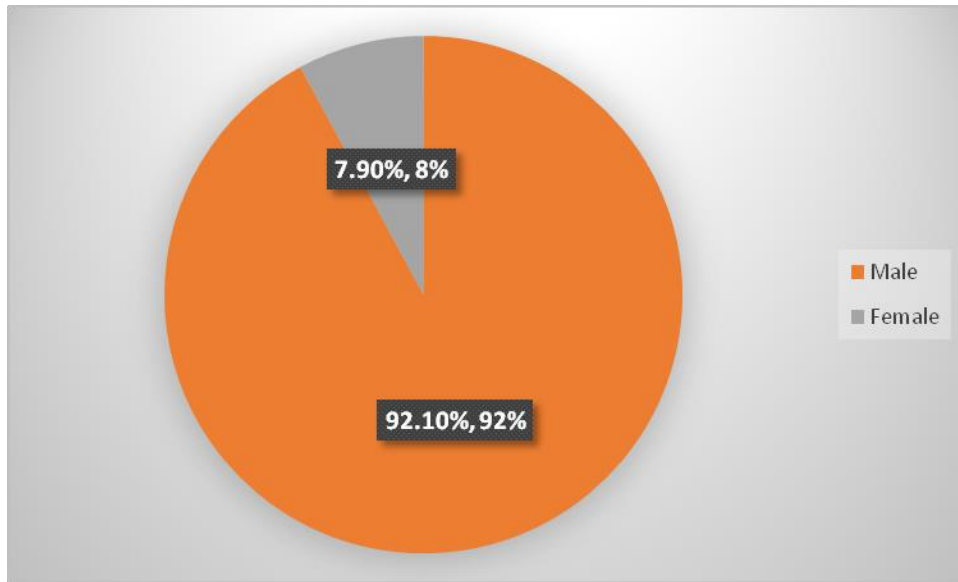
3.7 Characteristics of study population

The following table (3.3) and figures (3.1, 3.2, 3.3, 3.4, and 3.5) describe the demographic characteristics of the target population, respectively.

Table 3.3: Demographic Characteristics of Target population

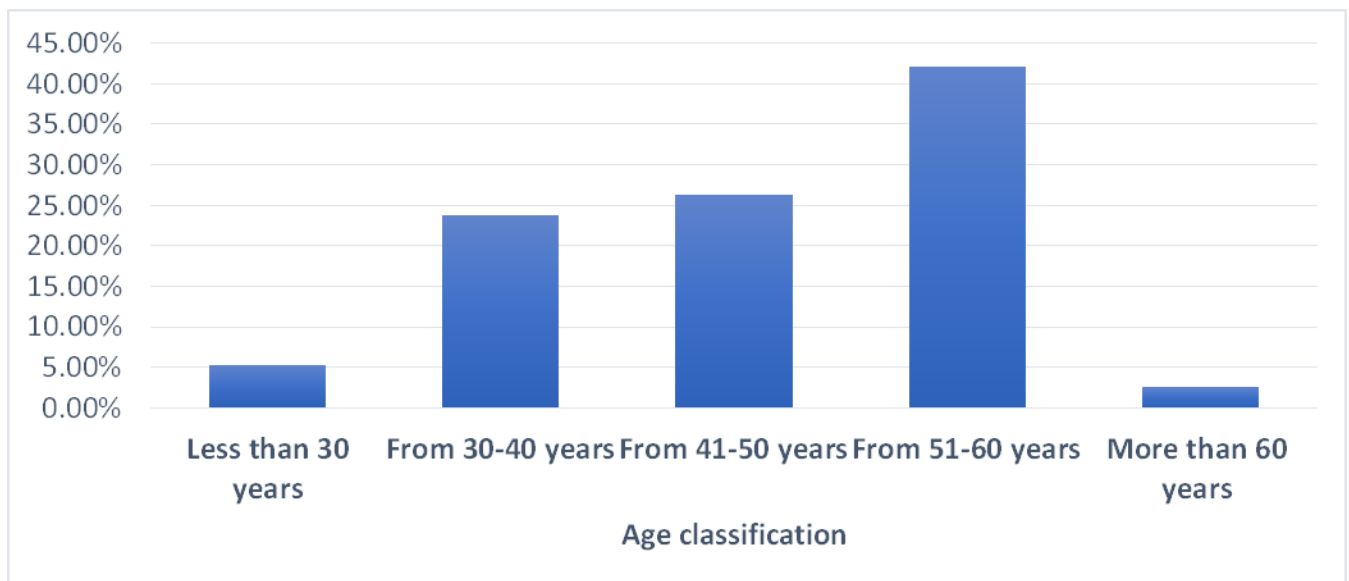
Variable	Classifications	Frequency N= 38	Percentage (%)	Missing Data
Gender	Male	35	92.1%	-
	Female	3	7.9%	
	Total	38	100.0%	
Age	Less than 30 years	2	5.3%	-
	From 30-40 years	9	23.7%	
	From 41-50 years	10	26.3%	
	From 51-60 years	16	42.1%	
	More than 60 years	1	2.6%	
	Total	38	100.0%	
Academic Qualification	BA	5	13.2%	-
	MA	9	23.7%	
	PhD	24	63.2%	
	Total	38	100.0%	
Work Experience	Less than 6 years	2	5.3%	-
	From 6-10 years	4	10.5%	
	From 11-15 years	8	21.1%	
	From 16-20 years	5	13.2%	
	From 21-25 years	7	18.4%	
	More than 25 years	12	31.6%	
	Total	38	100.0%	
Current Position	University President	1	2.6%	-
	Vice President	4	10.5%	
	Dean	8	21.1%	
	Head of Academic Department	14	36.8%	
	Head of Administrative Department	3	7.9%	
	Center Director	8	21.1%	
	Total	38	100.0%	

Figure 3.2: Distribution of target population according to gender



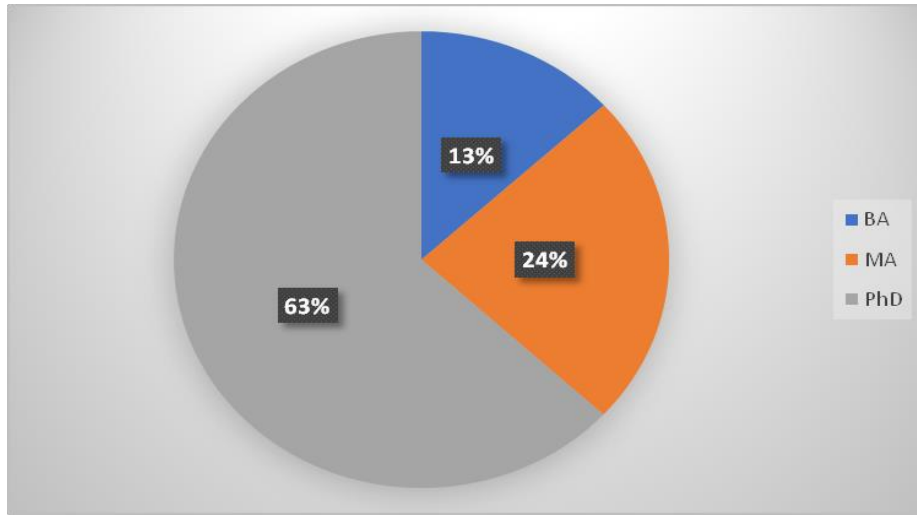
The previous figure shows the distribution of the respondents according to the variable of gender. The percentage of male respondents was 92%, while it was 3% for females. This means that males occupy most of the senior and middle management positions at PPU; however, only three females occupy the position of heads of academic departments. This would mean that the university's senior management lacks the female component.

Figure 3.3: Distribution of target population according to age



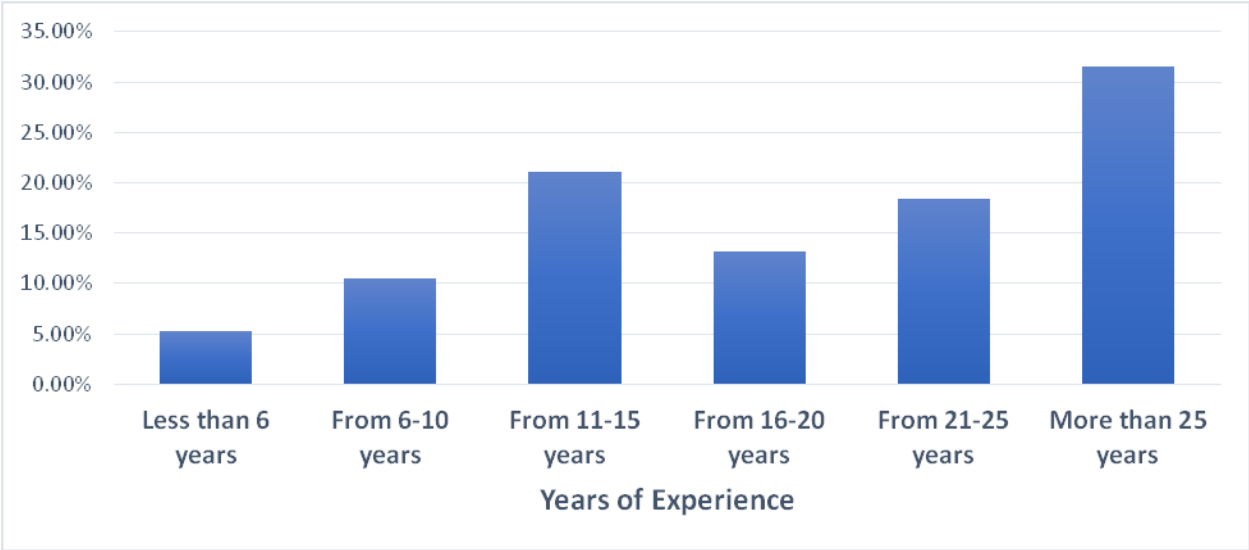
The previous figure shows the distribution of the respondents according to variable of age. Employees of ages between 51-60 years old had occupied the largest among individuals who work in the senior and middle management at PPU. This was followed by individuals of ages between 41-50 who occupied 43% and 26% respectively. However, the lowest percentage was 3% and it was for individuals who fall under the category of more than 60 years old.

Figure 3.4: Distribution of study population according to academic qualifications



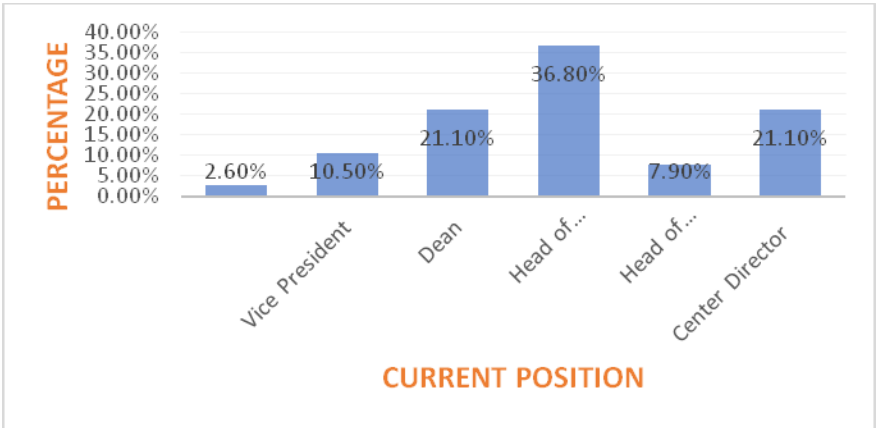
The previous figure shows the distribution of the respondents according to the variable of academic qualification. The figure shows that 13% of the respondents hold a bachelor's degree, 24% hold master's degree, and 63% of them hold the doctorate degree. This means that most of the study population holds PhD degrees.

Figure 3.5: Distribution of target population according to work experience



The previous figure shows the distribution of the respondents according to the variable of years of experience. Individuals who have more than 25 years of experience at the university had the largest percentage with 33%, whereas the lowest percentage was for the individuals who have less than 6 years of experience. This means that most of the workers in the senior and middle management at the PPU are those who have high work experiences.

Figure 3.6: Distribution of study population according to current position



The previous figure shows the distribution of the respondents in relation to the variable of their current position. The results above indicate that the position of the president secured the lowest percentage with approximately 2.60%, while the position of vice presidents obtained about 10.50%. This was followed by the position of the deans with 21.10%. In contrast, heads of academic departments obtained the highest percentage with approximately 36.80%, 7.90% for the

heads of administrative departments, and approximately 8.3% was for the position of the directors of centers. This means that most of the study population are the heads of academic departments.

3.8 Study tools

In the current study, the comprehensive survey was used for the employees in the senior and middle management at Palestine Polytechnic University (PPU), while the questionnaire and the interview were the tools used for collecting data as follows:

Tool 1: Questionnaire

After reviewing the literature, previous studies, and relevant scientific research articles, and after adopting different questions from different related studies; the survey questions were derived depending on some studies that touch the subject of entrepreneurial university to answer the study questions and meet its objectives. After that, the researcher designed and developed the survey and sent it to arbitrators. Then, it was updated and modified to meet the arbitrators' notes and recommendations to be ready for distributing it to the study population

Tool 2: Interview

An interview was conducted with the PPU president to ensure that there are no inconsistencies in the questionnaire's answers. On the other hand, some points need clarification depending on the current situation PPU. Where eight direct questions were derived from the questionnaire paragraphs that ranked with a low degree and others that got the lowest moderate degree. This will lead to clarify the unobvious and vague results that need further explanation

3.9 Development of the questionnaire

The study developed the questionnaire as a main tool to deliver and collect data from the study population. As a result, (38) questionnaires were distributed to all of the study population. At the time of distributing the questionnaires, in- person interviews were conducted with employees in the senior and middle management at the University for the purpose of enhancing the discussion of the results. All of the 38 distributed questionnaires were received back from the respondents, and all of them were valid for the statistical analysis.

The questionnaire was arbitrated for the purposes of research and data collection; then, it was distributed to the study population. The questionnaire consisted of three sections as follows:

- **First section:** It included the general data and personal information (*demographic variables*), which were entered in as the research variables. They were (gender, age, educational qualification, number of years of experience, and current position).
- **Second section:** It has tackled and discussed the reality of entrepreneurship at PPU. It consisted of 10 themes as follows: curricula and the labor market, entrepreneurial education, university policies and systems, scientific research and innovation, community relations and partnerships, university environment, university leadership, culture of entrepreneurship, academic exchange, and university internationalization.
- **Third section:** It has dealt with the requirements needed for the PPU’s transformation into an entrepreneurial university. The section consisted of 10 themes, which should be arranged in ascending order according to its importance as a requirement for the entrepreneurship at PPU.

In the second and third sections of the questionnaire, the paragraphs were designed based on a five-dimensional Likert scale. They were built and corrected using the Statistical Packages for Social Sciences (SPSS) program in data processing. The answer scale and weights were given as follows: -

Table 3.3.4: Paragraphs’ answer scale and weights

Answer scale	Always	Mostly	Sometimes	Rarely	Never
Weight	5	4	3	2	1

3.10 Pilot Study

The questionnaire of the study was modified after a pilot study, which was made to measure the simplicity and the time required to fill it in; in addition to the validity and reliability of the questionnaire's paragraphs. Where a representative sample of the study population was chosen to answer the questionnaire. After that, some necessary improvements were made based on their feedback as some questions were deleted and others were replaced.

3.11 Ethical consideration

The consent of the study population members was taken before they participated in the research, and they were acquainted with the research objectives and the other changes or modifications that were made on it. There was no exploitation of any personal benefit for the researcher, whether from the study population or from the university. Additionally, the researcher respects the policies of PPU, which were also researched.

3.12 Validity of study tool

Validity is defined as the ability of an instrument to measure what it is intended to measure. The validity of the questionnaire was checked by two methods:

-First: Context validity:

An academic supervisor and specialists in the field of the study have checked the validity of the questionnaire. They stated that the questionnaire is valid and appropriate to achieve the purpose of the study.

-Second: Structural validity:

As for the structural validity, it was checked by measuring the Pearson Correlation between each section of the questionnaire and the total degree of it. The results showed that all correlations are statistically significant with P-values less than $\alpha=.05$. This indicates that there is a high internal consistency between paragraphs in the questionnaire, and the instrument is suitable to perform the intended measurement. Table (3.5) clearly shows the above-mentioned information.

Table 3.5: Pearson Correlations between questionnaire's sections and total degree

Section's Number	Section's Title	Pearson correlation	Sig.
1	The Curriculum and the Labor Market	.550**	.002
2	Entrepreneurial Education	.635**	.000
3	University Regulations and Polices	.909**	.000
4	University Leadership	.803**	.000
5	The Culture of Entrepreneurship	.769**	.000
6	Scientific Researches and Innovations	.916**	.000
7	Community Relations and Partnerships	.808**	.000
8	University Environment	.821**	.000
9	The Academic Exchange	.797**	.000
10	The University Internationalization	.930**	.000

The structural validity was checked by applied factor analysis by principal component and measuring the Extraction commonalities which are estimates of the variance in each paragraph of the questionnaire accounted by the components.

The values of the commonalities equal or more than .05 are considered high and acceptable in the analysis, where the values less than .05 are dropped from the analysis. The communalities of all paragraphs of the questionnaire are all high, which indicates that the extracted components represent the variables well. this is clear in the below table (3.6)

Table 3.3.6: Results of Factor Analysis

No.	Paragraph	Extraction
The First Theme: The Curriculum and the Labor Market		
1	The university seeks to continuously develop its curricula to keep pace with scientific development.	.971
2	The university is keen to develop its curricula according to the needs of the labor market.	.991
3	The University seeks to continuously update curriculum plans.	.948
4	The approved curriculum clearly achieves interdisciplinary objectives.	.958
5	The assessment of students is very consistent with the outcomes of the courses.	.995
6	Existing curricula raise students' higher levels of thinking.	.976
7	There is compatibility between the specialization outputs and the needs of the labor market.	.975
8	The university has a systematic methodology in studying labor market needs.	.980
The Second Theme: Entrepreneurial Education		
1	The University has programs designed to train students to build and form entrepreneurial ideas.	.934
2	The University engages its students in determining feedback for the courses.	.943
3	The University has policies that encourage teachers to use a student-centered learning strategy in the educational process.	.966
4	The university has policies that encourage teachers to use a learning strategy based on stimulating discussion (brainstorming).	.935
5	The University has policies that encourage teachers to use a collaborative learning strategy (teamwork) in the educational process.	.964
6	The University has policies that encourage teachers to use a special case study strategy in the educational process.	.948
7	The University has policies that encourage teachers to use a laboratory-based learning methodology.	.941

8	The University has policies that encourage teachers to use a learning strategy through experience in the educational process.	.961
9	The university has policies that encourage teachers to use the modeling strategy in the educational process.	.992
10	The University has policies that encourage teachers to use the discovery learning strategy (critical thinking) in the educational process.	.955
11	The University has policies that encourage teachers to use e-learning in the educational process.	.983
12	The University has policies that encourage teachers to use interactive methods that require creative thinking in the educational process.	.943
13	The University has policies that encourage teachers to use the methodology to provide successful case studies.	.962
14	The university has policies that encourage teachers to use the project learning strategy in the educational process.	.959
15	The University offers undergraduate courses that give students the skills of persuasion and negotiation.	.959
16	Teachers are asked to analyze the strengths and weaknesses of students in the learning process.	.956
17	Teachers use various strategies to solve problems in the educational process.	.988
The Third Theme: University Regulations and Polices		
1	The strategic plan includes a clear vision and a future and a mission towards the entrepreneurship of the university.	.966
2	The University focuses its strategies on the importance of being an entrepreneurial university.	.989
3	The university seeks to implement procedural plans that lead to an entrepreneurial university.	.988
4	The University reviews the strategies of applying entrepreneurship periodically.	.980
5	The University has detailed regulations for its entrepreneurial activities.	.954
6	The University has a bank of entrepreneurial ideas resulting from the research that conducted at the university.	.977
7	The University seeks to determine the methods of financing entrepreneurial projects for students.	.971
8	The University grants financial incentives for its entrepreneurial results.	.966
9	The University grants moral incentives for the entrepreneurial results it receives.	.962
The Fourth Theme: University Leadership		
1	The leadership of the university is timely in responding to the changes that occur in the local environment.	.957
2	University leadership focuses on the growing demand for university services.	.984
3	The University diversifies its funding sources in order to maintain its independence.	.974

4	The University administration implements a policy of decentralization in the management of its various units.	.982
5	The University administration seeks to integrate the performance of its various faculties.	.977
6	The administration of the University follows the method of management according to its objectives (involving subordinates in setting goals at all levels and developing a plan to achieve them. (Al-Farra and Al-Hindi, 2017)	.935
7	The University administration adopts constructive entrepreneurial ideas to keep developmental process.	.955
8	The University administration adopts the policy of recycling work in the various positions.	.957
The Fifth Theme: The Culture of Entrepreneurship		
1	The university administration makes awareness of their employees with entrepreneurship culture concepts	.991
2	The University administration encourages teachers to use entrepreneurial teaching methods.	.954
3	The University is interested in making awareness for students and providing them with the concepts of entrepreneurship.	.979
4	The University administration designs special curricula that encourage entrepreneurial initiatives.	.964
5	The University administration offers cultural courses in entrepreneurship for students.	.976
6	The University administration engages the Student Union Council in implementing its entrepreneurial ideas.	.961
7	The University administration is keen on the excellence of its students in the adoption of different entrepreneurial ideas.	.983
8	The University administration encourages the participation of its employees in external developmental programs.	.919
9	The University administration promotes a culture of entrepreneurship through teamwork.	.978
10	The University has programs to train employees to apply entrepreneurial ideas in business.	.959
The Sixth Theme: Scientific Researches and Innovations		
1	The University has a special deanship for scientific research.	.972
2	The University has a center for innovation and technology transfer resulting from applied research.	.953
3	The University seeks to develop knowledge in the field of scientific research.	.952
4	The University allocates a specific budget to support practical research.	.963
5	The University implements research projects resulting from external cooperation.	.951

