The Challenges of the Application of the Productive University's Philosophy In Jordanian Universities and Ways of Developing Them from The Perspective of Academic Leaders

Habes Mohammad Hatamleh
Jadara University of Excellence, Jordan

Najwa Abdel Hamid Darawsha
Jadara University of Excellence, Jordan

ABSTRACT

The study aims at identifying the challenges of applying the productive university's philosophy in Jordanian universities and ways of developing them from the point of view of the academic leaders. The analytical descriptive method is used. The study sample consisted of 150 academic leaders, and the questionnaire was used as an instrument for study. The results of the study show that the challenges of applying the productive university philosophy in Jordanian universities come to a great degree of appreciation. The results also show statistically significant differences due to the impact of the universities and came to the benefit of the public universities and the college variable. While the results show that there are no differences due to the impact of the academic rank. As for the proposals for developing the university's productive philosophy, they came as follows: the proposal "that the university administration seeks to re-establish its budget in achieving the balance between the revenues generated by the investments" accounts for (15.89%), while the proposal "to strengthen the management of universities private sector participation in providing the necessary support for the activation of technology institutions of higher education", ranks last by (6.62%). The study recommends that the cooperation between the productive university and the local community within the university should change. In addition, the university should provide facilitation and support to the research grants that seek to strengthen cooperation between universities and local communities and contribute to solving their problems. The productive university should benefit from the experiences of developed nations that have adopted the university's productive philosophy, as well as making the best use of the available resources.

Keywords: Philosophy of the productive university, Challenges of application, Ways to develop them, Jordanian universities.

Introduction

The university represents the basis for the formation and development of various economic and social activities that aim to prepare productive human resources benefiting the university thereby and catching up with distinctive productivity. Therefore, most of the leading universities have sought to integrate with their communities by making community service their priority, they have adopted new trends in politics, economics, and culture through creating "partnerships with community institutions," and giving more interest to scientific research which is considered one of the most factors that distinguish universities to become a cultural, intellectual and scientific center in their community. No university can carry out these roles without being open to its community through dealing with it in the educational process, productivity, and the services it provides.

The university is considered an integral part of the mechanisms of the market and its productive institutions. It markets knowledge, programs, and scientific research that is related to the labor market and a partnership with the institutions of the Society. (Khalifa, 2014). "It is a university that seeks to create ways to reduce costs, increase productivity, and create non-traditional self-financing resources by marketing its products, not for profit, as in the private sector. To cover its costs and the costs of continuous development, improve the quality of education, and contribute to comprehensive community development (Abu Khair, 12: 2016).

This is consistent with what Haikel (2014) stated that the university is not a private sector-partner but part of the production. The community has empowered it to respond to its requirements and demands to achieve its expectations and participation as possible with its members and institutions in its renaissance and progress through what services, programmers, and activities it offers, also through the employment of its community resources such as human and financial resources (Tal and Sarayrah,2013). Since its mission is not limited to the traditional objectives (research, teaching, and community service) but extends to all aspects of scientific and technological life making the interaction with the society and providing its demands its most important duty. (Bashir, 2012).

Therefore, these institutions must aim to increase their productivity and create opportunities for economic growth. This will only be achieved through partnership in productive research projects and participation in technical development. The institutions of higher education have recently undergone a remarkable transformation in their educational and research roles in response to some economic variables which has made it more demanding than ever to integrate into market mechanisms, thereby increasing its financial burden. Although the institutions of higher education in Jordan have constant demands for the development of education, they face different complications in providing resources due to the huge financial allocations required for operating these institutions.

Tweissi (2017) stated that Jordanian universities witnessed a severe financial crisis and a weak scientific research strategy that hindered the developmental plans and achieving sustainability.

Nevertheless, some Jordanian universities continue to research and create investment opportunities as well as building a productive interaction with the private sector, as the Green University; Al Hussein Bin Talal University in Ma'an has done to invest in renewable energy projects.

In Jordan, Hashemite University is considered one of the leading universities in its total dependence on the university's resources in terms of facilities, building classrooms without borrowing from any other party. In addition to its application of solar energy systems. It is also the first Arab university to adopt two summer classes in one year which allows the student to graduate early to join the local and Arab labor market or to complete their higher education in addition to its contribution in solving the problem of transportation and improving university income. It is considered one of the leading universities which depend on when recruiting on the competencies regardless of the source of the certificates whether the certificate was issued from foreign or Arab university, efficiency is the criterion of appointment. Additionally, the University of Science and Technology has achieved a distinguished result in various global ranking as QS THE, it has ranked first in the ranking of the official universities of Jordan in (2018) and the best in (58) universities according to the Times Higher Education classification in the emerging economies of the Year (2019), and it also has obtained several quality certificates specialized in the academic and administrative fields (http://www.just.edu.jo). Accordingly, Jordanian universities must adopt a policy of research production and productivity like the leading universities which attain their self-sufficiency, overcome obstacles, and developed their institutions (Jarrah, 2017). Therefore, the need to study the challenges facing the application of the productive University's philosophy in Jordanian universities and to look for ways to develop them from the perspective of academic leaders has risen.