6	The University provides the necessary capabilities for the work of pilot research projects.	.948
7	Scientific research provided by university professors is associated with the need of the labor market.	.947
8	The University has mechanisms to transform the output of theoretical research into applied innovative projects.	.981
9	The University has mechanisms to transfer the outputs of applied research (innovations) to the labor market.	.986
10	The University seeks to link the research findings to the needs of labor market by creating innovative companies related to the university	.979
11	The University publishes the output of teachers' research permanently in scientific journals.	.979
12	The University seeks to increase the number of patents associated with research results.	.958
13	The University offers awards to outstanding teachers in scientific research.	.968
14	The University gives researchers the opportunity to participate in local and international conferences.	.981
The Seventh Theme: Community Relations and Partnerships		
1	The University has community service centers.	.976
2	The entrepreneurial business incubator available at the university seeks to establish productive or service projects that are commensurate with the needs of the community.	.964
3	The University has various cooperation agreements with the local community sectors.	.977
4	The University seeks to adopt the theory of Triple-Helix partnership (a partnership that based on the complementary relationship between the university, business and government sectors to produce, transfer and employ knowledge). (Abdel Wahab, 2018)	.935
5	The University's relations and community partnerships contribute to a job creation for graduates.	.993
6	The University's relations and community partnerships contribute to its financial returns.	.968
7	The University's relations and community partnerships contribute to increasing the number of practical researches corresponding to the needs of the labor market.	.980
8	The University's relations and community partnerships contribute to raising its ability to finance its projects.	.978
9	University relations and community partnerships contribute to the enrichment and development of the academic curricula.	.937
10	University relations and community partnerships contribute to the establishment of its disciplines that match the needs of the domestic and international market.	.923
11	University relations and partnerships contribute to raising the University's reputation.	.972
The Eighth Theme: University Environment		
1	The University provides a suitable environment for its staff.	.983

2	The University provides suitable offices for employees.	.964
3	The University has a sufficient number of classrooms.	.972
4	The University offers large green areas.	.958
5	The university provides yards to suit the numbers of students	.972
6	The University offers multi-purpose halls for student activities.	.981
7	The University provides a variety of laboratories that meet the educational needs of students.	.983
8	The University cafeteria meets the students' needs well	.945
9	The University provides a special cafeteria for employees.	.876
10	The University provides special services for students with special needs.	.978
11	The University Library serves students well.	.898
12	The University provides the required medical care for students.	.934
13	The classrooms are equipped with various teaching aids.	.961
14	The University follows the rules of occupational safety and health in general.	.948
15	The university provides halls for conferences and scientific events	.980
16	The University provides prayer areas for employees and students.	.979
The ninth Theme: The Academic Exchange		
1	The University provides academic exchange opportunities for its staff.	.981
2	The University provides opportunities for students to participate in various activities.	.967
3	The University provides opportunities for academic exchange for students.	.977
4	The University provides guidance and counseling services for students offered scholarship.	.970
The Tenth Theme: The University Internationalization		
1	The University seeks the international dimension in its strategic objectives.	.944
2	The University's vision includes trends to be in the level of international university	.981
3	The University's strategic plan includes strategies that strengthen its position in the global rankings.	.965
4	The University is working on sending the academics to world-leading universities.	.973
5	The University offers world-class professional development programs for its faculty members.	.969
6	The University attracts internationally renowned faculty to work at the University.	.959
7	The University hosts international teachers as visitors to teach at the University.	.933
8	The University supports the participation of staff in international conferences.	.992
9	The University strives to keep pace with academic programs from leading international universities.	.954
10	The University seeks to obtain an international academic accreditation for its university programs.	.985
11	The University has twinning agreements with leading international universities.	.951

Third Section: The university requirements necessary to transform Palestine Polytechnic University towards an entrepreneurial University		
1	An appropriate curriculum that meets the needs of the labor market.	.983
2	Entrepreneurial education	.954
3	University policies and regulations.	.935
4	University Leadership.	.981
5	Culture of Entrepreneurship	.983
6	Scientific Research and innovations.	.975
7	Community relations and partnerships.	.981
8	University environment.	.974
9	Academic Exchange.	.977
10	University Internationalization	.918

3.13 Reliability of study tool

The reliability of the questionnaire was checked by testing the internal consistency and calculating the extraction reliability coefficient (Cronbach's Alpha) for each section and for whole questionnaire. The reliability coefficient for the whole questionnaire is equal (.982), which is a very good reliability coefficient for research. Table (3.5) below shows clearly that the reliability coefficient of all sections is acceptable and meet the study objectives. (Saunders,2012)

Table 3.7: Reliability coefficients of questionnaire's sections

Section's No.	Section's Title	Reliability coefficient
1	The Curriculum and the Labor Market	.887
2	Entrepreneurial Education	.943
3	University's Policies and Regulations	.921
4	University Leadership	.920
5	The Culture of Entrepreneurship	.881
6	Scientific Researches and Innovations	.90
7	Community Relations and Partnerships	.926
8	University Environment	.924
9	The Academic Exchange	.898
10	The University Internationalization	.889
	Total degree	.982

3.14 Statistical Analyses

Statistical Package for Social Science (SPSS) version 20 was used to analyze the data. After that, the following were performed:

- Frequencies and percentages were calculated for all categorical variables according to research' demographic variables.
- Means and standard deviations were used as measures of central tendency for Likert-scale variables.
- The calculation of the extraction reliability coefficient (Cronbach's Alpha) was conducted for each section and for whole questionnaire to check the questionnaire's reliability.
- The measurement of the Pearson correlation between indicators for each section in the questionnaire to check the questionnaire's validity.
- One Way ANOVA Test was conducted to check if differences between respondent's perspectives exist.
- One Sample T test was conducted for all sections of the questionnaire in Part 2 to find out if the degree of responses has reached the average approval score (3).
- Kruskal-Wallis test was conducted to check the differences between groups for ordinal variables. In addition, pairwise comparison was conducted to find the source of difference between groups
- The significance level is 5%, and P-value, which was less than .05, were considered statistically significant.

3.15 Method correction

Some of the results were produced by Likert scale method and the following distribution was used in the correction of questionnaire's paragraphs:

Table 3.8: Likert scale

Always	Usually	Sometimes	Rarely	Never
5	4	3	2	1

After giving numbers to the respondent's answers, to weights their trends from (1_5), the Range [difference between the highest value (5) and the lowest value (1)] was calculated. After that, it was divided by the number of fields that required to judge the results: $(4/5=.08)$. Later, the researcher continued to increase this value from the lowest value, to give the intervals, and be able to determine the level and intensity of the responses based on the arithmetic mean.

Table 3.3.9: Correction Key for Likert scale

Mean	Degree
Less than 1.8	Very low
1.8 – less than 2.6	Low
2.6 – Less than 3.4	Moderate
3.4 – Less than 4.2	High
4.2 – 5	Very High

Chapter Four

4 Study Results

4.1 Introduction

This chapter reviews a thorough presentation of the analysis of the study data regarding the transformation of PPU towards an entrepreneurial university from the perspective of the senior and middle management. It includes the answers of the study questions and objectives using appropriate statistical techniques.

4.2 Results of the study questions

4.2.1 Results of the first question

Q1. What is the reality of the entrepreneurship at PPU from the view point of the senior and middle management?

The table (4.1) below describes the means and standard deviations, sorted in descending order according to the mean's values, of the total degrees of the themes of entrepreneurship at PPU.

Table 4.1: Means and Std. deviations of the reality of entrepreneurship at PPU

Section Number	Title	Mean	Level	Std. Deviation
1	Curriculum and the Labor Market	3.8682	High	.52700
2	Community Relations and Partnerships	3.8600	High	.65925
3	Academic Exchange	3.7095	High	.72532
4	The Culture of Entrepreneurship	3.6639	High	.57329
5	Entrepreneurial Education	3.6160	High	.61301
6	The University's Internationalization	3.4282	High	.63861
7	University's Policies and Regulations	3.3684	Moderate	.83552
8	Scientific Researches and Innovations	3.3031	Moderate	.64427
9	University's Leadership	3.2939	Moderate	.85656
10	University's Environment	3.1696	Moderate	.63513

The results showed that the levels of the curriculum and the labor market, community relations and partnerships, the academic exchange, the culture of entrepreneurship and the entrepreneurial education themes are high, with the following means: 3.86, 3.86, 3.7, 3.66, 3.61 respectively. However, the levels of themes regarding the university's internationalization, regulations and policies, scientific researches and innovations, leadership, and the environment are moderate, with the following means: 3.42, 3.368, 3.3, 3.29, 3.16 respectively. This can be clearly seen from the table above.

By answering the question regarding the reality of entrepreneurship at PPU from the senior and middle management perspective, the researcher believes that the highest mean emerged in the curriculum and labor market theme which was (3.8). This result needs PPU to recognize that this theme has the greatest importance in the university's priorities to be an entrepreneurial university. Therefore, the university needs to pay attention to developing curricula that are compatible with the labor market needs due to its significant impact on the university's entrepreneurship and development. The analysis showed that the university pays a specific attention to its relations and partnership with the community segments. As a result, these relations affect positively on the

university's reputation and help to increase the university' finance through constructing many campuses and new building that benefit the university, students, and staff.

As for the entrepreneurial education theme; the researcher believes that it has high attention at PPU because the university strives to do the best possible in the education to maintain certain objectives. Moreover, most of the lecturers attempt to use modern tools in the teaching process, and there is a good concern on the flipped teaching and eLearning. On the other hand, The Center for Excellence in Teaching and Learning (CETL) at PPU conducts continuous trainings and workshops in the teaching and learning process at PPU. In fact, this shows how PPU pays great attention to the entrepreneurial education.

From the researcher's view; the theme of the university's policies and regulations has a moderate level because the concept of the entrepreneurship is a modern one, and the university does not possess a model towards the transformation into an entrepreneurial university. Consequently, this study will assist in constructing an appropriate model that suits the Palestinian situations and universities.

However, the results showed that the lowest percentage was for the theme of university's environment that scored a mean of (3,1). This explains the approval of the most of workers in the middle and senior management that this theme is less important in the university because of physical constraints that face the university due to the lack of financial support from the Palestinian government. The researcher illustrates this in more details at the end of this chapter, more specifically in the analysis of the interview conducted with the president of the PPU.

Curriculum and the Labor Market

The table (4.2) below describes the means and standard deviations of the curriculum and the labor market theme, sorted in descending order according to the mean's values.

Table 4.2: Means and std. deviations of the curriculum and the labor market theme.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university is keen to develop its curricula according to the labor market needs.	4.2368	Very High	.58974
2.	The university seeks to continuously develop its curricula to keep pace with scientific development.	4.1842	High	.65162

3.	The university seeks to continuously update curriculum plans.	4.1053	High	.72743
4.	The approved curriculum clearly achieves interdisciplinary objectives.	4.0000	High	.69749
5.	Existing curricula raise students' higher thinking levels.	3.7632	High	.63392
6.	There is compatibility between the specialization's outputs and labor market needs.	3.7368	High	.64449
7.	Students' assessment of is very consistent with the courses' outcomes.	3.5405	High	.76720
8.	The university has a systematic methodology in studying labor market needs.	3.3158	Moderate	.87318

According to the level of the application of the **curriculum and the labor market** theme's criteria, it is evident that the levels of the university's keens to develop its curricula in accordance with the labor market's needs and university's continuous development of its curricula to keep pace with scientific development are very high and high, with means: 4.236, 4.18 respectively. However, as it becomes clear from the table above, the level of having a systematic methodology in studying labor market needs is moderate with a mean of:3.31.

Based on this result, the researcher believes that the university is paying a great attention towards developing its curriculum. Moreover, this, interest and attention have been enhanced through the university's keens to develop its curricula according to the labor market needs. These items are considered to be important, indispensable, and pivotal items for the PPU to become an entrepreneurial university. However, the results showed that the moderate interest in this theme is manifested in the university's interest in creating a systematic methodology to study the labor market needs since the labor market is constantly changing and because the requirements are global rather than local. In contrast, the industry in Palestine is limited to local industries, and the competitiveness is limited. All of these impede the university from developing a systematic methodology to study the labor market needs.

The table below (3.4) describes the results of one sample T-test (test value =3), which was conducted to check whether the response degree has reached the average of the approval degree: score 3.

Table 4.3: Results of one sample T-test of the valuation of the curriculum and the labor market criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university seeks to continuously develop its curricula to keep pace with scientific development.	11.237	37	.000
2	The university is keen to develop its curricula according to the labor market needs.	12.928	37	.000
3	The university seeks to continuously update its curriculum plans.	9.366	37	.000
4	The approved curriculum clearly achieves interdisciplinary objectives.	8.838	37	.000
5	Students' assessment is very consistent with the outcomes of the courses.	4.286	36	.000
6	The existing curricula raise students' higher thinking levels.	7.421	37	.000
7	There is compatibility between the specialization's outputs and labor market needs.	6.967	37	.000
8	The university has a systematic methodology in studying labor market needs.	2.488	37	.017

As shown in the previous table (3.4), and according to the curriculum and the labor market criteria, the results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU have reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$).

One Way Analysis of Variance (ANOVA) was conducted to check if there are differences between the respondents' evaluation of the curriculum and the labor market criteria.

Table 4.4: Results of ANOVA (One Way Analysis of Variance) of the curriculum and the labor market theme.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	26.703	7	3.815	7.476	.000
Within groups	150.531	295	.510		
Total	177.234	302			

As can be seen from the table (4.4) above, the results of ANOVA regarding the differences show that there is a significant difference between respondents' evaluation of the curriculum and the labor market criteria, with P-value:.000 which is less than the significance level ($\alpha=.05$).

Entrepreneurial Education

The table (4.5) below describes the means and standard deviations of the criteria of the entrepreneurial education theme, sorted in descending order according to the means' values.

Table 4.5: Means and Std. Deviation of Entrepreneurial Education Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university has policies that encourage teachers to use a laboratory-based <i>learning</i> methodology.	4.1053	High	.79829
2.	The university has policies that encourage teachers to use e-learning in the educational process.	3.9474	High	.76925
3.	The university has programs designed to train students to build and form entrepreneurial ideas.	3.9211	High	.85049
4.	The university engages its students in giving feedback for the courses.	3.9211	High	1.09992
5.	The university has policies that encourage teachers to use a student-centered learning strategy in the educational process.	3.8947	High	.92384
6.	The university has policies that encourage teachers to use the project learning strategy in the educational process.	3.7632	High	.78617
7.	The university has policies that encourage teachers to use interactive methods, which require creative thinking in the educational process.	3.6579	High	.62715
8.	The university has policies that encourage teachers to use a learning strategy, which stimulates discussion (brainstorming).	3.6316	High	.85174
9.	The university offers undergraduate courses that develop students' persuasion and negotiation skills.	3.5789	High	.85840
10.	The university has policies that encourage teachers to use a collaborative learning strategy (teamwork) in the educational process.	3.5526	High	.79517
11.	Teachers use various strategies to solve problems in the educational process.	3.5526	High	.68566

12.	The university has policies that encourage teachers to use an experience-based learning strategy in the educational process.	3.4865	High	.93159
13.	The university has policies that encourage teachers to use a methodology which provides successful case studies.	3.4211	High	.85840
14.	The university has policies that encourage teachers to use a special case study strategy in the educational process.	3.3684	Moderate	.99786
15.	The university has policies that encourage teachers to use the discovery learning strategy (critical thinking) in the educational process.	3.3158	Moderate	.77478
16.	The university has policies that encourage teachers to use the modeling strategy in the educational process.	3.2368	Moderate	.78617
17.	Teachers are asked to analyze students' strengths and weaknesses points in the learning process.	3.2162	Moderate	.78652

According to the previous table (4.5), the analysis showed that the levels of having policies that encourage teachers to use a laboratory-based learning methodology at PPU, in addition to other policies that encourage teachers to use e-learning in the educational process criteria are high with the means of: 4.1, 3.94 respectively. Whereas the levels of having policies that encourage teachers to use the modeling strategy in the educational process, and the level of asking teachers to analyze students' strengths and weaknesses points in the learning process are moderate with the means of: 3.23, 3.21 respectively.

From the researcher's point view, the paragraph about having policies that encourage teachers to use a laboratory-based learning methodology at the PPU has a high level since the university has enough laboratories that meet the needs of engineering and practical fields. On the other hand, PPU gives a great attention to this issue because it strives continuously to increase the number of laboratories through funded projects. However, the paragraph about having policies that encourage teachers to use a special case study strategy in the educational process at PPU came with a moderate level. This is because some of the PPU's specializations, such as science and mathematics, may not be able to use this strategy. It should be taken into account that PPU is an engineering and technical university and most of its specializations may not be consistent with using this strategy in teaching and learning process. However, according to the researcher's justification, the moderate level of the university's attention on asking teachers to analyze students' strengths and weaknesses points in the learning process appeared regarding due to some teachers'

resistance to analyze students' strengths and weaknesses. As this is considered as an important topic in the quality of education which leads to entrepreneurial education in an optimal way, the university needs to draft a policy for the application of this item.

The table below shows the results of one sample T-test (test value =3), which was conducted to check if the response degree has reached the average of the approval degree: score 3.

Table 4.6: Results of one sample T-Test regarding the evaluation of entrepreneurial education criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university has programs designed to train students to build and form entrepreneurial ideas.	7.030	37	.000
2	The university engages its students in giving feedback for the courses.	5.444	37	.000
3	The university has policies that encourage teachers to use a student-centered learning strategy in the educational process.	6.440	37	.000
4	The university has policies that encourage teachers to use a learning strategy based on stimulating discussion (brainstorming).	4.571	37	.000
5	The university has policies that encourage teachers to use a collaborative learning strategy (teamwork) in the educational process.	4.073	37	.000
6	The university has policies that encourage teachers to use a special case study strategy in the educational process.	2.431	37	.020
7	The university has policies that encourage teachers to use a laboratory-based learning methodology.	10.002	37	.000
8	The university has policies that encourage teachers to use an experienced-based learning strategy in the educational process.	3.353	36	.002
9	The university has policies that encourage teachers to use the modeling strategy in the educational process.	2.041	37	.048
10	The university has policies that encourage teachers to use the discovery learning strategy (critical thinking) in the educational process.	2.701	37	.010
11	The university has policies that encourage teachers to use e-learning in the educational process.	7.592	37	.000
12	The university has policies that encourage teachers to use interactive methods that require creative thinking in the educational process.	6.806	37	.000
13	The university has policies that encourage teachers to use the methodology to provide successful case studies.	3.329	37	.002

14	The university has policies that encourage teachers to use the project learning strategy in the educational process.	5.984	37	.000
15	The university offers undergraduate courses that give students persuasion and negotiation skills.	4.158	37	.000
16	Teachers are asked to analyze students' strengths and weaknesses points in the learning process.	1.859	36	.071
17	Teachers use various strategies to solve problems in the educational process.	5.225	37	.000

As it clearly shown from the previous table (4.6), the results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU according to the entrepreneurial education criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraph (16):“ *Teachers are asked to analyze the strengths and weaknesses of students in the learning process*“, with P-value: .071 which is more than the significance level ($\alpha=.05$).

One Way Analysis of Variance (ANOVA) was conducted to check if there are differences between respondents' evaluation of the entrepreneurial education criteria.

Table 4.7: Results of ANOVA regarding entrepreneurial education

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	46.594	16	2.912	4.181	.000
Within groups	436.686	627	.696		
Total	483.280	643			

As it is clear from the previous table (4.7), the results of ANOVA of differences show that there are significant differences between respondents' evaluation of the entrepreneurial education criteria, with P-value: .000 which is less than the significance level ($\alpha=.05$).

University's policies and regulations

The table (4.8) below describes the means and standard deviation of the criteria of the university's policies and regulations theme, sorted in descending order according to the means' values.

Table 4.8: Means and Std. Deviation of university's policies and regulations Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university's strategies focus on the importance of being an entrepreneurial university.	4.3684	Very High	.88290
2.	The strategic plan includes a clear vision, a future plan, and a mission towards the university's entrepreneurship.	4.1842	High	.83359
3.	The university seeks to implement procedural plans that lead to an entrepreneurial university.	3.6842	High	1.09311
4.	The university periodically reviews the strategies regarding the application of entrepreneurship.	3.4737	High	1.10861
5.	The university grants moral incentives for the entrepreneurial results it receives.	3.2895	Moderate	1.25004
6.	The university seeks to determine the methods of financing entrepreneurial projects for students.	3.2105	Moderate	1.04385
7.	The university has detailed regulations for its entrepreneurial activities.	3.0789	Moderate	1.14801
8.	The university has a bank of entrepreneurial ideas resulting from research that is conducted at the university.	2.6053	Moderate	1.10379
9.	The university grants financial incentives for its entrepreneurial results.	2.4211	Low	1.08133

As it is clear from the previous table (4.8) , regarding the university's policies and regulations , the results showed that the level of the university's strategies focus on the importance of being an entrepreneurial university, and the level of focus on its strategic plan to includes a clear vision, a future plan, and a mission towards the university's entrepreneurship are high with means: 4.36, 4.1 respectively. Whereas the level of having financial incentives grant for its entrepreneurial results is low with a mean of: 2.4.

The researcher attributes this very high level of the university focusing on the importance of being an entrepreneurial university in its strategies to the fact that PPU has the willingness to be an entrepreneurial university as it appears in its mission and vision. However, the university has a moderate level in granting financial incentives for the entrepreneurial results it receives, and a low level in granting financial incentives. The researcher attributes this result to the financial problem at PPU since the university's incentives are received basically form the funded projects, despite

the university's attempt to provide a moral incentive as much as possible to its entrepreneurial workers.

The table below describes the results of one sample T-test (test value =3), which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.9: Results of one sample T-Test of evaluation of the university’s policies and regulation criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	Df	Sig. (2-tailed)
1	The strategic plan includes a clear vision, a future plan, and a mission towards the university’s entrepreneurship.	8.757	37	.000
2	The university’s strategies focus on the importance of being an entrepreneurial university.	10.050	37	.000
3	The university seeks to implement procedural plans that lead to an entrepreneurial university.	3.859	37	.000
4	The university reviews the strategies regarding the application of entrepreneurship periodically.	2.634	37	.012
5	The university has detailed regulations for its entrepreneurial activities.	.741	37	.463
6	The university has a bank of entrepreneurial ideas, which result from the research conducted at the university.	-1.966-	37	.057
7	The university seeks to determine the methods of financing entrepreneurial projects for students.	1.573	37	.124
8	The university grants financial incentives for its entrepreneurial results.	-3.300-	37	.002
9	The university grants moral incentives for the entrepreneurial results it receives.	1.608	37	.116

The results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding to the university’s policies and regulations criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraphs (5, 6, 7, 9):

- *“The university has detailed regulations for its entrepreneurial activities “.*
- *“The university has a bank of entrepreneurial ideas which results from the research that is conducted at the university”.*
- *“The university seeks to determine the methods of financing entrepreneurial projects for students”.*

- *“The university grants moral incentives for entrepreneurial results it receives”.*

As it is clear from the previous table (4.9), P-values were: .463, .057, .124, and .116 respectively, which were more than the significance level ($\alpha=.05$).

One Way Analysis of Variance (ANOVA) was conducted to check if there are differences between respondents’ evaluation regarding the university’s policies and regulation criteria.

Table 4.10: Results of ANOVA (One Way Analysis of Variance) regarding the university’s policies and regulation.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	125.287	8	15.661	14.241	.000
Within groups	366.211	333	1.100		
Total	491.497	341			

As it can be seen from the previous table (4.10), the results of One-Way Analysis of Variance (ANOVA) of the differences show that there are significant differences between respondents’ evaluation of the university’s policies and regulation criteria, with P-value: .000 which is less than the significance level ($\alpha=.05$).

University’s Leadership

The table (4.11) below describes the means and standard deviation of the criteria of the University’s Leadership theme, sorted in descending order according to the mean’s values.

Table 4.11: Means and Std. Deviation of University’s Leadership Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	University’s leadership focuses on the growing demand for university’s services.	3.6053	High	1.02771
2.	The university’s administration adopts constructive entrepreneurial ideas to keep developmental process.	3.4474	High	1.05772
3.	The university’s administration adopts recycling policy in the various positions.	3.4474	High	1.15542
4.	The university’s leadership is timely in responding to the changes that occur in the local environment.	3.2973	Moderate	.93882

5.	The university's administration implements a policy of decentralization in the management of its various units.	3.2105	Moderate	.99071
6.	The university's administration seeks to integrate the performance of its various faculties.	3.2105	Moderate	1.06943
7.	The university's administration follows the method of management according to its objectives (involving subordinates in setting goals at all levels and developing a plan to achieve them. (Al-Farra and Al-Hindi, 2017)	3.1579	Moderate	1.10347
8.	The university diversifies its funding sources to maintain its independence.	3.0263	Moderate	1.12675

As it can be seen from the previous table (4.11), the analysis showed that the level of university's leadership focus on the growing demand for university's services is high with a mean of: 3.6, Additionally, the level of administration's adoption of constructive entrepreneurial ideas to keep developmental process is high with a means of: 3.4. However, the level of the university's diversification of its funding sources to maintain its independence is moderate with a mean 3.0.

The researcher believes that, to some extent, the university has entrepreneurial leadership. As it can be seen from the results, the university is highly interested in the increasing demand for university's services, and is constantly trying to keep pace with the development and the community's need for its services to the students and society. However, the university needs to diversify its sources of funding, which came with a medium degree. The researcher attributes this result to the university's financial problem in light of the current economic situation; in addition to the lack of governmental support and dependence on the funded projects.

The table below describes the results of one sample T-test (test value =3), which was conducted to check if the response degree has reached the average approval degree: score 3.

Table 4.12: Results of one sample T-Test regarding the evaluation of university's leadership criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university's leadership is timely in responding to the changes that occur in the local environment.	2.233	36	.032
2	The university's leadership focuses on the growing demand for university's services.	3.902	37	.000

3	The university diversifies its funding sources to maintain its independence.	.285	37	.777
4	The university's administration implements a policy of decentralization in the management of its various units.	1.762	37	.086
5	The university's administration seeks to integrate the performance of its various faculties.	1.614	37	.115
6	The university's administration follows the method of management according to its objectives (involving subordinates in setting goals at all levels and developing a plan to achieve them. (Al-Farra and Al-Hindi, 2017)	.725	37	.473
7	The university's administration adopts constructive entrepreneurial ideas to keep developmental process.	2.901	37	.006
8	The university's administration adopts the recycling policy in the various positions.	2.806	37	.008

The results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the university's Leadership criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraphs (3, 4, 5, 6):

- “The university diversifies its funding sources to maintain its independence”.
- “The university's administration implements a policy of decentralization in the management of its various units”.
- “The university's administration seeks to integrate the performance of its various faculties”.
- “The university's administration follows the method of management according to its objectives (involving subordinates in setting goals at all levels and developing a plan to achieve them.”

According to the previous table (4.12), P-values were: .77, .86, .115, .473 respectively, which is more than the significance level ($\alpha=.05$).

One Way Analysis of Variance (ANOVA) was conducted to check if there are differences between respondents' evaluation of the university's leadership criteria.

Table 4.13: Results of ANOVA regarding university's leadership.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	9.606	6	1.601	1.489	.182
Within groups	277.398	258	1.075		
Total	287.004	264			

As indicated in the previous table (4.13), the results of ANOVA of the differences show that there are no significant differences between respondents' evaluation of **the university's leadership** criteria, with P-value: .182, which is larger than the significance level ($\alpha=.05$).

Culture of Entrepreneurship

The table below (4.14) describes the means and standard deviation of the criteria of the culture of entrepreneurship theme, sorted in descending order according to the mean's values.

Table 4.14: Means and Std. Deviation of the culture of entrepreneurship theme.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university's administration designs special curricula that encourage entrepreneurial initiatives.	4.2105	Very High	.74100
2.	The university's administration encourages teachers to use entrepreneurial teaching methods.	3.9474	High	.73328
3.	The university's administration makes its employees aware of the concepts of entrepreneurship culture	3.8158	High	.80052
4.	The university is interested in making students aware and provide them with the concepts of entrepreneurship.	3.8158	High	.80052
5.	The university's administration offers students cultural courses in entrepreneurship.	3.8158	High	.95451
6.	The university's administration is keen on the excellence of its students; as a result, it adopts different entrepreneurial ideas.	3.6111	High	.83761
7.	The university's administration promotes a culture of entrepreneurship through teamwork.	3.4474	High	.82846
8.	The university has programs to train employees on the application of entrepreneurial ideas in business.	3.3158	Moderate	1.01623
9.	The university's administration encourages its employees to participate in external developmental programs.	3.2895	Moderate	.86705
10	The university's administration engages the Students' Union Council in the implementation of its entrepreneurial ideas.	3.0000	Moderate	.90045

As it is clear from the previous table (4.14), the analysis showed that the university's administration designs special curricula that encourage entrepreneurial initiatives significantly, the university's administration encourages teachers to use entrepreneurial teaching methods scored high means: 4.2,3.94 respectively. Whereas the level of the university's administration encouragement of its employees' participation in external developmental programs, and the level of engaging the Students' Union Council in the implementation of its entrepreneurial ideas came with moderate means: 3.2, 3.0 respectively.

From the researcher's point of view, the university is greatly interested in the culture of entrepreneurship, as it is concerned highly in designing curricula that encourage entrepreneurial initiatives. This appears in the university's administration's focus on making its employees and students aware about the culture and importance of entrepreneurship; in addition to encouraging the use of different methods and tools in education, working in team, and establishing cultural courses in entrepreneurship for students, which all came with a high degree. In contrast, the university should focus more in making its faculty and administrative employees to participate in external development programs. It also needs to pay more attention on the participation of the Students' Union Council in the implementation of entrepreneurial ideas as since it is an important element in the university, and has an influential role on students and the university.

The table (4.15) below describe the results of one sample T-test (test value =3), which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.15: Results of one sample T-Test regarding the evaluation of the culture of entrepreneurship criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university's administration makes its employees aware of the concepts of entrepreneurship culture	6.282	37	.000
2	The university's administration encourages teachers to use entrepreneurial teaching methods.	9.374	37	.000
3	The university is interested in making students' aware by providing them with the concepts of entrepreneurship.	6.082	36	.000
4	The university's administration designs special curricula that encourage entrepreneurial initiatives.	6.345	37	.000

5	The university's administration offers cultural courses in entrepreneurship for students.	10.152	37	.000
6	The university's administration engages the Students' Union Council in the implementation of its entrepreneurial ideas.	.183	36	.856
7	The university's administration is keen on the excellence of its students, and adopts different entrepreneurial ideas.	4.600	35	.000
8	The university's administration encourages its employees to participate in external developmental programs.	2.572	37	.014
9	The university's administration promotes a culture of entrepreneurship through teamwork.	3.867	37	.000
10	The university has programs to train employees on the application of entrepreneurial ideas in business.	2.276	37	.029

As it is obvious from the table (4.15) above, the results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the culture of entrepreneurship criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraph (6): “*The university's administration engages the Students' Union Council in the implementation of its entrepreneurial ideas*“, with P-value: .856 which is more than the significance level ($\alpha=.05$).

ANOVA was conducted to check if there are differences between the respondents' evaluation of the culture of entrepreneurship criteria.

Table 4.16: Results of ANOVA regarding the culture of entrepreneurship.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	42.717	9	4.746	6.865	.000
Within groups	253.059	366	.691		
Total	295.777	375			

The results of ANOVA of differences from the previous table (4.16) show that there are significant differences between the respondents' evaluation of the culture of entrepreneurship criteria, with P-value: .000 which is less than the significance level ($\alpha=.05$).

Scientific Researches and Innovations

The table (4.17) below describes the means and standard deviation of the criteria of the scientific researches and innovations theme, sorted in descending order according to the mean's values.

Table 4.17: Means and Std. Deviation of the scientific researches and innovations section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university has a special deanship for scientific research.	4.9474	Very High	.22629
2.	The university gives researchers the opportunity to participate in local and international conferences.	3.8684	High	.96341
3.	The university seeks to develop knowledge in the field of scientific research.	3.7105	High	.80229
4.	The university implements research projects resulting from external cooperation.	3.6486	High	.88870
5.	The university offers awards to outstanding teachers in scientific research.	3.4211	High	1.22213
6.	The university publishes the output of teachers' research permanently in scientific journals.	3.3421	Moderate	1.04691
7.	The university allocates a specific budget to support practical research.	3.2895	Moderate	1.06309
8.	The university has a center for innovation and technology transfer resulting from applied research.	3.2632	Moderate	1.50107
9.	Scientific research provided by university professors is associated with the needs of the labor market.	3.2368	Moderate	.75101
10	The university provides necessary capabilities for the work of pilot research projects.	3.0263	Moderate	.94402
11	The university seeks to increase the number of patents associated with research results.	2.7105	Moderate	1.11277
12	The university has mechanisms to transfer the outputs of applied research (innovations) to the labor market.	2.6053	Moderate	.94553
13	The university has mechanisms to transform the output of theoretical research into applied innovative projects.	2.5789	Low	.91921
14	The university seeks to link the research findings with labor market needs by creating innovative companies related to the university	2.2632	Low	.89092

According to the previous table (4.17), and regarding the scientific researches and innovations theme, it is clear that the university has a special deanship for scientific research, which scored a very high mean: 4.9; in addition to the level of giving researchers the opportunity to participate in local and international conferences which came with the mean of: 3.86. However, the level of having mechanisms to transform the output of theoretical research into applied innovative projects came moderate with mean: 2.5. While the level of linking the research findings with labor market needs by creating innovative companies related to the university, came with a low mean of 2.2.

From the researcher’s point view, it seems that the university’s concerns about the theme of research is in a high level; however, there is a lack of investment in the innovation resulted from this study. The analysis shows that the university has a deanship for research which seeks to develop knowledge in the field of scientific research, and also encourages this issue by offering awards to outstanding teachers in scientific research. Moreover, the university offers researchers with the opportunity to participate in local and international conferences. Since the investment in the innovation is absent, the university should pay attention to establish mechanisms to transfer the outputs of applied research (innovations) to the labor market, and to transform the output of theoretical research into applied innovative projects. Additionally, the university should focus more on linking the research findings with the labor market’s needs by establishing innovative companies affiliated by the university. These companies will assist in enhancing the university’s financial status and will lead the university to be a pioneering in the research.

The table (4.18) below describes the results of one sample T-test (test value =3) which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.18: Results of one sample T-Test regarding the evaluation of scientific research and innovations criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university has a special deanship for scientific research.	53.048	37	.000
2	The university has a center for innovation and technology transfer resulting from applied research.	1.536	37	.133
3	The university seeks to develop knowledge in the field of scientific research.	5.715	37	.000

4	The university allocates a specific budget to support practical research.	2.276	37	.029
5	The university implements research projects which result from external cooperation.	5.056	36	.000
6	The university provides necessary capabilities for the work on pilot research projects.	.349	37	.729
7	Scientific research provided by university professors is associated with the labor market's needs.	1.944	37	.060
8	The university has mechanisms to transform the output of theoretical research into applied innovative projects.	-2.655-	37	.012
9	The university has mechanisms to transfer the outputs of applied research (innovations) to the labor market.	-2.488-	37	.017
10	The university seeks to link the research findings with the labor market's needs by creating innovative companies affiliated to the university	-5.052-	37	.000
11	The university publishes the output of teachers' research permanently in scientific journals.	2.217	37	.033
12	The university seeks to increase the number of patents associated with research results.	-1.356-	37	.183
13	The university offers awards to outstanding teachers in scientific research.	1.994	37	.054
14	The university offers researchers with the opportunity to participate in local and international conferences.	6.676	37	.000

The results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the scientific research and innovations criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraphs: (2, 6, 7, 12, 13):

- “The university has a center for innovation and technology transfer resulting from applied research”.
- “The university provides necessary capabilities for the work on pilot research projects”.
- “Scientific research provided by university professors is associated with labor market’s needs”.
- “The university seeks to increase the number of patents associated with research results.”
- “The university offers awards to outstanding teachers in scientific research”.

As shown in the previous table (4.18), the P-values were: .133, .729, .060, .183, .054 respectively, which is more than the significance level ($\alpha=.05$).

One Way Analysis of Variance (ANOVA) was conducted to check if there are differences between respondents' evaluation of the scientific research and innovations criteria.

Table 4.19: Results of ANOVA regarding scientific research and innovations.

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	219.376	13	16.875	18.378	.000
Within groups	474.730	517	.918		
Total	694.105	530			

As it is obvious from the table (4.19) above, the results of ANOVA of differences show that there are significant differences between the respondents' evaluation of the scientific research and innovations criteria, with P-value: .000, which is less than the significance level ($\alpha=.05$).

Community's Relations and Partnerships

The table (4.20) below describes the means and standard deviation of the criteria of the community's relations and partnerships theme, sorted in descending order according to the mean's values.

Table 4.20: Means and Std. Deviation of Community Relations and Partnerships Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university has community service centers.	4.7632	Very High	.58974
2.	The university has various cooperation agreements with the local community sectors.	4.5000	Very High	.64724
3.	University's relations and partnerships contribute to raise the university's reputation.	4.1316	High	.87522
4.	The entrepreneurial business incubator available at the university seeks to establish products or service projects that commensurate with the community's needs.	3.9211	High	1.12422
5.	The university seeks to adopt the theory of Triple-Helix partnership (a complementary-relationship based partnership between the university, business and government sectors to produce, transfer and employ knowledge). (Abdel Wahab, 2018)	3.8684	High	.96341
6.	The university's relations and community partnerships contribute to create jobs for graduates.	3.7895	High	.81067

7.	University's relations and community partnerships contribute to establish its disciplines that match the needs of the domestic and international market.	3.6842	High	.80891
8.	The university's relations and community partnerships contribute to its financial returns.	3.5405	High	.98867
9.	University's relations and community partnerships contribute to enrich and develop academic curricula.	3.5263	High	.79651
10.	The university's relations and community partnerships contribute to raise its ability to finance its projects.	3.4211	High	.85840
11.	The university's relations and community partnerships contribute to increase the number of practical researches which correspond to the needs of the labor market.	3.2632	Moderate	.89092

As it can be seen from the table (4.20) above, and regarding the community's relations and partnerships, the results showed that both the levels of having a community service centers, and various cooperation agreements with the local community sectors scored very high degrees with means of: 4.7, 4.5 respectively. Whereas the level of the university's relations and community partnerships contribute to increase the number of practical researches which correspond to the needs of the labor market is moderate with the mean 3.26.

According to the community's relations and partnership, and from the researcher's point of view, the university gives high attention to this theme since it has community service centers, and other cooperation agreements with the local community sectors. The university also tries to adopt the Triple-Helix partnership which contribute to raise its reputation and increase the employment opportunities for its graduates. On the other hand, the role of this theme in the financial returns, which contribute to enrich and develop the academic curricula scored a high level at the PPU; and the researcher agrees on and adopts this result. However, the PPU's relations and partnership contribute in a moderate level in increasing the number of practical research that correspond with the labor market's needs; therefore, the university should construct a systematic methodology to invest in its relations and partnerships so they can have a real role in increasing the practical research. This would be a very important issue that establishes entrepreneurship especially when

we talk about patent that may be resulted from the research, which may benefit the community and influence the university's entrepreneurship state.

The table (4.12) below describes the results of one sample T-test (test value =3) which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.21: Results of one sample T-Test regarding the evaluation of community's relations and partnerships criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university has community service centers.	18.430	37	.000
2	The entrepreneurial business incubator available at the university seeks to establish products or service projects that commensurate with the community's needs.	5.244	37	.000
3	The university has various cooperation agreements with the local community sectors.	15.907	37	.000
4	The university seeks to adopt the theory of Triple-Helix partnership (a complementary-relationship based partnership between the university, business, and government sectors to produce, transfer and employ knowledge). (Abdel Wahab, 2018)	6.290	37	.000
5	The university's relations and community partnerships contribute to create jobs for graduates.	6.282	37	.000
6	The university's relations and community partnerships contribute to its financial returns.	3.497	36	.001
7	The university's relations and community partnerships contribute to increase the number of practical researches which corresponds to the labor market's needs.	1.988	37	.054
8	The university's relations and community partnerships contribute to raise its ability to finance its projects.	3.024	37	.005
9	The university's relations and community partnerships contribute to enrich and develop the academic curricula.	3.867	37	.000
10	The university's relations and community partnerships contribute to establish its disciplines that match the needs of domestic and international market.	5.214	37	.000
11	The university's relations and partnerships contribute to raise the university's reputation.	7.970	37	.000

As it is obvious from the table (4.22) below, the results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the community's relations and partnerships criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraph (7): "*The university's relations and community partnerships contribute to increase the number of practical research, which corresponds to the labor market's needs* ", with P-value: .054, which is more than the significance level ($\alpha=.05$).

ANOVA was conducted to check if there are differences between respondents' evaluation of the community's relations and partnerships criteria.

Table 4.22: Results of ANOVA regarding the community's relations and partnerships.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	81.540	10	8.154	11.185	.000
Within groups	295.976	406	.729		
Total	377.516	416			

As it is clear from the previous table (4.22), the results of ANOVA of differences show that there are significant differences between respondents' evaluation of the community's relations and partnerships criteria, with P-value:.000, which is less than the significance level ($\alpha=.05$).

University's Environment

The table (4.23) below describes the means and standard deviation of the criteria of the university's environment theme, sorted in descending order according to the mean's values.

Table 4.23: Means and Std. Deviation of University's Environment Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The university provides a variety of laboratories that meet the students' educational needs.	4.1316	High	.84377
2.	The university provides prayer areas for employees and students.	4.00	High	1.06543
3.	The university provides halls for conferences and scientific events	3.8108	High	.87679
4.	The university's library serves students well.	3.7297	High	.73214
5.	The university provides suitable offices for employees.	3.5000	High	1.00673

6.	The university has a sufficient number of classrooms.	3.4737	High	.95115
7.	The university follows the rules of occupational safety and health, in general.	3.4474	High	.95003
8.	The classrooms are equipped with various teaching aids.	3.3684	Moderate	.94214
9.	The university provides students with required medical care	3.2632	Moderate	.92076
10.	The university provides its staff with a suitable environment	3.2105	Moderate	.93456
11.	The university's cafeteria meets the students' needs well	2.8947	Moderate	.89411
12.	The university provides special services for students with special needs.	2.8158	Moderate	1.11149
13.	The university offers multi-purpose halls for students' activities.	2.6053	Moderate	.88652
14.	The university provides yards to suit the numbers of students	2.4474	Low	.86046
15.	The university offers large green areas.	2.3947	Low	1.00107
16.	The university provides a special cafeteria for employees.	1.3784	Very Low	.63907

Based on the previous table, and regarding the university's environment criteria, the analysis shows that the levels of providing a variety of laboratories that meet students' educational needs, and providing prayer areas for employees and students are very high with the means of: 4.13, 4.0 respectively. Whereas the levels of offering large green areas, and providing a special cafeteria for employees scored low and very low means: 2.39, 1.37 respectively.

The researcher considers the university's environment as an important item. Therefore, the university should pay more attention to it because the university's environment has a role in attracting customers and community, in addition to its importance in enhancing the academic process. The researcher attributes this moderate level of this theme to the financial hardship that face the university since many of the funded projects are subject to the donors' conditions, and not in favor of the university's conditions and needs. Therefore, this will restrict the area of freedom in developing and enhancing the environment as required.

The table below (4.24) shows the results of one sample T-test (test value =3) which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.24: Results of one sample T-test regarding the evaluation of university's environment criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	df	Sig. (2-tailed)
1	The university provides a suitable environment for its staff.	1.389	37	.173
2	The university provides suitable offices for employees.	3.062	37	.004
3	The university has a sufficient number of classrooms.	3.070	37	.004
4	The university offers large green areas.	-3.800-	37	.001
5	The university provides yards to suit the numbers of students	-3.959-	37	.000
6	The university offers multi-purpose halls for students' activities.	-2.745-	37	.009
7	The university provides a variety of laboratories that meet students' educational needs.	8.348	37	.000
8	The university's cafeteria meets students' needs well	-.388-	37	.700
9	The university provides a special cafeteria for employees.	-15.435-	36	.000
10	The university provides special services for students with special needs.	-.902-	37	.373
11	The university's library serves students well.	6.063	36	.000
12	The university provides students with the required medical care.	2.154	37	.038
13	The classrooms are equipped with various teaching aids.	2.824	37	.008
14	The university follows the rules of occupational safety and health, in general.	3.340	37	.002
15	The university provides halls for conferences and scientific events	6.112	36	.000
16	The university provides prayer areas for employees and students.	5.704	37	.000

The results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the university's environment criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for the total degree of this section and paragraphs (1, 8, 10):

- “The university provides a suitable environment for its staff.”
- “The university's cafeteria meets the students' needs well”

- “The university provides special services for students with special needs”

As it is clear from the table (4.24) above, P-values for these paragraphs were: .173, .700, .373 respectively, and the P-value for the total degree of the section was: .082, which is more than the significance level ($\alpha=.05$).