Literature Review

The concept of a productive university does not contradict the general concept of a university but extends to the exercise of productive activities that are appropriate to the educational process, and to the follow-up of production problems in the field of work, which brings additional financial resources and reduces its dependence on external financing (Sherbini,2009). The opinions of researchers and those who are interested in this field varied in defining the term “productive university.” Some of them identify it as a university that works to increase its resources from the services it provides to others while maintaining its scientific and cultural responsibility towards the society at the same time (Zuhairi, 2015). It is concluded that the productive university is a developmental services university that seeks to provide additional funding resources to the university by activating its partnership with productive institutions in the local community while maintaining its scientific and cultural responsibilities towards the society at the same time through investing the human and material resources and experiences at the university with the partnership of productive institutions in the community.

The philosophy of productive university and its reasons

Philosophically, To transform into a productive university system requires as stated by Sherbini (2009) to dissolve the differences between the functions of the university and consider them as an integrated system that affects and is affected by each other, so that it can be opened to society, to reconsider the process of preparing the student and to identify the problems and issues of society whether they are related to the production processes or services. (Perkmann, King & Pavelin, 2011). In addition to the flexibility and freedom in the laws and regulations governing the work to adapt to changes in society that require intervention by the productive university.

The increasing burden on universities has led to a relative decrease in the expenditure on higher education institutions and scientific research in Arab countries (Beni Salama, 2008). The amounts spent in these institutions are for administration employment and teaching and much less in the service of other basic tasks such as research development and community service (Ponomariov, 2008). Many interested parties explain the motives for abandoning the traditional university policy and transfer towards the adoption of a productive university that is: university's limited functions on the academic side, the employment of knowledge, funding and management of total quality, scientific research, and community development, global competitiveness and keeping pace with technology. Ramadan (2004) Abdul Mohtasib (2006) Al Hariri (2010). Inter-university and community-based production are important factors for providing and exchanging the necessary information for the formulation of public policies of the State, which distinguished advanced universities from the other ones. (Perkmann & Salter, 2012). Researchers demonstrated that the availability of information and data for industrial enterprises by centers of research contributes to identify the inputs needed for the quality of outputs with the vision and mission of the institution and to prepare properly the output serving the needs of the society and its institutions (William, Massy, Teresa, Sullivan & Christopher, 2013: 18).

The basic requirements to build a productive university

Walsh, Baba, Goto & Yasaki, 2008, Al-Shammari (2010), and Jamasi (2014) pointed out several basic requirements for achieving the University's productive requirements that are: Transform the role of the university from focusing on employment to focusing on the principle of job creation, and a real partnership with stakeholders from the public and private sectors and graduates, Transfer of technology and knowledge, which can be done through close contact with the advanced western and eastern universities in the fields of entrepreneurship. In addition, education based on creativity and innovation, the traditional methods of education based on repetition and memorization are no longer suitable for modern university education. They are a major obstacle to the construction of the leading productive university. The leadership which is capable of providing the material and moral potential of industrialists, the existence of conscious management of the importance of the orientation towards entrepreneurship and convinced of the mechanisms of building a generation of knowledge, and the transition to the knowledge economy, is one of the most important elements of building the productive university. Most of all, opening the door for admission in the productive university in training courses for different

types of students based on agreements concluded between the university and the local community.

As for the obstacles to the application of the concept of productive university: These obstacles are (administrative and functional aspects of the university, cultural, political, and media, and the relationship of the university with the local community (Boussada, & Boukker 2000). Generally, if the Jordanian universities seek to be productive universities that achieve their self-sufficiency, they must transfer from being traditional to productivity through achieving these domains:

- **Finance:** Logically, a university's philosophy is derived from its community demands, but the scarcity of its resources hinders its basic role such as providing qualified cadres who are well prepared scientifically and vocationally to join the work market through their ability to keep up with modern educational programs and develop their skills. Thus, universities should seek up-to-date economic and social development and decrease the gap between qualification and competencies of their students, and supply the work market with local cadres.
- **Scientific research**: Universities should reduce the teaching tasks and the administrative burdens on their cadre and offer them the opportunity to innovate and do research that meets the needs of different groups of the local community. This requires the university administrations to coordinate and exchange visits between scientists and researchers to keep up date with new scientific research and provide encouraging incentives for scientific research which ensure quality, competitiveness, and continuity in creativity and innovation.
- **Community service:** Universities support their community by providing useful programs and training courses that contribute to increasing the knowledge of human cadres who work in different sectors of production. Universities also provide the institutions with the latest scientific knowledge and advice in return for minimum fees paid to the university. On the other hand, universities seek to market their advanced technical expertise, which may not be available in the community, in the form of software used in computers, manufacture of drugs and vaccines, and advanced enzymes which the universities manufacture and sell to local institutions. Through these services, the university earns benefits for itself and its cadre.
- **Knowledge Employment:** Knowledge is the main source of intellectual capital in the process of strategic thinking that occurs through the employment of intuition and creativity. It also occurs through an integrated perspective of economic investment aiming to achieve a continuous environment development, encourage scientific research, and a community lifelong learning. On the one hand, productive universities should have the skills of marketing educational services which it provides through using the media and the provision of legislation and policies to support cooperation and coordination between universities and production sectors to gain benefits from innovations offered by

faculty members and students that contribute to solving many of the problems facing the society.