ANOVA was conducted to check if there are differences between respondents’ evaluation of the university’s environment criteria.

Table 4.25: Results of ANOVA regarding the university’s environment.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	285.885	15	19.059	23.023	.000
Within groups	487.580	589	.828		
Total	773.464	604			

The previous table (4.25) indicate that the results of ANOVA of differences show significant differences between respondents’ evaluation of the university’s environment criteria, with P-value: .000, which is less than the significance level ($\alpha=.05$).

The Academic Exchange

The table (4.26) below describes the means and standard deviation of the criteria of the academic exchange theme, sorted in descending order according to the mean’s values.

Table 4.26: Means and Std. Deviation of the Academic Exchange Section.

No.	Paragraph	Mean	Level	Std. Deviation
1.	The University provides academic exchange opportunities for its staff.	3.8421	High	.75431
2.	The university provides students with opportunities to participate in various activities.	3.7895	High	.81067
3.	The university provides students with opportunities for academic exchange.	3.7632	High	.71411
4.	The university provides guidance and counseling services for students who are offered scholarship.	3.3784	Moderate	1.00971

As it is clear from the previous table (4.26), the results show that the levels of providing academic exchange opportunities for its staff, and providing students with opportunities to participate in

various activities scored high with means: 3.87, 3.78 respectively. Whereas the level of providing guidance and counseling services for students who are offered scholarship scored a moderate mean: 3.37.

The university has a high level in academic exchange theme. The researcher agrees and adopts this result due to the fact that PPU provides academic exchange opportunities for its staff, in addition to offering students with opportunities to participate in various activities, and other opportunities for academic exchange. From the researcher’s point of view, the academic exchange at PPU is a very good in its level; however, the university should focus more on providing guidance and counseling services for students who are offered scholarship, the item which has a moderate level from the perspective of the senior and middle management at PPU.

The table (4.27) below describes the one sample T-test (test value =3) which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.27: Results of one sample T-test regarding the evaluation of the academic exchange criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	Df	Sig. (2-tailed)
1	The university provides academic exchange opportunities for its staff.	7.222	37	.000
2	The university provides students with opportunities to participate in various activities.	6.033	37	.000
3	The university provides students with opportunities for academic exchange.	6.890	37	.000
4	The university provides guidance and counseling services for students who are offered scholarship.	2.665	36	.011

As it is clear from the previous table (4.27), the results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the academic exchange criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$).

ANOVA was conducted to check if there are difference between respondents’ evaluation of the academic exchange criteria.

Table 4.28: Results of ANOVA regarding the academic exchange

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	4.846	3	1.615	2.326	.077
Within groups	102.081	147	.694		
Total	106.927	150			

Based on the previous table (4.28), the results of ANOVA of differences show that there are no significant differences between respondents' evaluation of the academic exchange criteria, with P-value: .077 which is larger than the significance level ($\alpha=.05$).

The University's Internationalization

The table below (4.29) describes the means and standard deviation of the criteria of the university's internationalization theme, sorted in descending order according to the mean's values.

Table 4.29: Means and Std. Deviation of the University's Internationalization Section.

No	Paragraph	Mean	Level	Std. Deviation
1.	The university's vision includes trends to be in the level of international university.	4.1053	High	.72743
2.	The university seeks the international dimension in its strategic objectives.	3.9211	High	.78436
3.	The university seeks to obtain an international academic accreditation for its programs.	3.7632	High	.78617
4.	The university supports its staff participation in international conferences.	3.6316	High	.94214
5.	The university strives to keep pace with academic programs from leading international universities.	3.5789	High	.85840
6.	The university has twin agreements with leading international universities.	3.5789	High	.82631
7.	The university offers world-class professional development programs for its faculty members.	3.0263	Moderate	1.05233
8.	The university is working to send the academics to world-leading universities.	2.8947	Moderate	1.31086
9.	The university hosts international visiting teachers	2.7105	Moderate	.95600
10.	The university attracts internationally renowned faculty to work at the university.	2.5526	Moderate	1.05772

As it is obvious from the previous table (4.29), and regarding the university's internationalization criteria, the analysis showed that the levels the university having a vision which includes trends to be in the level of international university, and the university's vision includes trends to be in the level of international university scored high means with: 4.1, 3.9 respectively. Whereas the level of hosting international visiting teachers at the University, and attracting internationally renowned faculty to work at the university scored moderate means: 2.7, 2.5 respectively.

From the researcher's point of view, it appears that the university has a vision and trends towards Internationalization since it has a high level in the paragraphs that talks about seeking the international dimensions in its objectives, and this is reflected in its vision and strategic plan. Furthermore, PPU supports the participation of its staff in international conferences and strives to keep pace with academic programs from leading universities, in addition to other twin agreements with leading international universities. However, there is no scholarship system in the university because this issue is related to the financial aspect that face the PPU. This issue justifies the moderate level for the lack of sending academics to world-leading universities and hosting international visiting teachers to teach at the university. Therefore, PPU should focus more on these issues by solving the problem of the financial aspect. (for more details, see recommendations in Chapter Five).

The table (4.30) below describes the one sample T-test (test value =3) which was conducted to check if the response degree has reached the average of approval degree: score 3.

Table 4.30: Results of one sample T-test regarding the evaluation of the university's internationalization criteria. (Test value = 3)

Paragraph No.	Paragraph	T-value	Df	Sig. (2-tailed)
1	The university seeks the international dimension in its strategic objectives.	7.592	37	.000
2	The university's vision includes trends to be in the level of international university	9.907	37	.000
3	The university's strategic plan includes strategies that strengthen its position in the global rankings.	7.964	37	.000
4	The university is working to send academics to world-leading universities.	-.495-	37	.624
5	The university offers world-class professional development programs for its faculty members.	.154	37	.878

6	The university attracts internationally renowned faculty to work at the university.	-2.520-	37	.016
7	The university hosts international teachers to teach at the University.	-1.762-	37	.086
8	The university supports its staff participation in international conferences.	4.723	37	.000
9	The university strives to keep pace with academic programs from international leading universities.	4.361	37	.000
10	The university seeks to obtain an international academic accreditation for its programs.	5.984	37	.000
11	The university has twin agreements with international leading universities.	4.532	37	.000

The results of one sample T-test (test value=3) show that the perspectives of the senior and middle management at PPU regarding the university's internationalization criteria has reached the approval degree 3, with P-values less than the significance level ($\alpha=.05$), except for paragraphs: (4, 5, 7):

- “The university is working to send academics to world-leading universities”
- “The university offers world-class professional development programs for its faculty members.”
- “The university hosts international visiting teachers to teach at the university”

As it is shown in the previous table (4.30), their P-values were: .624, .878, .086 respectively, which is more than the significance level ($\alpha=.05$).

ANOVA was conducted to check if there are differences between respondents' evaluation of the university's internationalization criteria.

Table 4.31: Results of ANOVA regarding the university's internationalization.

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	111.287	10	11.129	13.238	.000
Within groups	342.158	407	.841		
Total	453.445	417			

Based on previous table (4.31), the results of ANOVA of differences show that there are significant differences between respondents' evaluation of the university's internationalization criteria, with P-value:.000, which is less than the significance level ($\alpha=.05$).

4.2.2 Results of the second question

Q3. What are the university requirements needed to transform PPU into an entrepreneurial university from the perspective of senior and middle management?

The table (4.32) below shows the relative frequencies for the priority of the elements that represent requirements needed for a transition into an entrepreneurial university from the perspective of the senior and middle management at PPU. Number (1) is the 'most important' while number (10) represents the 'least important'.

Table 4.32: Relative Frequencies of the priority one of the elements that represent requirements for a transition into an entrepreneurial university

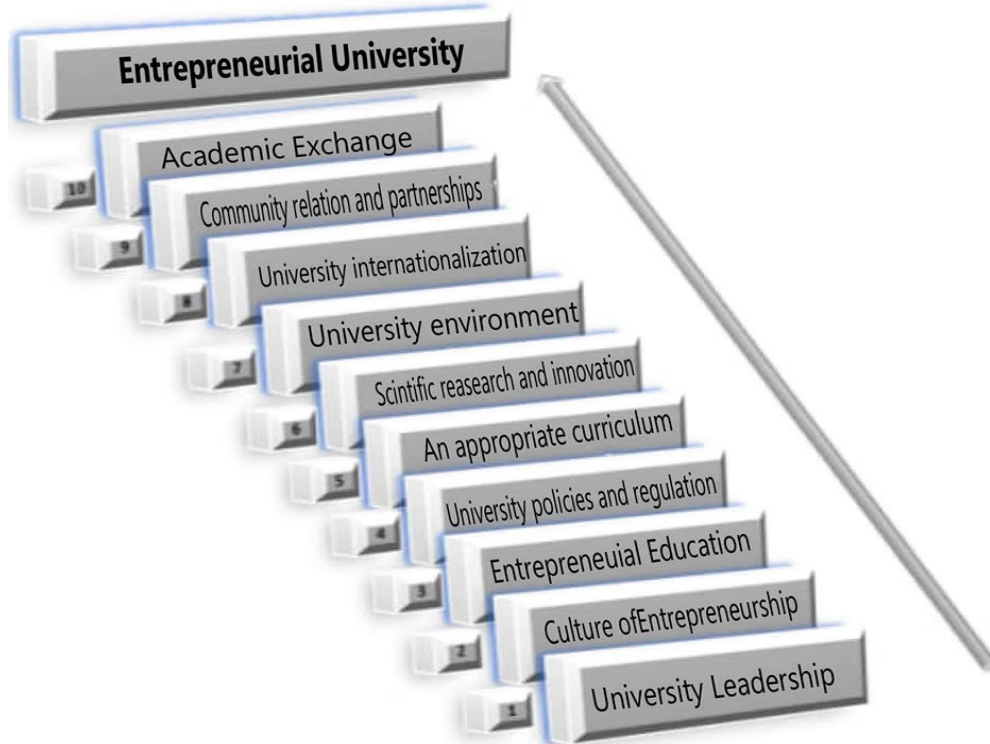
No.	Element	Relative frequency
1.	University's leadership	0.32
2.	Entrepreneurship culture	0.29
3.	Entrepreneurial education	0.16
4.	University's policies and regulations.	0.13
5.	An appropriate curriculum that meets labor market's needs.	0.11
6.	Scientific research and innovations.	0.08
7.	University's environment.	0.05
8.	University's internationalization	0.05
9.	Community's relations and partnerships	0.03
10.	Academic exchange.	0.03

As it is obvious from the previous table (4.32), the results show that the most important requirements necessary to transform PPU into an entrepreneurial university are: university's leadership and entrepreneurship culture with relative frequencies of: 0.32 and 0.29 respectively.

Whereas the academic exchange is the least important requirement with a relative frequency of: 0.03 from the perspective of the senior and middle management at PPU.

The figure (4.1) below illustrates the priorities of the university requirements that are required for the transformation of PPU into an entrepreneurial university, which is based on the results of the third question of this study, and from the perspective of senior and middle management. It shows that university's leadership is the most important requirement for the university, while academic exchange is the least important one.

Figure 4.1: Priorities of the university's requirements required for the transition into an entrepreneurial university (Developed by the researcher)



4.2.3 Results of the third question

Q3: Are there any potential differences between the study population responses on their assessment of the availability degree of the entrepreneurial university requirements at PPU attributed to the following variables: (Work experience, and Current Position)?

- First: Years of experience:

Kruskal-Wallis Test was conducted to check the differences of the respondents' perspectives towards an Entrepreneurial University Model according to the years of experience.

The table (4.33) below shows the values of the mean rank of the entrepreneurial university model themes.

Table 4.33: Values of the mean rank of the entrepreneurial university model themes according to years of experience.

	Years of Experience	N	Mean Rank
Curriculum and Labor Market	Less than 6 years	2	12.50
	6 - 10 years	4	21.00
	11 - 15 years	8	16.81
	16 - 20 years	5	19.90
	21 - 25 years	7	17.21
	More than 26	11	21.77
	Total	37	
Entrepreneurial education	Less than 6 years	1	18.00
	6 - 10 years	4	14.50
	11 - 15 years	8	21.88
	16 - 20 years	5	13.90
	21 - 25 years	7	18.43
	More than 26	11	19.68
	Total	36	
University's policies and regulations	Less than 6 years	2	17.50
	6 - 10 years	4	15.50
	11 - 15 years	8	15.00
	16 - 20 years	5	18.00
	21 - 25 years	7	21.50
	More than 26	12	23.63
	Total	38	
University's leadership	Less than 6 years	2	8.25
	6 - 10 years	4	13.88
	11 - 15 years	8	13.69
	16 - 20 years	4	19.75
	21 - 25 years	7	25.71
	More than 26	12	21.88
	Total	37	

Entrepreneurship Culture of	Less than 6 years	1	25.00
	6 - 10 years	3	17.33
	11 - 15 years	8	20.13
	16 - 20 years	5	11.30
	21 - 25 years	7	19.36
	More than 26	11	18.18
	Total	35	
Scientific research and innovations	Less than 6 years	2	15.50
	6 - 10 years	4	13.00
	11 - 15 years	8	14.25
	16 - 20 years	4	17.50
	21 - 25 years	7	22.36
	More than 26	12	23.29
	Total	37	
Community's relations and partnerships	Less than 6 years	2	16.75
	6 - 10 years	4	15.50
	11 - 15 years	8	16.13
	16 - 20 years	5	17.10
	21 - 25 years	6	22.33
	More than 26	12	21.58
	Total	37	
University's environment	Less than 6 years	2	19.00
	6 - 10 years	4	9.00
	11 - 15 years	7	13.64
	16 - 20 years	5	23.90
	21 - 25 years	6	21.58
	More than 26	11	19.23
	Total	35	
Academic Exchange	Less than 6 years	2	25.50
	6 - 10 years	4	20.75
	11 - 15 years	8	16.69
	16 - 20 years	4	9.50
	21 - 25 years	7	22.86
	More than 26	12	19.79
	Total	37	
University's internationalization	Less than 6 years	2	7.75
	6 - 10 years	4	22.75
	11 - 15 years	8	15.56
	16 - 20 years	5	18.60
	21 - 25 years	7	21.64
	More than 26	12	22.13
	Total	38	

The table below (4.34) shows the results of Kruskal-Wallis Test of differences of the respondents' perspectives towards an entrepreneurial university model themes according to the variable of the years of experience.

Table 4.34: Results of Kruskal-Wallis Test of differences of the respondents' perspectives towards an entrepreneurial university model according to the years of experience.

Theme	Kruskal-Wallis H	Df	Asymp. Sig.
Curriculum and the labor market	2.150	5	.828
Entrepreneurial education	2.500	5	.777
University's policies and regulations	3.882	5	.567
University's leadership	8.387	5	.136
Entrepreneurship Culture	3.115	5	.682
Scientific research and innovations	5.630	5	.344
Community's relations and partnerships	2.482	5	.779
University's environment	6.937	5	.225
Academic exchange	5.345	5	.375
University's internationalization	4.606	5	.466

As it is clear from the previous table (4.34), the results of **Kruskal-Wallis Test** show that there are no significant differences between respondents' perspectives towards entrepreneurial university model themes attributed to the years of experience, with P-values more than the significance level ($\alpha=.05$), for all themes in the model.

-Second: Current job:

Kruskal-Wallis Test was conducted to check the differences of the respondents' perspectives towards an entrepreneurial university model according to their current job.

The table (4.35) below shows the values of the mean rank of the entrepreneurial university model themes evaluation according to the current job.

Table 4.35: Values of mean rank of the entrepreneurial university according to current job.

	Current Job	N	Mean Rank
Curriculum and the labor market	University president	1	25.50
	Vice president	4	26.13
	Dean	8	23.06
	Head of Academic Department	14	19.18

	Head of Administrative Department	3	20.00
	Center Director	7	8.57
	Total	37	
Entrepreneurial education	University president	1	31.50
	Vice president	4	24.38
	Dean	7	20.36
	Head of Academic Department	13	15.92
	Head of Administrative Department	3	23.33
	Center Director	8	14.69
	Total	36	
University's policies and Regulations	University president	1	32.00
	Vice president	4	30.75
	Dean	8	19.81
	Head of Academic Department	14	13.64
	Head of Administrative Department	3	26.50
	Center Director	8	19.63
	Total	38	
University's leadership	University president	1	35.00
	Vice president	4	27.88
	Dean	8	20.56
	Head of Academic Department	13	12.04
	Head of Administrative Department	3	23.83
	Center Director	8	20.50
	Total	37	
Entrepreneurship culture	University president	1	28.50
	Vice president	4	18.00
	Dean	8	22.75
	Head of Academic Department	11	16.05
	Head of Administrative Department	3	21.83
	Center Director	8	13.19
	Total	35	
Scientific research and innovations	University president	1	32.50
	Vice president	4	31.13
	Dean	8	17.50
	Head of Academic Department	13	14.12
	Head of Administrative Department	3	24.17
	Center Director	8	18.75
	Total	37	
	University president	1	35.00

Community's relations and partnerships	Vice president	4	30.00
	Dean	8	19.44
	Head of Academic Department	14	14.36
	Head of Administrative Department	3	24.00
	Center Director	7	17.07
	Total	37	
University's environment	University president	1	33.00
	Vice president	4	29.50
	Dean	8	17.13
	Head of Academic Department	12	13.96
	Head of Administrative Department	3	25.33
	Center Director	7	14.07
	Total	35	
Academic Exchange	University president	1	35.00
	Vice president	4	26.88
	Dean	8	19.69
	Head of Academic Department	13	16.12
	Head of Administrative Department	3	25.00
	Center Director	8	14.81
	Total	37	
University's internationalization	University president	1	34.00
	Vice president	4	32.13
	Dean	8	21.31
	Head of Academic Department	14	15.79
	Head of Administrative Department	3	24.67
	Center Director	8	14.13
	Total	38	

The table (4.36) below shows the results of Kruskal-Wallis **Test** of differences between respondents' perspectives towards entrepreneurial university model themes according to the current job.

Table 4.36: Results of Kruskal-Wallis Test of differences of respondents' perspectives towards an entrepreneurial university model according to the current job.

Theme	Kruskal-Wallis H	Df	Asymp. Sig.
Curriculum and the labor market	9.835	5	.080
Entrepreneurial education	5.458	5	.363

University's policies and regulations	10.493	5	.062
University's leadership	11.212	5	.047
Entrepreneurship culture	5.401	5	.369
Scientific research and innovations	10.089	5	.073
Community's relations and partnerships	9.792	5	.081
University's environment	11.701	5	.039
Academic exchange	7.546	5	.183
University's internationalization	11.311	5	.046

As it can be seen from the previous table (4.36), the results of **Kruskal-Wallis Test** show that there are no significant differences between respondents' perspectives towards the following entrepreneurial university model themes : [Curriculum and labor market, entrepreneurial education, university's policies and regulations, entrepreneurship culture of, scientific research and innovations, community's relations and partnerships, and academic exchange], which may be attributed to the current job. Their P-values were: .080, .363, .062, .0369, .073, .081, .183 respectively, which is more than the significance level ($\alpha=.05$).

However, the previous table (4.36) shows that there is a significant difference between respondents' perspectives towards the following entrepreneurial university model themes: [University's leadership, environment, and internationalization], which may be attributed to the current job, with P-values: .047, .039, .046 respectively, which is less than the significance level ($\alpha=.05$).

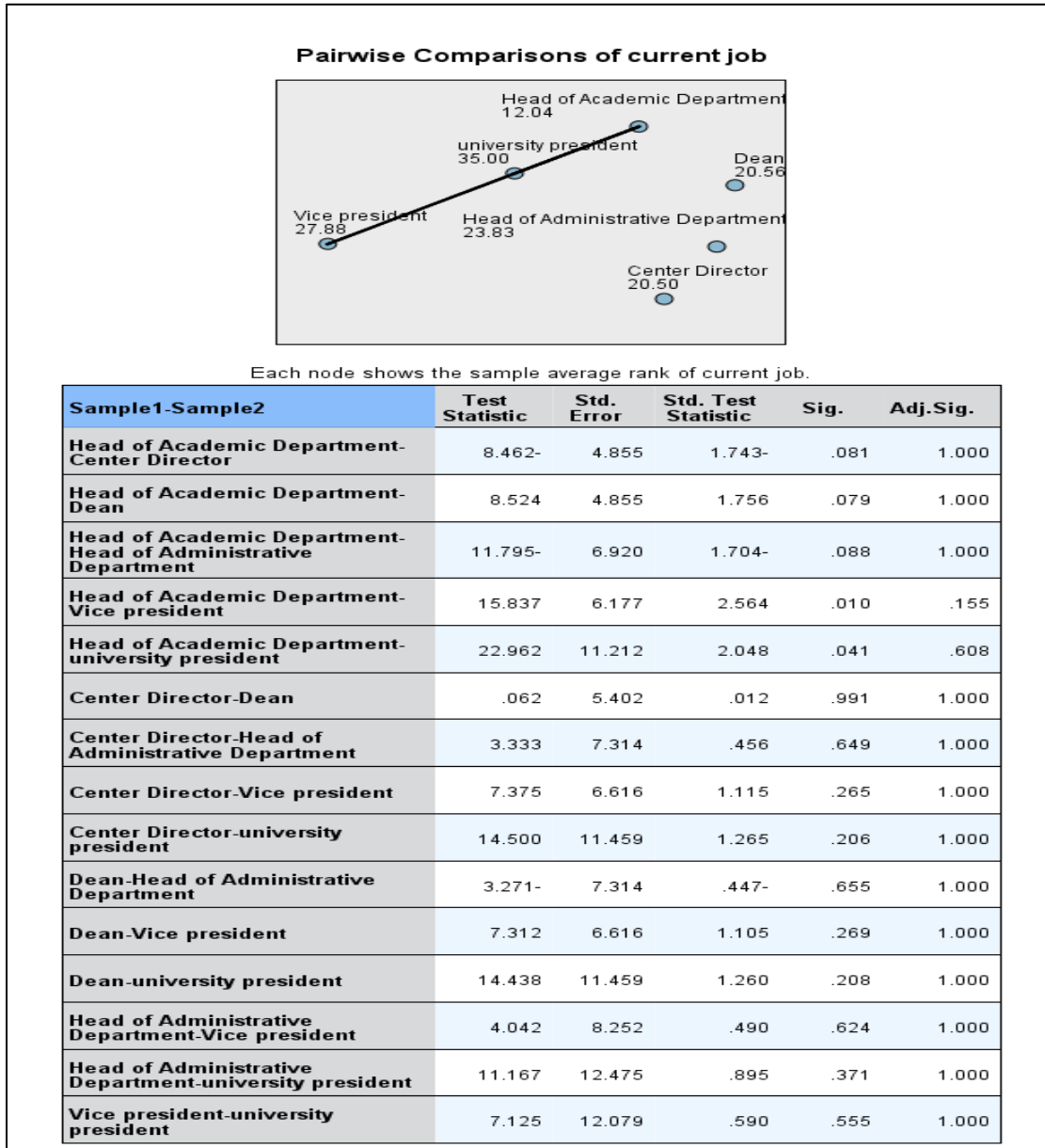
This means that the more the current position is close to the senior management, the more the responses will be different towards the mentioned entrepreneurial university themes.

4.2.3.1 Pairwise comparisons

Pairwise comparisons were conducted to find the source of difference between respondents' perspectives towards the following themes: [University's leadership, environment, and internationalization] according to the current job.

- First: University's Leadership:

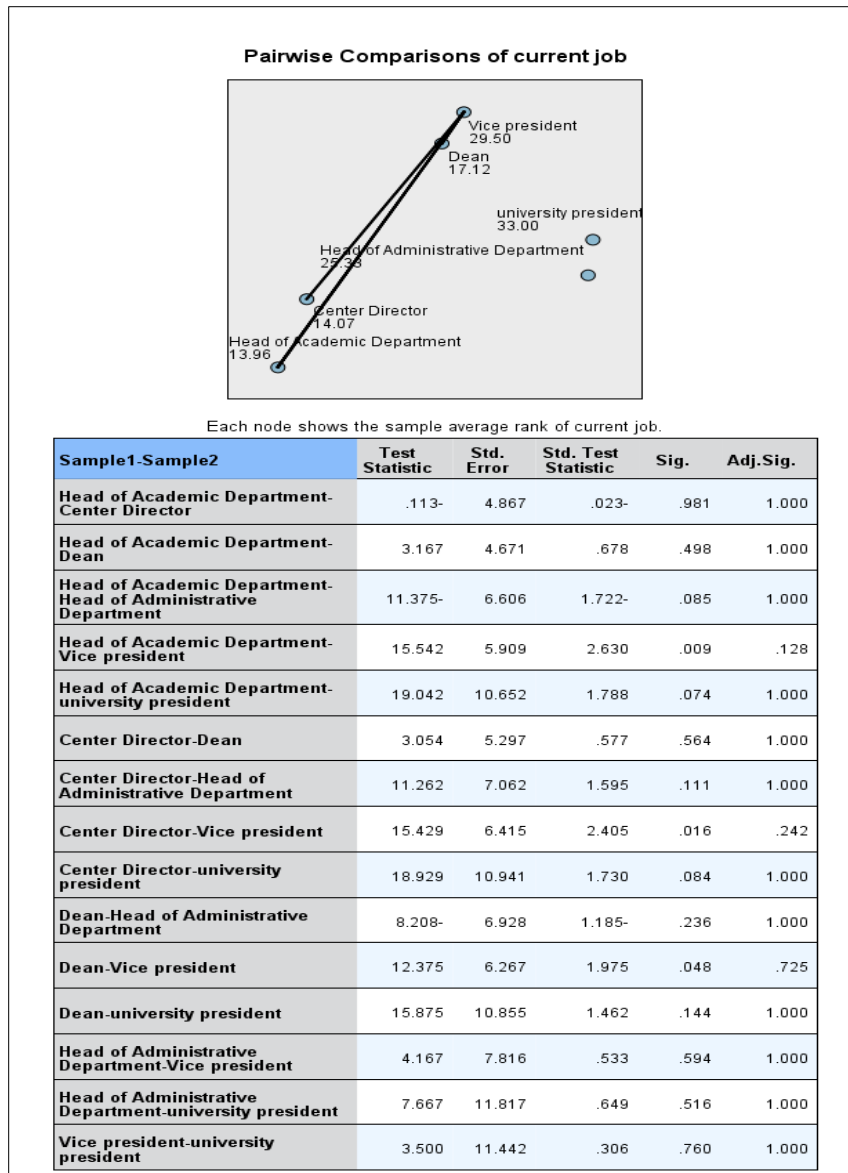
Figure 4.2: Pairwise comparisons towards leadership according to the current job



The pairwise comparison between respondents' perspectives towards *university's leadership* theme according to the current job shows that there is a significant difference between the head of the academic department and vice president, in addition to the difference between the head of academic department and the university president, with P-values: .010, .041 respectively, which is less than the significance level ($\alpha=.05$)

- Second: University's environment:

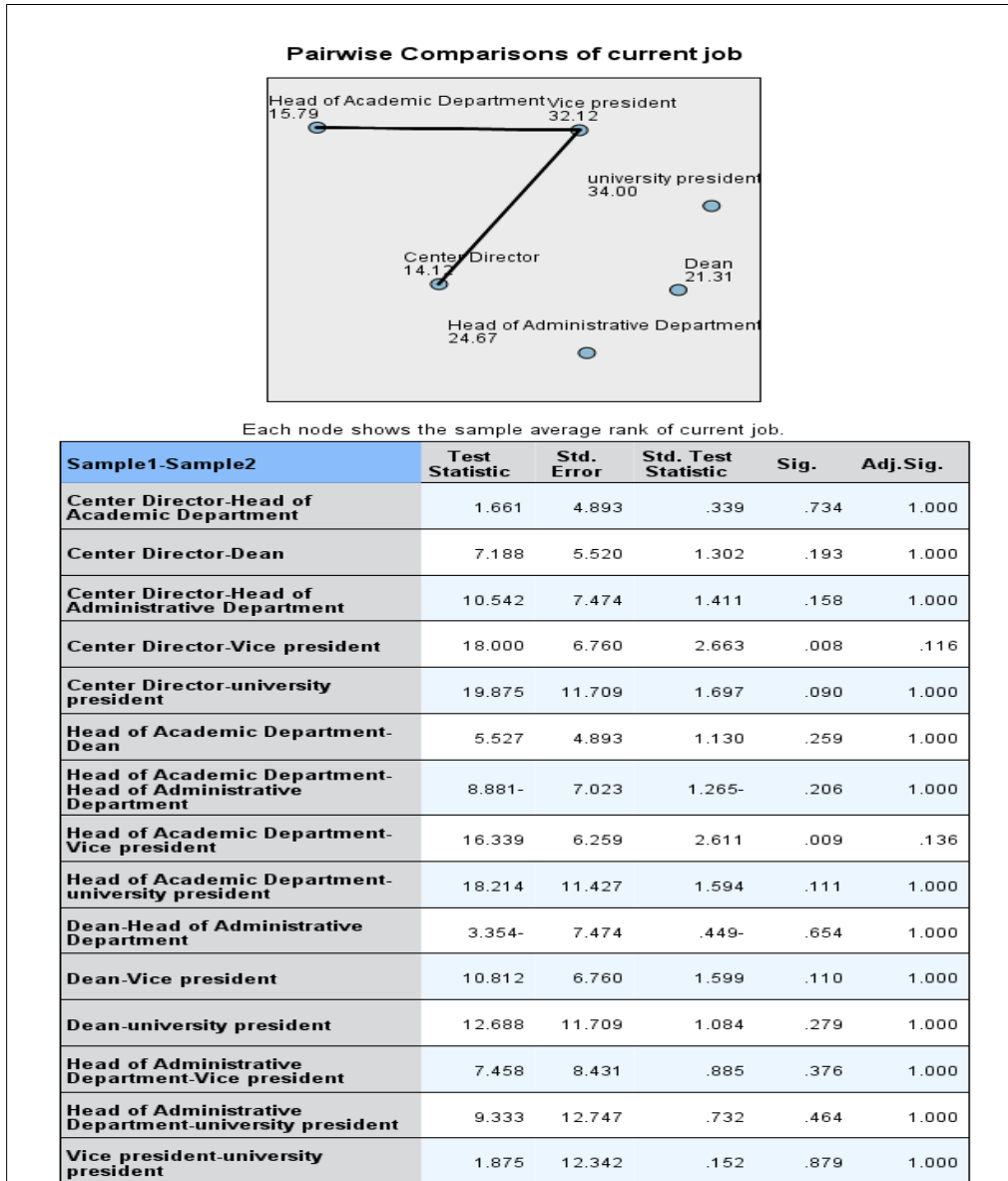
Figure 4.3: Pairwise comparisons towards environment according to the current job



The pairwise comparison between respondents' perspectives towards *university's environment* theme, according to the current job, shows that there is a significant difference between: vice president and [head of academic department, center director and deans], with P-values : .009, .016, .048 respectively, which is less than the significance level ($\alpha=.05$).

Third: University's internationalization:

Figure 4.4: Pairwise comparisons towards internationalization according to current job



The pairwise comparison between respondents' perspectives towards *university's internationalization* theme, according to the current job, shows that there is a significant difference between: vice president and [center director and head of academic department], with P-values : (.008, .009) respectively, which is less than the significance level ($\alpha=.05$)

4.3 Results of the Interview

An interview was conducted with the PPU president. It included eight questions, which were prepared to ensure the accuracy of the information in the questionnaire. On the other hand, some of the questionnaire paragraphs results need further explanations and justification depending on the PPU's situation and environment. All of the questions were derived from the questionnaire questions where the results were as follows:

1. Does the university really seek to develop curricula based on labor market's needs? How do you explain the lack of a systematic university methodology for that point?

It appeared that there is a mixture among university's employees regarding the concept of harmonizing curricula with the labor market's needs. This is because what is required is global harmonization and not only local; however, the industry in Palestine is limited to local industries, and competitiveness is limited because the Palestinian situation is constantly changing. Educational needs and methodologies must be more global, more pioneering, and more reviewable to produce two outputs able to match the global market.

This explains the low percentage of senior and middle management responses to the existence of a systematic methodology to align curricula with the labor market's needs.

2. Does the university grant financial incentives for its employees in exchange of the entrepreneurial results it receives? What is the explanation for that?

It was found that the university offers its employees financial incentives as much as possible, but the financial crisis faces the university has caused a decrease in the percentage of financial incentives given to employees in exchange for the pioneering results obtained, and these incentives are limited to the ones received to be through funded projects. Likewise, most of these projects are subject to the donors' terms and not to the needs of the university. This explains the low percentage

of responses shown by senior and middle management regarding offering such financial incentives for the employees in exchange for the entrepreneurial results obtained.

3. Concerning practical research, does the university seek to link the results of research with the labor market's needs by creating innovative companies affiliated by the university? What is the explanation for that?

It turned out that the dimension of scientific research at the university is in a step towards progress despite of the existing obstacles since few students have an interest in linking their research and projects with the market's needs. As a result, this requires a complete system to follow the practical research, a general policy to encourage scientific research, and an approval from the High Authority in Palestine, Likewise, we need different tools to activate it, while taking into account that the institutions working for innovation do not really exist on the ground, and the knowledge-based economy policy does not exist.

All the above reasons explained the low percentage shown by the senior and middle management towards linkage the research results with the labor market's needs by creating innovative companies affiliated by the university.

4. Does the university have mechanisms to convert theoretical research outputs into practical innovations? How do you explain this?

It was found that the university seeks, as much as it can, to care about developing mechanisms to convey theoretical research outputs into practical innovations; however, the policy of companies' registration, and the dishonest cooperation between institutions operating between different sectors of society are considered as the worst policy in society. Regarding the situation in the university, PPU has a Biotechnology Research Center, but the university has a limited role to employ researchers and research assistants. This is due to the fact that the employment process needs costs, which is similar to the scientific research that needs to be financed and allocated a specific a budget. It needs to be taken into account that most of the research projects are subject to the donors' terms and not according the labor market's need. Additionally, the research results may be risky because the results may not achieve the required goal.

This explains the low percentage of the existence of specific mechanisms for the university to convert theoretical research outputs into applied innovations.

5. Do community relations and companies contribute to finance the university projects? How do you explain this?

It was found out that the university's relations and community partnerships contribute significantly to raise the university's reputation since the university has a good reputation in society. Additionally, university's relations and community partnerships contribute to finance the university's projects, but in various proportions because most of the finance is aimed at the infrastructure, and does not go for the university to improve its environment. This explains the low percentage of respondents' answers regarding the contribution of community's relations and partnerships in financing university projects.

6. In your view, does the university environment play a role in the university entrepreneurship? Is the university interested in improving its environment for employees and students? How do you explain this?

It seems that the university's environment is the window of society, and it requires high costs. The university seeks to cover this aspect through funded projects because the university suffers from financial hardship for many reasons. First and foremost, the lack of financial support offered to the university from the government, the economic situation in Palestine, and to the lack of awareness of knowledge-based economy. However, the university is trying to solve this problem by continuing to pursue its vision of entrepreneurship within the existing environment, and this explains the low percentage of respondents' answers regarding the topic of the university's environment.

7. How do you explain the lack of scholarship offered for faculty members to study at leading universities worldwide?

It was found out that there is no scholarship system in the university because this issue is related to the financial aspect, which face the university and represented by financial hardship, lack of governmental support for this issue, and the absence of a scholarship item for faculty members within the budget. This explains the low percentage of offering faculty members scholarships to leading universities worldwide.

8. Does the university suffer from financial hardships? How do you explain this?

It was found that the university is suffering from financial hardships for several reasons, the most important of which are:

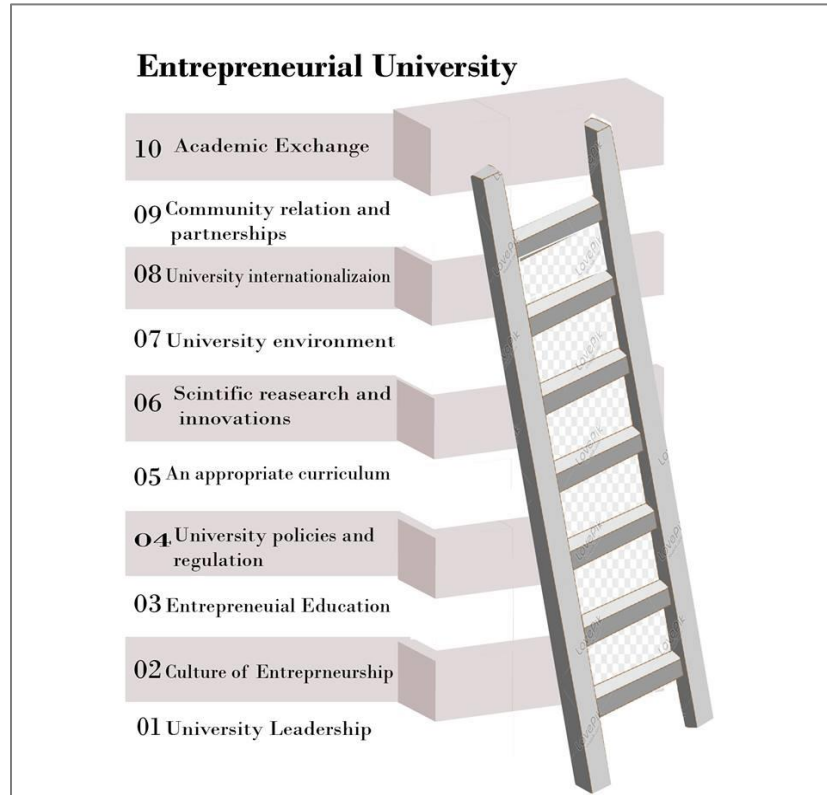
- The Palestinian government has not fulfilled its pledge to support universities.
- The change in the exchange rate of the currency linked to university fees. This fluctuation in the exchange rate of the currency is not in the interest of the university because the university expenses on the exchange rate which are taken from the students are at a lower rate which causes a financial problem.
- The deterioration of the financial value of the currency and the high living cost.
- The political situation that prevents discussing the issue of installments.
- Palestine Polytechnic University is not a private university, and there are limitations that limit the adoption of some projects that have an investment nature. This is because the university is affiliated with a charitable association, and there is always a contrast between the charity and the investment side.

4.4 Summary

According to the previous results, it can be noticed that PPU has the willingness to be an entrepreneurial university. It attempts, as much as possible, to reach this trend despite of the restriction of the financial item. Additionally, it tries to do entrepreneurial activities and concerns on the aspects that can raise its development and reputation by continuing in its vision of entrepreneurship in the light of the existing financial problem. The researcher adopts the results and concludes that the university should continue with the entrepreneurship concept gradually depending on the reality of the actual situation of PPU as appeared from the responses of the senior and middle management. It is worth mentioning that PPU is a Palestinian university which has a special situation due to the Israeli occupation.

In summary of all of the abovementioned survey and interview findings, figure (4.2) below shows the steps required for the transition of PPU into an entrepreneurial university, organized in an ascending order, and based on the researcher's perspective.

Figure 4.5: Steps organized in an ascending order and required for the transition of PPU into an entrepreneurial university. (Developed by the researcher)



As shown above, the university should go step by step in its entrepreneurship policy. It should start from the leadership by disseminating and spreading awareness about the culture of entrepreneurship throughout the university's staff and students. In the next step, the university should focus on entrepreneurial education since it is a very important aspect for graduates who have innovative ideas that enable them to start their own startups. University's polices should be taken into account since they are the systematic way to achieve the goal of entrepreneurship, which is followed by the scientific research theme because the innovations resulted from the research are the basic point for any university to be a leading one. Moreover, the university's environment would be the next step because it influences the achievements and efforts of students and staff. The university should focus more on its environment, which is considered as the eighth step, and since this environment is the mirror to the community, and needs to kept in pace with other leading universities externally. The ninth step would go for the university's relations and partnership, which are important to increase the cooperation agreements between the university and community, and can develop w the curricula and majors to suit the needs of the community and

labor market. Academic exchange, which is important to increase experiences between the university and leading universities abroad would be the last step for the transition of the university into an entrepreneurial one.

Chapter Five

5 Summary of Results, Conclusions and Policy Implications

5.1 Introduction

This chapter aims to review the main results of the study and its conclusions after data analysis which were discussed in chapter four. The findings of the study questions and questionnaire will be summarized as a step forward to propose a model for the entrepreneurial University at Palestine Polytechnic University. The chapter will also present the study policy implication and future studies that are relative to the study subject.

5.2 Summary of study results

5.2.1 Summary of results related to study questions

Q1: What is the reality of the entrepreneurship at PPU from the viewpoint of senior and middle management?

The findings of the study showed that the implementation of entrepreneurship at Palestine Polytechnic University from the perspective of senior and middle management was somewhat has a high degree as the mean for all entrepreneurship themes. Where the findings showed that the higher degree was for the curriculum and the labor market, while the least moderate degree was for the university environment theme. The results also showed that the community relations and partnerships theme have a high degree, then the academic exchange theme, then the culture of leadership theme, then the theme of entrepreneurial education, then the internationalization theme. While, in regard to the themes that have a moderate degree in achieving entrepreneurship are: the university policies and regulations, followed by the scientific research and innovations theme which has a moderate degree, then the theme of university leadership. While, the last theme that has a moderate degree is the university environment.

The findings indicated that entrepreneurship is being implemented in the curriculum and labor market theme through several aspects, the most important of which are: The University's keen to develop its curricula in a manner that is following the need of the labor market; which has a very high degree. It also seeks to develop its curricula continuously to keep pace with scientific development with a high degree. While the University should focus more on adopting a systematic methodology in studying the needs of the labor market, which has a moderate degree.

Results related to the reality of the entrepreneurial education showed that the University has policies that encourage teachers to use a learning strategy based on the use of practical laboratories with a high degree. In contrast, it has policies that encourage teachers to use electronic education in the educational process with a high degree. It also has programs aimed at training students in building and forming entrepreneurial ideas with a high degree. While the University should focus more on the policy of encouraging teachers to use simulation in the educational process, and encouraging teachers more to analyze the strengths and weaknesses in the educational process, which has a moderate degree. The results indicated that there were differences between the respondent's perspectives towards the entrepreneurial education

The findings related to the reality of entrepreneurship in policies and regulations indicated that the University focuses in its strategy with a very high degree on the importance of being an entrepreneurial university, and the University's strategic plan includes a future vision and a clear message towards an entrepreneurial university which came with a high degree. While, the

University should focus more on forming a bank for entrepreneurial ideas that result from research at the University, which came as a moderate degree. The results also showed that the University does not grant financial incentives against the entrepreneurial results that have obtained from workers and students, which has a low degree. The results indicated that there were differences between the respondent's perspectives towards the university policies and regulations.

The findings of the university leadership theme showed that PPU focuses on the increasing demand for university services with a high degree, and it adopts constructive leadership ideas to maintain its development with a high degree. While the University follows the method of managing objectives with a moderate degree, and it does not diversify from its funding sources significantly to maintain its independence, which came with a moderate degree. The results showed that there were no differences between the respondent's perspectives towards university leadership.

As for the reality of entrepreneurial in scientific research and innovations, the findings showed a high degree in allowing the researchers to participate in international and international conferences, as it seeks to develop knowledge in the field of scientific research for employees. Whereas the University implements research projects as a result of external cooperation with a high degree, this corresponds to the theme of community relations and partnerships. Also, while the University is seeking in a moderate degree to increase the number of patents related to research results and has a moderate degree in the mechanisms for transferring the applied research outputs (innovations) to the labor market. In addition to low degree in the mechanics of converting the results of research into applied theoretical innovations. It has also a low seeking to link the results of the research needs of the labor market through the creation of innovative companies from the University. The results indicated that there were differences between the respondent's perspectives towards scientific research and innovations.

The results related to the reality of the entrepreneurship in community relations and partnerships indicated that the University has a very high degree of various cooperation agreements with local community sectors, and that the relations and partnerships have a high contribution to raising the University's reputation level. while, the results also showed that incubator available at the University is highly sought to establish productive or service projects that are in line with the community's need, and it also adopts with a high degree the theory of triple helix partnership based on the complementary relationship between the University, the business sectors, and the

government to produce knowledge (Abdel Wahab, 2018). The results also showed that university relations contribute to raising the University's ability to fund its projects with a high degree. Whereas, the results showed that social relations and partnerships contribute with a moderate degree in increasing practical research that is appropriate to the needs of the labor market. The results indicated that there were differences between the respondent's perspectives towards community relations and partnerships.

As for the reality of entrepreneurship in the university environment, the results showed that the University highly provides a wide range of laboratories that meet the needs of educational students, it also provides halls for conferences and practical events, and provides library services for students well. While, the classrooms are equipped in a moderate degree with different educational methods, they also provide a moderate degree services for people with special needs. Whereas, the University does not provide enough green yards to suit the number of students. While PPU has a very low degree in providing a special cafeteria for workers. The results indicated that there were differences between the respondent's perspectives towards university environment.

Results regarding of the reality of entrepreneurship in the academic exchange showed that the University provides a high degree of academic exchange opportunities for its, and it also provides a high degree of opportunities for students to participate in student delegations in various activities. It also provides highly academic opportunities for students to exchange. Whereas, it provides guidance and counseling services for scholarship students in a moderate degree. The results showed that there were no differences between the respondent's perspectives towards academic exchange.

As for the last theme of university internationalization, the results showed that the PPU's vision includes a high degree of orientation to reach a world-class university. Likewise, the University highly seeks an international dimension in its strategic goals, and it is also highly seeking to obtain international academic accreditation for its university majors with. While the University hosts international teachers as visitors to teach at the University with a moderate degree. It also attracts, to a moderate degree, internationally distinguished faculty members to work in the University. The results indicated that there were differences between the responses of the respondent's perspectives towards internationalization

Q2: What are the requirements to transform PPU towards an entrepreneurial university from the viewpoint of senior and middle management?

The findings showed the priorities of the university requirements that are required for the transformation of PPU into an entrepreneurial university from the perspective of senior and middle management. It was shown that the University's leadership is the first priority requirement for entrepreneurship, while the academic exchange requirement is the last priority.

Likewise, the findings presented the requirements priorities which were organized according to their importance from the perspectives of the senior and middle management as follows respectively: University leadership, the culture of entrepreneurship, the entrepreneurial education, university policies and regulations, an appropriate curriculum, the scientific research and innovations, university environment, university internationalization, community relations and partnerships, and the academic exchange.

It is clear from the above that the University applies most of the entrepreneurship themes, and therefore it strives to achieve its entrepreneurial vision. On the other hand, it turns out that all themes are related to each other, and the absence of one of these themes causes a disorder in the university system and a defect in achieving the required entrepreneurial vision. Also, most of the results agree that PPU was facing financial hardship because of the economic and political situation that almost the Palestinian universities are suffering from.

Q3: Are there any potential differences between the study population responses on their assessment of the availability degree of the entrepreneurial university requirements at PPU attributed to the following variables: (Work experience, and Current Position)?

The findings show that there are no significant differences between respondents' perspectives towards entrepreneurial university themes attributed to the years of experience. While there are differences between respondents' perspectives towards entrepreneurial university themes according to their current job. Where, it was shown that there are significant differences between the responses of the heads of the academic departments and vice president, in addition to the differences between the responses of the heads of the academic departments and the university president towards the University's leadership theme according to the current job. On the other hand, there is a significant difference between the responses of the vices-president and the [heads

of academic departments, center directors and deans] towards the University's environment theme, according to the current job. Likewise, there is a significant difference between the responses of the vices-president and the [center directors and heads of academic departments] towards the University's internationalization theme, according to the current job.

Based on the foregoing, we can conclude that there are differences between the responses the senior and middle management. This means that the closer the current work is to the senior management, the more the answers will be different, as the employees in the senior management differ their point of views on the reality of entrepreneurship in the University, given their broader authorities in leadership, decision-making, developing future plans and the University's vision, in addition to the external and international dealings. This explains the different responses in the themes of university leadership, university environment and internationalization.

5.2.2 Summary of the questionnaire results

The findings of the questionnaire showed that PPU has a lack of a systematic methodology to align curricula with the labor market's needs. This is due to the Palestinian industry which is limited to local industries, with a low competitiveness in this issue as the Palestinian situation is constantly changing.

The findings also showed that the financial crisis that PPU faces has caused a decrease in the percentage of financial incentives given to employees in exchange for the pioneering results obtained, and these incentives are limited to the ones received through funded projects, where most of these projects are subject to the donors' terms and not to PPU needs.

It was found that PPU's scientific researches are in a step towards progress despite the existing obstacles. Furthermore, it was shown that the process of linking researches results with the labor market's needs by creating innovative companies affiliated by the PPU will require a complete system to follow the practical research, a general policy to encourage scientific research, and an approval from the High Authority in Palestine.

The findings of the questionnaire showed that PPU has a limited role in converting theoretical research outputs into practical innovations. This is due to the fact that scientific research needs to be financed and allocated a specific budget in addition to its risky because the results may not achieve the required goal.

On the other hand, it was found the contribution of the community's relations and partnerships in financing PPU projects were limited to finance the infrastructure, and does not go for the University to improve its environment. However, the University is trying to pursue its vision of entrepreneurship within the existing context despite the financial hardship.

Regarding the PPU's scholarships offered for faculty members to study at leading universities worldwide, it was found that there is no scholarship system in the University because this issue is related to the financial aspect in addition to lack of governmental support for this issue.

5.3 Conclusions

PPU should focus more on entrepreneurship in policies and regulations, in addition to scientific research and innovation that results from its workers and students, which would also affect its position in the ranking system. It should also focus on entrepreneurial leadership and pay more attention to improve its environment.

The University should focus more on adopting a systematic methodology in studying the needs of the labor market, and encourage teachers to use simulations in the educational process, plus encouraging them to analyze the strengths and weaknesses of the educational process. It should also focus more on creating a bank for entrepreneurial ideas resulting from research and work to diversify its funding sources significantly in order to maintain its independence to be able to grant financial incentives for the entrepreneurial results that it obtained.

On the other hand, the University should follow the method of management with goals. It should also work to increase the number of patents related to the results of research by linking the results of research to the market need and focus on developing mechanisms to transfer the outputs of applied research (innovations) to the labor market. Likewise, it should convert the results of a theoretical study into practical innovations by creating companies from the University.

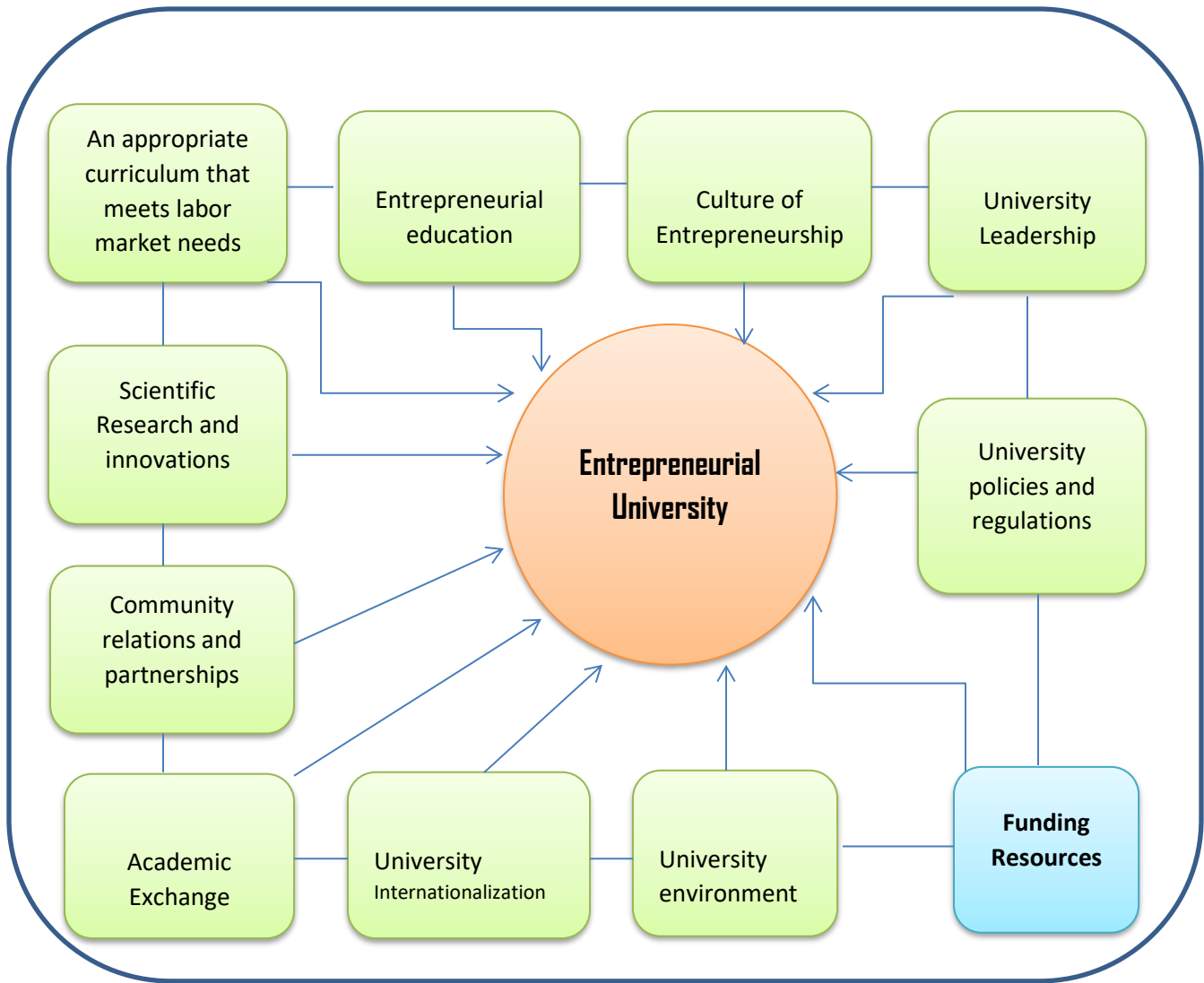
PPU should adopt more to the theory of Triple-helix partnership based on the complementary relationship between the University, business sectors and the government. One more point, PPU should increase its relations with the community in a way that contributes to raising its ability to finance its projects and improving the university environment. Furthermore, PPU has to continue its endeavor to be a world-class university through keeping pace with leading universities in the

whole world. It should also focus more on hosting international teachers as visitors to teach at PPU and to attract distinguished faculty members internationally to work at the PPU.

In conclusion, it was found that PPU suffering from financial hardship due to the lack of supports from the government, in addition to the change in the exchange rate of the currency linked to university fees, plus the deterioration of the financial value of the currency and the high living cost. Furthermore, the political situation that prevents discussing the issue of installments taking into account that PPU is not a private university, and there are limitations that limit the adoption of some projects that have an investment nature. There is no doubt that the financial issue accelerates the University's fulfillment of its entrepreneurship vision, while the financial deficiency may sometimes influence on achieving it as required. Despite all, we can say that the University is trying hard to make entrepreneurship in all its academic, administrative, service, and international aspects within the existing situation, resources, and capabilities.

As a final result, and from the point view of the researcher, entrepreneurship considered as an integrated process consisting of a group of elements, where the absence of any of these elements may negatively affect the performance of the overall process. Depending on this point, the researcher proposes a model for PPU transition towards an entrepreneurial university which is the overall objective of this study. The below Figure (5.1) presents a model for the entrepreneurial University that the researcher proposes. Furthermore, the conditions are linked to each other, taking into consideration that the absence of any of these requirements will cause a disorder in the achievement of PPU's entrepreneurship vision of as required. The researcher added requirement, which is (funding resources) that may accelerate the success of the University's entrepreneurship as needed. This requirement contributes in increasing the capability of the University in facing its financial problems that may touch other requirements in the proposed model.

Figure 5.1: PPU entrepreneurial university model



□ : Requirements for the transition into an entrepreneurial university

□ : Additional element that can accelerate the development into entrepreneurial university

○ : Entrepreneurial University (EU)

Based on this proposed model which was extracted from the findings of this study; the researcher confirms the definition of the entrepreneurial university, which was also derived from the theoretical framework, which is as *“The university that works with unremitting steps towards being distinguished in all its strategic, organizational, educational, humanities, environmental, and financial levels. This can also include the university curriculums, scientific research, and entrepreneurial education, for the aim of achieving projects and applied research, that supposed to address the problems of the local community. Besides, the university’s role expands to not only providing knowledge, but also into making and transferring the knowledge locally and internationally, in addition to focusing on creating jobs for graduates rather than just employment”*.

5.3.1 Comparison between the proposed PPU model and OECD framework

There are some differences between the components of PPU’s proposed model and the OECD framework. The following table shows the basic comparisons between the two models.

Table 5.1: Comparison between PPU model and OECD framework

OECD framework components	PPU model components
<p>Leadership and governance</p> <ul style="list-style-type: none"> - Strategic plan for entrepreneurship - Including entrepreneurship's vision and mission - Entrepreneurship and Innovation Center - Entrepreneurship and innovation unit in the university colleges - Supporting startups to foster innovation 	<p>Policies and regulations</p> <p>Leadership</p> <p>Environment</p>
<p>Organizational capacity, people and incentives</p> <ul style="list-style-type: none"> - Long term financing strategy. - Provide incentives - Links with investors - Official policy for entrepreneurship and professional development. - Training courses in entrepreneurship and innovation 	<p>Culture of entrepreneurship</p> <p>Policies and regulations</p>
<p>Entrepreneurship development in teaching and learning</p> <ul style="list-style-type: none"> - Entrepreneurial learning outcomes for each program - University Entrepreneurial Community Networks - Teaching and learning methods for developing an entrepreneurial mindset - Entrepreneurship major in colleges - Cooperative companies with local and regional entrepreneurial institutions 	<p>Entrepreneurial education</p> <p>Scientific researches and innovations</p> <p>Academic exchange</p>

<ul style="list-style-type: none"> - An entrepreneurship forum for academic staff in Egyptian universities 	
<p>Pathways for entrepreneurs</p> <ul style="list-style-type: none"> - An entrepreneurial online platform for every university. - Entrepreneurial events to raise awareness of entrepreneurial activities - Women Entrepreneurship Programs - Annual entrepreneurial competitions - Entrepreneurial Fund - Entrepreneurship Forum - Start-ups Program 	<p>Culture of entrepreneurship</p> <p>Scientific researches and innovations</p> <p>Funding recourses</p>
<p>University – business/external relationships for knowledge exchange</p> <ul style="list-style-type: none"> - Incentives for private sector companies - Communication unit with external stakeholders - Incubators and science parks - Participation of student unions in organizing entrepreneurial activities 	<p>Community relations and partnerships</p> <p>Curriculum that meets labor market</p>
<p>The Entrepreneurial University as an internationalized institution.</p> <ul style="list-style-type: none"> - International Relations Management Center - Reinforcement of exchange programs for students and academic staff - University membership in international entrepreneurship networks - Partnerships with international entrepreneurship board and students' institutions 	<p>Internationalization</p> <p>Academic exchange</p>
<p>Measuring the impact of the Entrepreneurial University</p> <ul style="list-style-type: none"> - Award for measuring the institutional impact - Identify the targeted entrepreneurship outputs to be evaluated. - Collect evidence to achieve these outputs 	<p>Entrepreneurial University</p> <ul style="list-style-type: none"> - New business - Start-ups - Improving university reputation

As appeared from the previous table, the researcher noticed that the OECD indicators are all covered in the PPU model. In regard to Leadership and governance, the PPU model includes the components of university policies and regulations, university leadership, and Entrepreneurial environment. while, the component of organizational capacity, people, and incentives mentioned in the OECD model is the same in the PPU model which contains the components of entrepreneurship culture, and policies and regulations. On the other hand, the component of entrepreneurship development in teaching and learning is also reflected in the PPU model through entrepreneurial education, scientific researches and innovations, and academic exchange. Meanwhile, Pathways for entrepreneurs mentioned in the OECD model are covered in the culture

of components of entrepreneurship, and scientific researches and innovations. Furthermore, the OECD component for the university – business/external relationships for knowledge exchange- is also reflected in the PPU model through the components of Community relations and partnerships, and curriculum that meets labor market needs. Moreover, the component of the entrepreneurial university as an internationalized institution is mentioned in the same context in the PPU model which includes the both of Internationalization, and academic exchange components. The last OECD component of measuring the impact of the EU is the output that PPU keen to achieve which is the Entrepreneurial University. This component can be measured by counting the numbers of new businesses, start-ups, awards, patents, in addition to the numbers of actual researches that meet labor market. Over and above, checking the improvements of the university reputation that should be measured by counting the numbers and outputs of the contracts and agreements with the local and international institutions. this component needs to do further researches to reinforce the findings of this study and to be a complementary one for study results.

5.3.2 Distinct of the PPU proposed model in comparison with OECD framework

The proposed model for PPU's entrepreneurial university is distinguished from the OECD framework in the following points.

- PPU's proposed model is a comprehensive model that includes all components of the OECD framework as shown in table (5.1). While, funding resource is an additional element that the researcher derived from OECD framework and related studies which can accelerate the development into entrepreneurial university.
- The model outlines some of the components that was emerged from the OECD framework separately and extensively, such as: the university environment, entrepreneurial culture, university policies and systems, curricula, scientific research and innovation, and academic exchange.
- The model includes the relationships between the components of the entrepreneurial university, as it was revealed through the findings of this study that all components of the entrepreneurial university are related to each other, and that any defect in these components will affect the achievement of the main goal towards reaching the entrepreneurial university. While the OECD framework did not include the relationships between Its components.

- The PPU's proposed model mainly aims to know the basic requirements necessary for transformation towards an entrepreneurial university while the OECD framework is a general framework for entrepreneurial universities. Whereas, a model is an abstraction that provides a rough definition of practices and inter-relationships needed by an organization to deliver a product or service. It is valuable if it is theoretically consistent, fit the real world, and have predictive power. It can be considered a theoretical construct that represents something using a set of variable and logical and quantitative relationships between them. Meanwhile, the framework is an overview of the concepts and practices involved in the research. It provides the structure needed to implement a model (or some part of a model). It is used in research to give an overall picture of the possible action or to bring a preferred approach to a thought or idea. (Tcagley, 2016) (Differencebetween.com,2013)
- The model was derived after studying the reality of leadership at PPU. Furthermore, this may provide insights for decision-makers in other Palestinian universities as they can measure and benefit from it. while the OECD framework is a general European framework that does not mimic Palestinian reality and society.
- This model needs further complementary studies to measure the impact of the entrepreneurial university's achievement precisely on both students, teachers, society, alumni, and academic and administrative staff. While the OECD framework presents the point of measuring the impact in general and not in detail.

5.3.3 Mechanism for employing the proposed model

The previous model shows the requirements for the transition of Palestine Polytechnic University into an entrepreneurial university, and the following is a proposed mechanism for employing this model in a way that enhances the achievement of PPU entrepreneurship vision:

The proposed model shows that the first requirement necessary to transform a university into an entrepreneurial university is university leadership, as we note its association with a leadership culture, which is the second requirement in the model, as the university has to be concerned with university leadership with a proposal to appoint a vice president for entrepreneurship, innovation and internationalization. The university leadership must seek to implement the policy of decentralization in managing its various units and involve subordinates in setting goals at all levels

and setting a plan to achieve them and seek to integrate the performance of its various colleges, it must also adopt constructive pioneering ideas to maintain its development and rely on the policy of recycling work in occupying positions. The university also has to diversify its funding sources in order to maintain its independence. It also has to expand the role of the entrepreneurial business incubator available at the university by establishing a center for entrepreneurship and innovation where it is responsible for all entrepreneurial activities and tasks, while opening the door for donations to finance its activities, and allocating a specific budget to implement entrepreneurial strategies in a competitive manner. In addition to raising awareness of entrepreneurship and its activities at all administrative and academic levels. On the other hand, the university leadership should pay attention to the culture of entrepreneurship by educating its employees and students about the concepts of entrepreneurial culture and encouraging teachers to use the methods of entrepreneurial education, and that the university administration design special curricula that encourage entrepreneurial initiatives, and provide cultural courses in entrepreneurship for students. Also, to involve the Student Union Council in the application of its entrepreneurial ideas, and to encourage the participation of its workers in external entrepreneurial development programs. The university leadership must also foster teamwork, and provide training programs for employees to implement entrepreneurial ideas in business.

The proposed model shows that university leadership is linked to the fourth requirement in the model, which is the university policies and regulations, where the university leadership must implement procedural plans that will lead to an entrepreneurial university and review the strategies for applying entrepreneurship regularly and develop detailed regulations for its entrepreneurial activities. the university has to established a bank for entrepreneurial ideas resulting from research at the university, in addition to defining methods of financing entrepreneurial projects for students and granting incentives in exchange for the entrepreneurial results obtained.

The proposed model also shows the link between the third requirement "entrepreneurial education" and the fifth requirement "appropriate curricula for the labor market", as the university should focus on entrepreneurial education for curricula that are appropriate to the need of the labor market by training students to build and form entrepreneurial ideas, and encourage teachers to use various strategies in teaching and learning a process in addition to identifying the strengths and weaknesses of students in the educational process. furthermore, the university should provide courses that

increase the skills of persuasion and negotiation for students, and all of this must be compatible with the need of the labor market, as the university must develop a systematic methodology in studying the needs of the labor market in order to develop its curricula in a way to be compatible with this needs taking into consideration that the existing curricula should raise the students' levels of thinking.

In regard to scientific research, which is the sixth requirement in the model, we note its association with the requirement of curricula appropriate to the need of the labor market and the ninth requirement, "community relations and partnerships". Where the scientific researches provided by teachers and students should be linked with the labor market, which should be essentially linked to curricula appropriate with labor market needs. on the other hand, the community relations and partnerships should contribute to increasing the number of practical researches in addition to establishing university majors that suit the local and international market. The university should also seek to establish innovative companies as a result of scientific research, in addition to increasing the number of patents related to the results of research. Also, it should allocate a specific budget to support scientific research. As for relations and community partnerships, the university must adopt triple-helix partnership theory in its relationship between the government and the private sector. The university's relations and its community partnerships should also contribute to creating job opportunities for graduates or establishing productive or service projects that are compatible with the community's need to achieve financial returns and contribute to raising the university's ability to finance projects in addition to raising its reputation.

We note from the proposed model that the university's relations and partnerships may increase the opportunities for academic exchange for both workers and students, which is the tenth requirement in the model. we note the link between academic exchange and university internationalization "the eleventh requirement", as academic exchange would affect the professional development of teachers and students in addition to its impact on opening the horizons of the international dimension in the university's strategic goals to be a world-class university. To enhance university internationalization, the university must work to send academics to world-leading universities and support the participation of workers in international conferences, in addition, it must develop strategies that enhance its rankings, and to seek international accreditation for its university majors and to hold twin agreements with leading international universities.

We note that funding resources are a supportive requirement to accelerate this entire process, as all entrepreneurship requirements need to allocate a special budget to activate the entrepreneurship as required. Hence, the need arises for the university to diversify its funding resources in order to achieve its independence and maintain its continuity.

5.3.4 Repercussions of using the model

Given that universities are considered one of the main engines for entrepreneurship in the society in the production and application of knowledge while seeking creativity in all sectors of society, this model comes to present a new approach in applying entrepreneurship in all aspects of the university, where the repercussions of its future use can be summarized as follows:

- This model is considered as a scientific attempt to understand the approach of the entrepreneurial university, as its benefits decision-makers in other universities in adopting this approach.
- The model contributes to enriching the knowledge side in the field of university education.
- This proposed model comes to present a new approach that it will meet the society requirements and its graduates, including future work for them, in addition to graduating entrepreneurs who are able to transform ideas into successful institutions, which contributes to move toward innovation and growth.
- Employing this model contributes to encouraging students to learn and practice entrepreneurship in order to create innovative business initiatives. In addition to increasing the ability of students to solve problems facing them in the labor market.
- The effective employment of the model contributes to reducing unemployment and achieving wealth together, which contributes to achieving economic and social development.
- Effective employment of this model contributes to the formation of strong networks communication with all internal and external parties that enable the university in funding, directing, training, and exchanging experiences.
- Effectively employing this model contributes to ensuring quality in teaching and learning in addition to fostering innovation.
- The effective use of this model contributes to developing mentalities, entrepreneurial skills, and entrepreneurial behavior of both students and university workers.

- Employment of this model contributes to increasing the establishment of start-up projects, new business, and the employment rate for graduates.
- Employment of this model may contribute to increasing the number of scientific research and university patents.
- The effective use of this model contributes to strengthening the university's level in international ranking systems.
- The effective employment of the model contributes to raising the university reputation, which is represented in external communications, scientific research outputs, and various entrepreneurial activities, which attracts the students to study the field of entrepreneurship in the university and increases the university-community relations, cooperation, and partnerships.

5.4 Policy implications

The University has to evaluate the impact of entrepreneurial activities systematically, through tracking the number of partnerships with the industry, the recruitment offices for graduates in the labor market, the number of startups, and the number of participants in them. These efforts should be unified so that utilization will be achieved across all the university aspects. The measurement process should not be limited to the quantitative measurements, but rather to be supported by qualitative ones.

On the other hand, the entrepreneurial education should be evaluated through student surveys, follow-up interviews and focal interviews to collect more detailed information, including evaluation indicators such as participant satisfaction, participant's motivation to start emerging projects, the level of competencies and skills acquired in teaching and learning. A survey of students might be required before the beginning of the teaching process to assess their attitudes, knowledge, and motivation in entrepreneurship. Likewise, evaluating the same process at the end of the educational process to determine changes in the student's attitudes and opinions. This survey should be done systematically for all entrepreneurial courses, provided that learning outcomes are evaluated collaboratively with higher education institutions.

Achieving university leadership also requires that the University rethink how to use its human and financial resources to overcome internal shortcomings. Skills and competencies must be reviewed to assess institutional development needs, integrate the results of skills assessment into

employment strategies, and take advantage of external partnerships to address any gaps in skills. It is worth saying that the University has to provide moral and financial incentives for the results of the entrepreneurial activities that it obtained from entrepreneurs.

The following table (5.2) shows in detail the process that PPU has to do to develop entrepreneurship in regard to each component taking into account the funding resource component which accelerates the process of achieving entrepreneurship at PPU.

Table 5.2: Process to develop entrepreneurship at PPU

	PPU model components	Process
Funding Resource (Accelerating element)	University leadership	<ul style="list-style-type: none"> - Responding to the changes that occur in the local environment. - Implementing a policy of decentralization - Integrate the performance of its various faculties. - Management according to its objectives - Diversifies funding sources to maintain independence.
	Culture of entrepreneurship	<ul style="list-style-type: none"> - Train employees on the application of entrepreneurial ideas in business. - Encourages its employees to participate in external developmental programs. - Engaging the Students' Union Council in the implementation of its entrepreneurial ideas.
	Entrepreneurial education	<ul style="list-style-type: none"> - Policies that encourage teachers to use a special case study - Policies that encourage teachers to use (critical thinking) - Policies that encourage teacher's simulation strategy - Analyze students' strengths and weaknesses points.
	University's policies and regulations	<ul style="list-style-type: none"> - Granting moral incentives for the entrepreneurial results - Financing entrepreneurial projects for students. - Regulations for the entrepreneurial activities. - Bank of entrepreneurial ideas resulting from research. - Granting financial incentives for entrepreneurial results
	Curriculum and labor market	<ul style="list-style-type: none"> - Developing curricula according to the labor market. - Develop curricula to keep pace with scientific development. - Continuously update curriculum plans. - Achieving interdisciplinary objectives.

	<ul style="list-style-type: none"> - Raising students' higher thinking levels. - Compatibility between outputs and labor market needs. - Students' assessment of consistent with the courses' outcomes. - Systematic methodology in studying labor market needs.
Scientific Research and innovations	<ul style="list-style-type: none"> - Publishing research in scientific journals. - Allocating a specific budget for research. - Activate the role of innovation center and technology transfer resulting from applied research. - Researches associated with needs of the labor market. - Provides necessary capabilities for the work of pilot research projects. - Increasing number of patents associated with research results. - Transfer the outputs of applied research (innovations) to the labor market. - Creating innovative companies
Entrepreneurial environment	<ul style="list-style-type: none"> - Equipment's for various teaching aids. - Required medical care for students - Staff with a suitable environment - Special services for students with special needs. - Multi-purpose halls for students' activities. - Yards to suit the numbers of students - Large green areas.
Community relations and partnership	<ul style="list-style-type: none"> - Increasing relations and community partnerships to its financial returns. - Increasing community partnerships to enrich academic curricula. - Increasing relations and community partnerships to raise finance. - Increasing relations and community partnerships to Increasing the number of practical researches which correspond to the needs of the labor market
Academic exchange	<ul style="list-style-type: none"> - Guidance and counseling for students who are offered scholarship. - Increasing academic exchange opportunities for both students and teachers
Internationalization	<ul style="list-style-type: none"> - World-class professional development programs for faculty. - Sending the academics to world-leading universities. - Hosts international visiting teachers - Attracting internationally renowned faculty to work

Finally, PPU should try to overcome its financial hardship through the following suggestions:

- Investing in relationships with the community by producing research that has applied results (innovations).
- Launching projects that that may achieve financial returns on the University as an alternative to bids such as the establishment of :(student services libraries, cafeterias, group study halls, supplies for all university fields of study, requirements for scientific research and graduation projects).
- Moving to e-learning to save from using university resources such as halls, papers, publications, and paper exams.
- Forming committees from within the University with the presence of advisory members and specialists from outside the University (External Consultant)
- Conducting real feasibility studies for projects established by the University.
- Hosting some external princes and business people to be members of the University Graduates Union to support the University.
- Investing in student projects, such as investing in excellent artistic paintings designed by students in graphics and multimedia majors (diploma/bachelor) by selling them in charitable exhibitions in Arab countries to support the University.
- Creating a media production center with television and radio to produce videos and news to generate income for the University.
- Developing a university-specific printing press to produce university and community publications, and to generate revenue for the University.

5.4.1 Future Research

As this study focused on studying the reality of entrepreneurship at Palestine Polytechnic University from the perspective of senior and middle management, it is necessary to conduct other studies related to this subject as follows:

- Measuring impact of achieving entrepreneurship requirements at PPU
- The reality of entrepreneurship at PPU from the prospective students, graduates and teachers.
- The extent of achieving entrepreneurship requirements in Palestinian universities
- The role of the entrepreneurial University in achieving competitiveness among Palestinian universities
- The purpose of the funding resources to attain entrepreneurship at Palestinian universities
- The role of the entrepreneurial education in making entrepreneurship at Palestinian universities
- The role of the university leadership in achieving entrepreneurship at Palestinian University
- The role of the entrepreneurship culture in achieving entrepreneurship at Palestinian universities
- The role of the university policies and regulations to attain entrepreneurship at Palestinian universities.
- The role of the university environment in achieving entrepreneurship at Palestinian universities
- The role of community relations and partnerships in making entrepreneurship at Palestinian universities.
- The role of the university internationalization in achieving entrepreneurship at Palestinian universities.
- The role of academic exchange in achieving entrepreneurship at Palestinian universities.
- The role of the university curricula in achieving entrepreneurship at Palestinian universities.

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معهد التنمية المستدامة

برنامج بناء مؤسسات وتنمية الموارد البشرية

(استبانة)

السادة/ إدارة جامعة بوليتكنك فلسطين المحترمين.

تحية طيبة وبعد،،،

تقوم الباحثة بعمل دراسة بعنوان "تحو نموذج لجامعة ريادية¹ - دراسة حالة جامعة بوليتكنك فلسطين. دراسة من وجهة نظر الإدارة العليا والوسطى في جامعة بوليتكنك فلسطين وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في برنامج "بناء مؤسسات وتنمية الموارد البشرية" من معهد التنمية المستدامة - جامعة القدس.

قامت الباحثة بإعداد الاستبانة المرفقة بهدف جمع المعلومات للتعرف على واقع الريادة الجامعية في جامعة بوليتكنك فلسطين سعياً لتقديم نموذج مقترح لتحول الجامعة نحو جامعة ريادية. تأمل الباحثة من حضرتكم التكرم بمنح جزء من وقتكم الثمين في الاجابة على فقرات هذه الاستبانة من وجهة نظركم بدقة وموضوعية، لما لرأيكم من أهمية في تحقيق هدف الدراسة بنجاح، علماً أن البيانات التي سيتم جمعها ستستخدم لأغراض البحث العلمي فقط، وستحاط بالسرية التامة.

شاكرين لكم حسن تعاونكم

الباحثة: ميرا السلايمه

إشراف: د. إبراهيم عوض

¹ الجامعة الريادية : " مفهوم يشير إلى جملة من الخصائص التي تميز الجامعه عن غيرها من الجامعات أهمها وجود بيئة محفزه للريادة في مجالات البحث والتطوير والابتكار ودعم الثقافة الريادية لأعضاء هيئة التدريس والطلبة والعاملين وإقامة شراكات واسعه مع قطاع الاعمال الحكومي والخاص ويأتي هذا التوجه كسبل للتغيير في مؤسسات التعليم العالي القائم على بناء ثقافة المعرفة والتنمية المستدامة في المجتمع من خلال التركيز على مجالات الإبداع والإبتكار في انتاج المعرفة واستثمارها. " (عبدالوهاب،2018)

القسم الأول: البيانات الشخصية

يرجى وضع إشارة (x) على الحالة التي تنطبق عليك/ي

1. الجنس:

ذكر أنثى

2. العمر: أقل من 30 سنة من 30 - 40 سنة من 41-50 سنة من 51-60 سنة أكثر من 60 سنة

3. المؤهل العلمي:

بكالوريوس ماجستير دكتوراه

4. عدد سنوات العمل (الخبرة):

أقل من 6 سنوات من 6 - 10 سنوات من 11-15 سنوات من 16-20 سنة من 21 - 25 سنة أكثر من 25 سنة

5. العمل الحالي:

رئيس جامعه نائب رئيس جامعه عميد كلية رئيس دائرة أكاديمية رئيس دائرة إدارية مدير مركز

القسم الثاني: واقع الريادة الجامعية في جامعة بوليتكنك فلسطين

يرجى وضع إشارة (√) داخل المربع الذي يعكس وجهة نظرك لكل فقرة من فقرات المحاور التالية:

المحور الأول: المناهج الدراسية و سوق العمل

(المنهج: هو المحتوى وطرق التدريس والأنشطة الصفية واللاصفية والوسائل التعليمية وطرق التدريس وطرق التقويم المناسبة والمواكبة للتغيرات والمستجدات الأنية والمستقبلية للمجتمع، والتي مُخرجها فرد متوائم مع متطلبات عصره محققاً لأهدافه الشخصية وأهداف مجتمعه(عبدالحي،2016))

الرقم	الفقرة	دائماً	غالباً	أحياناً	نادراً	أبداً
1.	تسعى الجامعة الى تطوير مناهجها بشكل مستمر لمواكبة التطور العلمي					
2.	تحرص الجامعة على تطوير مناهجها وفقاً لحاجة سوق العمل					
3.	تسعى الجامعة الى تحديث خطط المنهاج الدراسية بشكل مستمر					

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
4.	تحقق المناهج المعتمدة أهداف التخصصات بشكل واضح					
5.	يتوافق تقييم الطلبة مع مخرجات المساقات بشكل كبير					
6.	المناهج الموجودة ترفع مستويات التفكير العليا لدى الطلبة					
7.	يوجد توافق بين مخرجات التخصص وحاجة سوق العمل					
8.	لدى الجامعة منهجية منتظمة في دراسة احتياجات سوق العمل					

المحور الثاني: التعليم الريادي

(التعليم الريادي: التعليم القائم على الابداع والابتكار الذي يهدف إلى تنمية عقول الطلبة وقدراتهم اللازمة للعمل الحر ليكونوا خالقين لفرص العمل لا باحثين عنها (Commission European , 2012))

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	لدى الجامعة برامج تهدف لتدريب الطلبة على بناء وتكوين الأفكار الريادية					
2.	تشرك الجامعة طلبتها في تحديد التغذية الراجعة للمساقات					
3.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية التعلم المتمركز حول الطالب في العملية التعليمية					
4.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية التعلم المبني على اثاره النقاش (عصف ذهني)					
5.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية التعلم التعاوني (العمل الجماعي) في العملية التعليمية					
6.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية دراسة الحالات الخاصة في العملية التعليمية					
7.	لدى الجامعة سياسات تشجع المدرسين على استخدام منهجية التعلم القائم على الاستعانة بالمختبرات العملية					
8.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية التعلم من خلال الخبرة في العملية التعليمية					
9.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية النمذجة (المحاكاة) في العملية التعليمية					
10.	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجية التعلم بالاكشاف (التفكير النقدي) في العملية التعليمية					
11.	لدى الجامعة سياسات تشجع المدرسين على استخدام التعليم الالكتروني في العملية التعليمية					

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
12	لدى الجامعة سياسات تشجع المدرسين على استخدام اساليب تفاعليه تتطلب التفكير الابداعي في العملية التعليمية					
13	لدى الجامعة سياسات تشجع المدرسين على استخدام منهجية تقديم نماذج لحالات رياضية ناجحة في العملية التعليمية					
14	لدى الجامعة سياسات تشجع المدرسين على استخدام استراتيجيه التعلم بالمشاريع في العملية التعليمية					
15	تقدم الجامعة مسابقات جامعية تكسب الطالب لمهارات الاقناع والتفاوض					
16	يطلب المدرسون نقاط القوه والضعف عند الطلبة في العملية التعليمية					
17	يستخدم المدرسون استراتيجيات متنوعه في حل المشكلات في العملية التعليمية					

المحور الثالث: السياسات والأنظمة الجامعية

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	تتضمن الخطة الاستراتيجية رؤية مستقبلية ورسالة واضحة نحو ريادة الجامعة					
2.	تركز الجامعة في استراتيجياتها على أهمية أن تكون جامعة ريادية					
3.	تسعى الجامعة الى تطبيق خطط إجرائية من شأنها الوصول الى جامعة ريادية					
4.	ترجع الجامعة استراتيجيات تطبيق الريادة في الجامعة بشكل دوري					
5.	يتواجد لدى الجامعة لوائح تفصيلية خاصة بالانشطة الريادية لديها					
6.	لدى الجامعة بنك للأفكار الريادية الناتجة عن البحوث في الجامعة					
7.	تسعى الجامعة الى تحديد اساليب تمويل المشاريع الريادية الخاصة بالطلبة					
8.	تمنح الجامعة حوافز مادية مقابل النتائج الريادية التي تحصل عليها					
9.	تمنح الجامعة حوافز معنوية مقابل النتائج الريادية التي تحصل عليها					

المحور الرابع: القيادة الجامعية

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	تتميز قيادة الجامعة بسرعة الاستجابة للمتغيرات التي تحدث في البيئة المحلية					
2.	تركز القيادة الجامعية على الطلب المتزايد لخدمات الجامعة					
3.	تنوع الجامعة من مصادر تمويلها من أجل المحافظة على استقلاليتها					
4.	تطبق ادارة الجامعة سياسة اللامركزية في ادارة وحداتها المختلفة					
5.	تسعى ادارة الجامعة إلى تكامل أداء كلياتها المختلفة					
6.	تتبع ادارة الجامعة أسلوب الادارة بالأهداف (إشراك المرؤوسين في تحديد الأهداف في كافة المستويات ووضع خطة لتحقيقها(الفر والهندي،2017))					

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
7.	تتبنى إدارة الجامعة الافكار الريادية البناءة للحفاظ على تطويرها					
8.	تعتمد ادارة الجامعة سياسة تدوير العمل في اشغال المناصب المختلفة					

المحور الخامس: ثقافة الريادة

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	تقوم إدارة الجامعة بتوعية العاملين لديها بمفاهيم الثقافة الريادية					
2.	تشجع إدارة الجامعة المدرسين على استخدام طرق التعليم الريادي					
3.	تهتم الجامعة بتوعية الطلبة وتزويدهم بمفاهيم الريادة					
4.	تصمم إدارة الجامعة مناهج خاصة من شأنها تشجيع المبادرات الريادية					
5.	تقدم إدارة الجامعة مساقات ثقافية في ريادة الاعمال للطلبة					
6.	تُشرك إدارة الجامعة مجلس اتحاد الطلبة في تطبيق الافكار الريادية لديها					
7.	تحرص إدارة الجامعة على تميز طلبتها في تبني الافكار الريادية المختلفة					
8.	تشجع إدارة الجامعة مشاركة العاملين لديها في برامج تنمية ريادية خارجية					
9.	تعزز إدارة الجامعة ثقافة الريادة من خلال العمل بروح الفريق					
10.	لدى الجامعة برامج لتدريب العاملين على تطبيق الافكار الريادية في الأعمال					

المحور السادس: الأبحاث العلمية والابتكار

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	يتوفر لدى الجامعه عمادة خاصة بالبحث العلمي					
2.	يتوفر في الجامعه مركز للابتكار ونقل التقنية الناتجة عن الأبحاث التطبيقية					
3.	تسعى الجامعة الى التطوير المعرفي في مجال البحث العلمي					
4.	تخصص الجامعه ميزانية محددة لدعم الابحاث العملية					
5.	تطبق الجامعة مشاريع بحثية ناتجة عن تعاون خارجي					
6.	توفر الجامعة الامكانيات اللازمة لعمل المشاريع البحثية الريادية					
7.	الابحاث العلمية التي يقدمها أساتذة الجامعه ترتبط مع حاجة سوق العمل					
8.	لدى الجامعه آليات لتحويل مخرجات الابحاث النظرية إلى ابتكارات تطبيقية					
9.	لدى الجامعة آليات لنقل مخرجات الابحاث التطبيقية (الابتكارات) إلى سوق العمل					
10.	تسعى الجامعه إلى ربط نتائج الابحاث بحاجة سوق العمل من خلال انشاء شركات مبتكرة من الجامعه					

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
11	تقوم الجامعة بنشر مخرجات أبحاث المدرسين بشكل دائم في المجلات العلمية					
12	تسعى الجامعة إلى زيادة عدد براءات الاختراع المرتبطة بنتائج الأبحاث					
13	تمنح الجامعة جوائز للمدرسين المتميزين في البحث العلمي					
14	تعطي الجامعة الفرصة للباحثين بالمشاركة في المؤتمرات المحلية والدولية					

المحور السابع: العلاقات والشراكات المجتمعية

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	يتوفر لدى الجامعة مراكز خدمات مجتمعية					
2.	تسعى حاضنة الاعمال الريادية المتوفرة في الجامعة إلى إقامة مشاريع انتاجية أو خدماتيه تتوافق مع حاجة المجتمع					
3.	لدى الجامعة اتفاقيات تعاون مختلفة مع قطاعات المجتمع المحلي					
4.	تسعى الجامعة إلى تبني نظرية الشراكة الثلاثية (الشراكة المركزة على العلاقة التكاملية بين الجامعة وقطاعات الأعمال والحكومة لانتاج المعرفة ونقلها وتوظيفها (عبدالوهاب، 2018))					
5.	تسهم علاقات الجامعة و شراكاتها المجتمعية في خلق فرص عمل للخريجين					
6.	تسهم علاقات الجامعة وشراكاتها المجتمعية في زيادة العوائد المالية لديها					
7.	تسهم علاقات الجامعة وشراكاتها المجتمعية في زيادة عدد الابحاث العملية التي تتناسب مع حاجة سوق العمل					
8.	تسهم علاقات الجامعة وشراكاتها المجتمعية في رفع قدرة الجامعة على تمويل مشاريعها					
9.	تسهم علاقات الجامعة وشراكاتها المجتمعية في اثناء وتطوير المناهج الجامعية					
10.	تسهم علاقات الجامعة وشراكاتها المجتمعية في انشاء تخصصات جامعية تتناسب مع حاجة السوق المحلي والدولي					
11.	تسهم العلاقات والشراكات المجتمعية في رفع مستوى سمعة الجامعة					

المحور الثامن: البيئة الجامعية

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	توفر الجامعة بيئة مناسبة للعاملين لديها					
2.	توفر الجامعة مكاتب مناسبة للعاملين					
3.	يتواجد في الجامعة عدد كافٍ من القاعات التدريسية					
4.	توفر الجامعة مساحات خضراء واسعة					
5.	توفر الجامعة ساحات تتناسب مع اعداد الطلاب لديها					

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
6.	توفر الجامعة قاعات متعددة الأغراض للأنشطة الطلابية					
7.	توفر الجامعة مختبرات متنوعة تلبي احتياجات الطلبة التعليمية					
8.	كافتيريا الجامعة تلبي حاجة الطلاب بشكل جيد					
9.	توفر الجامعة كافتيريا خاصة للعاملين					
10	توفر الجامعة خدمات خاصة لذوي الاحتياجات الخاصة من الطلاب					
11	تقدم مكتبة الجامعة خدماتها للطلاب بشكل جيد					
12	تقدم الجامعة الرعاية الطبية اللازمة للطلبة					
13	القاعات التدريسية مجهزة بالوسائل التعليمية المختلفة					
14	تتبع الجامعة قواعد السلامة والصحة المهنية بشكل عام					
15	توفر الجامعة قاعات للمؤتمرات والفعاليات العلمية					
16	توفر الجامعة أماكن مخصصة للصلاة للعاملين والطلبة					

المحور التاسع: التبادل الأكاديمي

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	توفر الجامعة فرص التبادل الأكاديمي للعاملين لديها					
2.	توفر الجامعة فرص مشاركة الطلاب بوفود طلابية في الأنشطة المختلفة					
3.	توفر الجامعة فرص التبادل الأكاديمي للطلبة.					
4.	تقدم الجامعة خدمات التوجيه والإرشاد للطلبة المبتعثين.					

المحور العاشر: التدويل الجامعي University Internationalization

(التدويل الجامعي : دمج وتضمين الأبعاد ذات الصلة الدولية والأبعاد ذات التداخل الثقافي في الوظائف الأساسية للجامعات ، أي في التدريس والبحث العلمي والخدمة، بهدف تحسين مستويات الجودة والكفاءة التنافسية (عبد الرؤوف، 2016))

الرقم	الفقرة	دائما	غالبا	أحيانا	نادرا	أبدا
1.	تسعى الجامعة إلى البعد الدولي في أهدافها الاستراتيجية					
2.	تشمل رؤية الجامعة توجهات للوصول لجامعة عالمية المستوى					
3.	الخطة الاستراتيجية للجامعة تتضمن استراتيجيات تعزز مركزها في التصنيفات العالمية					
4.	تعمل الجامعة على ابتعاث أكاديميين إلى جامعات رائدة عالمياً					
5.	تقدم الجامعة برامج متطورة عالمياً في التنمية المهنية لأعضاء هيئة التدريس					
6.	تستقطب الجامعة أعضاء هيئة تدريس متميزين دولياً للعمل في الجامعة					
7.	تستضيف الجامعة مدرسين دوليين كزائرين للتدريس في الجامعة					

أبدا	نادرا	أحيانا	غالبا	دائما	الفقرة	الرقم
					تدعم الجامعة مشاركة العاملين في المؤتمرات الدولية	8.
					تسعى الجامعة الى مواكبة البرامج الاكاديمية من الجامعات العالمية الرائدة	9.
					تسعى الجامعة الى الحصول على اعتماد اكايمي دولي لتخصصاتها الجامعيه	10.
					لدى الجامعة اتفاقيات التوأمة مع الجامعات العالمية الرائدة	11.

القسم الثالث: المتطلبات الجامعية اللازمة لتحول جامعة بوليتكنك فلسطين نحو جامعة ريادية

فيما يلي عدد من العناصر التي تمثل متطلبات للتحويل نحو جامعة ريادية، يرجى ترتيب العناصر حسب وجهة نظرك من حيث الأهمية في التحويل نحو جامعة ريادية، بحيث يكون رقم (1) الاكثر أهمية وصولا الى الرقم (10) الأقل أهمية:

الترتيب	العنصر	الرقم
	منهاج مناسب يلاءم احتياجات سوق العمل	1.
	التعليم الريادي (التعليم القائم على الابداع والابتكار لعقول الطلبة ليكونوا خالقين لفرص العمل لا باحثين عنها)	2.
	السياسات والأنظمة الجامعية	3.
	القيادة الجامعية	4.
	ثقافة الريادة	5.
	الأبحاث العلمية والابتكار	6.
	العلاقات والشراكات المجتمعيه	7.
	البيئة الجامعية	8.
	التبادل الأكاديمي	9.
	التدويل الجامعي (دمج البعد الدولي في وظائف الجامعة الأساسية)	10.

يرجى إضافة أية ملاحظات أخرى ذات علاقة ولم ترد ضمن فقرات الاستبانة وترغب/ي بذكرها:

.....

.....

انتهت الاستبانة

شكرا لتعاونكم

الباحثة/ ميرا خليل السلايمه

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Al-Quds University
Deanship of Graduate Studies
Institute of Sustainable Development
Institutional Building & Human Resources Development Program

(Questionnaire)

Dears - The Administration of Palestine Polytechnic University,
The researcher is conducting this study under the title of " **Towards an Entrepreneurial University Model²: The Case of Palestine Polytechnic University**". A study from the perspective of the senior and middle management at Palestine Polytechnic University in order to complete the requirements for obtaining a master's degree in the program of Institutional Building & Human Resources Development in the Institute of Sustainable Development - Al-Quds University.

The attached questionnaire is prepared for data collection purposes. It is designed to identify the reality of entrepreneurship at Palestine Polytechnic University in an effort to provide a proposed model for the transformation of the university towards an entrepreneurial institution.

The researcher hopes that you will be able to participate in answering the sections of this questionnaire from your point of view accurately and objectively.

Kindly note that the data collected will be used for scientific research purposes only, and will be strictly confidential.

Thank you in advance for your time

Researcher: Meera Salaimah
Supervisor: Dr. Ibrahim Awad

Entrepreneurial University: “ refers to a set of characteristics that distinguish a certain university from other ones, the most important of which is the existence of a catalytic environment for entrepreneurship in the areas of research , development, and innovation. It also supports the entrepreneurial culture of faculty members, students, staff and to establish broad partnerships with the government and private business sector. This approach comes as a means of change in institutions of higher education based on building a culture of knowledge and sustainable development in the community of practice by focusing on the areas of creativity and innovation in the production and investment of knowledge..” (Abdulwahab, 2018)

First Section: Personal Data

Kindly put an (X) next to the box that applies to you

1. Gender

- Male Female

- 2. Age** less than 30 years from 30-40 year
 from 41-50 years from 51-60 years above 60 years

3. Academic Qualification

- B.A MA PhD

4. Work Experience

- Less than 6 years from 6-10 years from 11 to 15 years
 From 16-20 years from 21-25 years more than 25 years

5. Current Position

- University President Vice President (VP) Dean
 Head of Academic Department Head of Administrative Department
 Center Director

Second Section: The Reality of entrepreneurship at Palestine Polytechnic University

Kindly put (√) next to the statement that reflects your point of view according to the following themes.

The First Theme: The Curriculum and the Labor Market

Curriculum: The content, teaching methods, classroom and extra-curricular activities, teaching aids, teaching methods, and appropriate assessment methods which keep pace with the changes and developments of the current and future society to produce an individual compatible with the current community requirements to achieve his personal and community goals. (Abdul Hai, 2016)

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The university seeks to continuously develop its curricula to keep pace with scientific development.					
2.	The university is keen to develop its curricula according to the needs of the labor market.					
3.	The University seeks to continuously update curriculum plans.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
4.	The approved curriculum clearly achieves interdisciplinary objectives.					
5.	The assessment of students is very consistent with the outcomes of the courses.					
6.	Existing curricula raise students' higher levels of thinking.					
7.	There is compatibility between the specialization outputs and the needs of the labor market.					
8.	The university has a systematic methodology in studying labor market needs.					

The Second Theme: Entrepreneurial Education

Entrepreneurial education: Creativity-based education that aims to develop in students' minds and abilities necessary for self-employment to be a job creator rather than seekers. (Commission European, 2012)

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University has programs designed to train students to build and form entrepreneurial ideas.					
2.	The University engages its students in determining feedback for the courses.					
3.	The University has policies that encourage teachers to use a student-centered learning strategy in the educational process.					
4.	The university has policies that encourage teachers to use a learning strategy based on stimulating discussion (brainstorming).					
5.	The University has policies that encourage teachers to use a collaborative learning strategy (teamwork) in the educational process.					
6.	The University has policies that encourage teachers to use a special case study strategy in the educational process.					
7.	The University has policies that encourage teachers to use a laboratory-based learning methodology.					
8.	The University has policies that encourage teachers to use a learning strategy through experience in the educational process.					
9.	The university has policies that encourage teachers to use the modeling strategy in the educational process.					
10.	The University has policies that encourage teachers to use the discovery learning strategy (critical thinking) in the educational process.					
11.	The University has policies that encourage teachers to use e-learning in the educational process.					
12.	The University has policies that encourage teachers to use interactive methods that require creative thinking in the educational process.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
13.	The University has policies that encourage teachers to use the methodology to provide successful case studies.					
14.	The university has policies that encourage teachers to use the project learning strategy in the educational process.					
15.	The University offers undergraduate courses that give students the skills of persuasion and negotiation.					
16.	Teachers are asked to analyze the strengths and weaknesses of students in the learning process.					
17.	Teachers use various strategies to solve problems in the educational process.					

The Third Theme: University Regulations and Polices

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The strategic plan includes a clear vision and a future and a mission towards the entrepreneurship of the university.					
2.	The University focuses its strategies on the importance of being an entrepreneurial university.					
3.	The university seeks to implement procedural plans that lead to an entrepreneurial university.					
4.	The University reviews the strategies of applying entrepreneurship periodically.					
5.	The University has detailed regulations for its entrepreneurial activities.					
6.	The University has a bank of entrepreneurial ideas resulting from the research that conducted at the university.					
7.	The University seeks to determine the methods of financing entrepreneurial projects for students.					
8.	The University grants financial incentives for its entrepreneurial results.					
9.	The University grants moral incentives for the entrepreneurial results it receives.					

The Fourth Theme: University Leadership

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The leadership of the university is timely in responding to the changes that occur in the local environment.					
2.	University leadership focuses on the growing demand for university services.					
3.	The University diversifies its funding sources in order to maintain its independence.					
4.	The University administration implements a policy of decentralization in the management of its various units.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
5.	The University administration seeks to integrate the performance of its various faculties.					
6.	The administration of the University follows the method of management according to its objectives (involving subordinates in setting goals at all levels and developing a plan to achieve them. (Al-Farra and Al-Hindi, 2017)					
7.	The University administration adopts constructive entrepreneurial ideas to keep developmental process.					
8.	The University administration adopts the policy of recycling work in the various positions.					

The Fifth Theme: The Culture of Entrepreneurship

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The university administration makes awareness of their employees with entrepreneurship culture concepts					
2.	The University administration encourages teachers to use entrepreneurial teaching methods.					
3.	The University is interested in making awareness for students and providing them with the concepts of entrepreneurship.					
4.	The University administration designs special curricula that encourage entrepreneurial initiatives.					
5.	The University administration offers cultural courses in entrepreneurship for students.					
6.	The University administration engages the Student Union Council in implementing its entrepreneurial ideas.					
7.	The University administration is keen on the excellence of its students in the adoption of different entrepreneurial ideas.					
8.	The University administration encourages the participation of its employees in external developmental programs.					
9.	The University administration promotes a culture of entrepreneurship through teamwork.					
10.	The University has programs to train employees to apply entrepreneurial ideas in business.					

The Sixth Theme: Scientific Researches and Innovations

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University has a special deanship for scientific research.					
2.	The University has a center for innovation and technology transfer resulting from applied research.					
3.	The University seeks to develop knowledge in the field of scientific research.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
4.	The University allocates a specific budget to support practical research.					
5.	The University implements research projects resulting from external cooperation.					
6.	The University provides the necessary capabilities for the work of pilot research projects.					
7.	Scientific research provided by university professors is associated with the need of the labor market.					
8.	The University has mechanisms to transform the output of theoretical research into applied innovative projects.					
9.	The University has mechanisms to transfer the outputs of applied research (innovations) to the labor market.					
10.	The University seeks to link the research findings to the needs of labor market by creating innovative companies related to the university					
11.	The University publishes the output of teachers' research permanently in scientific journals.					
12.	The University seeks to increase the number of patents associated with research results.					
13.	The University offers awards to outstanding teachers in scientific research.					
14.	The University gives researchers the opportunity to participate in local and international conferences.					

The Seventh Theme: Community Relations and Partnerships

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University has community service centers.					
2.	The entrepreneurial business incubator available at the university seeks to establish productive or service projects that are commensurate with the needs of the community.					
3.	The University has various cooperation agreements with the local community sectors.					
4.	The University seeks to adopt the theory of Triple-Helix partnership (a partnership that based on the complementary relationship between the university, business and government sectors to produce, transfer and employ knowledge). (Abdel Wahab, 2018)					
5.	The University's relations and community partnerships contribute to a job creation for graduates.					
6.	The University's relations and community partnerships contribute to its financial returns.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
7.	The University's relations and community partnerships contribute to increasing the number of practical researches corresponding to the needs of the labor market.					
8.	The University's relations and community partnerships contribute to raising its ability to finance its projects.					
9.	University relations and community partnerships contribute to the enrichment and development of the academic curricula.					
10.	University relations and community partnerships contribute to the establishment of its disciplines that match the needs of the domestic and international market.					
11.	University relations and partnerships contribute to raising the University's reputation.					

The Eighth Theme: University Environment

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University provides a suitable environment for its staff.					
2.	The University provides suitable offices for employees.					
3.	The University has a sufficient number of classrooms.					
4.	The University offers large green areas.					
5.	The university provides yards to suit the numbers of students					
6.	The University offers multi-purpose halls for student activities.					
7.	The University provides a variety of laboratories that meet the educational needs of students.					
8.	The University cafeteria meets the students' needs well					
9.	The University provides a special cafeteria for employees.					
10.	The University provides special services for students with special needs.					
11.	The University Library serves students well.					
12.	The University provides the required medical care for students.					
13.	The classrooms are equipped with various teaching aids.					
14.	The University follows the rules of occupational safety and health in general.					
15.	The university provides halls for conferences and scientific events					
16.	The University provides prayer areas for employees and students.					

The ninth Theme: The Academic Exchange

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University provides academic exchange opportunities for its staff.					
2.	The University provides opportunities for students to participate in various activities.					

No.	Item	Always	Usually	Sometimes	Rarely	Never
3.	The University provides opportunities for academic exchange for students.					
4.	The University provides guidance and counseling services for students offered scholarship.					

The Tenth Theme: The University Internationalization

University Internationalization: Integrating international and culturally interdependent dimensions into the basic functions of universities, i.e. teaching, research, and service, with a view to improving quality and competitiveness. (Abdel Raouf, 2016)

No.	Item	Always	Usually	Sometimes	Rarely	Never
1.	The University seeks the international dimension in its strategic objectives.					
2.	The University's vision includes trends to be in the level of international university					
3.	The University's strategic plan includes strategies that strengthen its position in the global rankings.					
4.	The University is working on sending the academics to world-leading universities.					
5.	The University offers world-class professional development programs for its faculty members.					
6.	The University attracts internationally renowned faculty to work at the University.					
7.	The University hosts international teachers as visitors to teach at the University.					
8.	The University supports the participation of staff in international conferences.					
9.	The University strives to keep pace with academic programs from leading international universities.					
10.	The University seeks to obtain an international academic accreditation for its university programs.					
11.	The University has twinning agreements with leading international universities.					

Third Section: The university requirements necessary to transform Palestine Polytechnic University towards an entrepreneurial University

Please number each of the elements listed below (from 1-10) in order of importance to you in your choice of the requirements for a transition to an entrepreneurial university. Number the most important 1, the next 2 and so on.

No.	Element	Order
1.	An appropriate curriculum that meets the needs of the labor market.	
2.	Entrepreneurial education (creativity-based education for students' minds to be job creators, not seekers).	
3.	University policies and regulations.	
4.	University Leadership.	
5.	Culture of Entrepreneurship	
6.	Scientific Research and innovations.	
7.	Community relations and partnerships.	
8.	University environment.	
9.	Academic Exchange.	
10.	University Internationalization (integrating the international dimension in the basic functions of the university).	

Please add any other relevant comments that are not included in the questionnaire section and would like to be mentioned:

.....

.....

.....

End of Questionnaire
Thank you for your cooperation

Researcher: Meera Khalil Salaimh

Appendix 3 : Interview Questions

- 1. Does the university really seek to develop curricula based on labor market's needs? How do you explain the lack of a systematic university methodology for that point?**
- 2. Does the university grant financial incentives for its employees in exchange of the entrepreneurial results it receives? What is the explanation for that?**
- 3. Concerning practical research, does the university seek to link the results of research with the labor market's needs by creating innovative companies affiliated by the university? What is the explanation for that?**
- 4. Does the university have mechanisms to convert theoretical research outputs into practical innovations? How do you explain this?**
- 5. Do community relations and companies contribute to finance the university projects? How do you explain this?**
- 6. In your view, does the university environment play a role in the university entrepreneurship? Is the university interested in improving its environment for employees and students? How do you explain this?**
- 7. How do you explain the lack of scholarship offered for faculty members to study at leading universities worldwide?**
- 8. Does the university suffer from financial hardships? How do you explain this?**

Appendix 4 : Arbitrators Names

No.	Name	Position	University
1	Dr. Nabil Al-Jolani	Lecturer and trainer of teaching methods - College of Engineering	Palestine Polytechnic University
2	Dr. Munjed Samouh	Lecturer and Head of the Department of Mathematics/ SPSS expert - Faculty of Applied Sciences	Palestine Polytechnic University
3	Dr. Muneer Karmah	Lecturer and trainer on teaching methods - Faculty of Applied Sciences	Palestine Polytechnic University
4	Dr. Islam Hassouna	Lecturer and specialist on statistical Analyzing - Faculty of Administrative Sciences	Palestine Polytechnic University
5	Dr. Muhammad Hassouna	Lecturer and Head of the Department of Management - College of Administrative Sciences	Palestine Polytechnic University
6	Dr. Adnan Shehadeh	Lecturer and Director of the Center of Excellence in Teaching and Learning	Palestine Polytechnic University
7	Mr. Amjad Al-Natsheh	Entrepreneurship lecturer - College of Administrative Sciences	Palestine Polytechnic University
8	Mr. Wisam Shamroukh	Entrepreneurship lecturer and Director of Public Relations - College of Computer Engineering and Information Technology	Palestine Polytechnic University
9	Mr. Ali Abu Zneid	Administrative Assistant and Human Development Trainer	Palestine Polytechnic University
10	Mr. Muhammad Abu Hamdia	Official of the Electronic Library	Palestine Polytechnic University
11	Mr. Ibrahim Shadfan	Head of School - Statistical Analyst - Master of Curricula and Teaching Methods	Ministry of Education

Appendix 5 : Official letter for facilitate task



بسم الله الرحمن الرحيم

معهد التنمية المستدامة
Institute of Sustainable Development



2019/11/2

الموضوع: تسهيل مهمة

تحية طيبة وبعد،،

يفيد برنامج التنمية الريفية المستدامة - بناء مؤسسات وتنمية موارد بشرية - جامعة القدس بأن الطالبة
ميرا سلامة
(الرقم الجامعي 21410877)

هي إحدى طلبة معهد التنمية المستدامة في جامعة القدس تقوم بعمل بحث عن:
" نحو نموذج جامعة ريادية- دراسة حالة جامعة البوليتكنك فلسطين "

وعليه يرجى مساعدتها بالحصول على المعلومات اللازمة لهذه الدراسة، علماً بأن المعلومات والبيانات
التي يحصل عليها الطالب تعامل بسرية تامة ولأغراض البحث فقط.

وتفضلوا بقبول الاحترام

د. احمد حرز الله

مدير معهد التنمية المستدامة

معهد التنمية المستدامة
Institute of Sustainable Development
2019/11/2

نحو نموذج لجامعة ريادية : دراسة حالة جامعة بوليتكنك فلسطين

إعداد الطالبة : ميرا خليل شعيب السلايمة

إشراف الدكتور : إبراهيم عوض

ملخص الدراسة:

هدفت هذه الدراسة إلى اقتراح نموذج لتحول جامعة بوليتكنك فلسطين نحو جامعه ريادية، من خلال دراسة واقع الريادة في الجامعة من وجهة نظر الإدارة العليا والوسطى في الجامعة، لتحقيق أهداف هذه الدراسة، تم استخدام المنهج الوصفي الاستكشافي، وتم تطبيق المسح الشامل على جميع أفراد مجتمع الدراسة والبالغ عددهم (38) إداريا من الإدارة العليا والوسطى في الجامعة والمكون من: (رئيس الجامعة، نواب الرئيس، العمداء، رؤساء الدوائر الأكاديمية، رؤساء الدوائر الإدارية، مدراء المراكز)، قامت الباحثة بإعداد استبانة كأداة رئيسية للحصول على البيانات اللازمة لهذه الدراسة، بالإضافة إلى إعداد مقابلة مع رئيس الجامعة، وتم جمع البيانات ومعالجتها إحصائيا باستخدام برنامج الرزم الإحصائية للعلوم الاجتماعية (SPSS)، وتوصلت الدراسة إلى عدة نتائج أهمها: بأنه لا توجد فروق ذات دلالة إحصائية بين استجابات الإدارة العليا والوسطى تجاه توفر الريادة في الجامعة تعزى لمتغير سنوات الخبرة، في حين توجد فروق ذات دلالة إحصائية بين استجابات الإدارة العليا والوسطى تجاه توفر الريادة في القيادة الجامعية، والبيئة الجامعية، والتدويل الجامعي تعزى لمتغير العمل الحالي، كما بينت النتائج أن واقع الريادة في جامعة بوليتكنك فلسطين كان بدرجة مرتفعة على التوالي: (مناهج مناسبة لحاجة سوق العمل، والعلاقات والشراكات المجتمعية، والتبادل الأكاديمي، وثقافة الريادة، والتعليم الريادي، ثم التدويل الجامعي)، في حين أن واقع الريادة كان بدرجة متوسطة على التوالي: (السياسات والأنظمة الجامعية، والأبحاث العلمية والابتكار، والقيادة الجامعية، ثم البيئة الجامعية، كما حصلت القيادة الجامعية على درجة مرتفعة من حيث الأهمية في تحقيق الريادة، بينما التبادل الأكاديمي حصل على أقل درجة من حيث الأهمية في تحقيق الريادة في الجامعة، كما أشارت النتائج إلى حاجة الجامعة إلى مصادر التمويل وهو مطلب إضافي داعم لتسريع تحقيق الريادة في الجامعة.

وفي ضوء نتائج الدراسة أوصت الدراسة بضرورة توظيف آلية النموذج المقترح لتحقيق رؤية الجامعة الريادية بفعالية بما يسهم في الارتقاء بالجامعة وتطويرها، وسعيا لتقديم هذا النموذج لذوي القرار.