- **Technological challenges:** Universities can meet the technological challenges by creating the conditions and capabilities of local community institutions and facilitating the requirements of modern technology. On the other hand, universities are required to facilitate procedures and activate the dialogue between university employees of ICTs that contribute to the development of the university and solving its problems. The University must strive to invest and market knowledge responding to the economy and technology of knowledge through providing technological means and the participation of scientific networks to enable students and researchers access to research, books, magazines periodic and scientific research to be available for students at any time
- **Quality and Accreditation:** It is achieved by following the policy of decentralization, flexibility, transparency in administrative decision-making, and the policy of coordination between different colleges and the labor market to obtain the quality of advanced educational services for students which can help in providing suitable employment opportunities after graduation.

If a university achieves these fields, it can easily provide the requirements of product quality.

Previous studies

Several studies have been conducted in the field of productive universities, such as the study of (Alexandre&Cruz,2012) which aims at detecting the channels of interaction between the university and the productive sector in the companies of Cabo Verdi. The study examined the policy implications in terms of a sequential path of evolution of the channels from the existing interaction based on the formation of the most knowledgeable human resources. It used the experimental methodology, the study sample included developed countries, emerging economies, and developing countries. The results of the study concluded that African countries had limited interaction characteristics- this explains the use of a range of channels of interaction based on knowledge generation activities, which affects the links between them and requires the opening of channels of communication between developed and developing countries to increase their financial resources and optimize the investment of human resources to increase their productivity.

Brown-Luthango,(2012) conducted a study in South Africa on the role of the university in society, the partnership between the university and society, and discussed the experience of the Felipe Laboratory in Cape Town, South Africa in handling the difficulties and challenges it faced. The result indicated that the university had an active role in the field of local cooperation to find several solutions to the development challenges faced by society and that stakeholders should be informed of the time, effort, and investment required by this kind of cooperation and the difficulty of establishing and sustaining it between the university and society. Manal Institutional context within universities not only to facilitate and support but also for research,

which seeks to strengthen cooperation between universities and local communities and reward. Also, genuine cooperation requires a major transformation of the institutional context within universities not only for facilitation and support but also for rewarding research that seeks closer collaboration between universities and local communities.

Tal and Sarayrah (2013) conducted a study in Jordan aimed at identifying the degree of interest of Mu'tah University in the quality of its role in serving the local community in the light of the estimates of the faculty members. The descriptive approach was used. The sample consisted of (221) The study showed that the faculty members of Mu'tah University appreciated the importance of their university in the quality of its role in serving the local community to a medium degree, and there were no statistically significant differences between the average of the estimates due to the effect of the variables (type of college, academic level, years of experience).

Glover & Silka (2013) conducted a qualitative study on the cause of partnership between the community and the campus, the University of Maine. The qualitative approach was used by asking a set of questions. The results show that the research partnership between the university and the community provides an opportunity for universities to employ their basic knowledge in new ways, although some assume that the partnership between the university and society contradicts the basic function of universities - knowledge generation, this partnership may open up new opportunities for the development and advancement of knowledge, especially in the area of research partnerships between universities and the community, leading to innovations in knowledge generation.

Abu al Khair (2016) conducted a study that aimed to identify the availability of the requirements of the productive university. The descriptive approach was used. The study sample consisted of (140) workers, the questionnaire was used as a tool for the study. The results revealed that the availability of the requirements of the productive university came to a medium degree, and there were differences because of the variables of the requirements of the productive university due to the college variable and came in favor of scientific colleges.

Comments on the previous studies

The two researchers benefited from these studies in developing the tool to collect information, identify the results and compare them with the results of the current research and use the appropriate statistical treatments, to strengthen some views on the theoretical framework. Therefore, the current study differs from the previous ones in its attempt to identify the level of challenges facing the application of the productive university's philosophy in Jordanian universities and ways of developing it from the perspective of academic leaders for the academic year (2019/2018).

The researchers conclude that most Arab universities, including Jordan, follow the traditional methods of teaching based on repetition and memorization, which are no longer fit for modern university education based on creativity and innovation. This requires the adoption of the multi-

specialty educational system that allows the student the opportunity to multi-qualification and selection from various disciplines, which develop a wide range of horizons, broad thinking, linking ideas, and a multidisciplinary educational environment. These can contribute to reaching the idea that can be transformed into a productive project. However, university administrations often need skilled leaders who are aware of the importance of building a generation of knowledge transform towards the knowledge economy which is one of the most important elements of building a productive university.

Study problem

The main reason behind the concern of the philosophy of the productive university is the suffering of Jordanian universities from the imbalance between university jobs, increasing demand for teaching, increasing the financial burden of universities, low governmental support for universities, weak support for scientific research, and benefiting from research and studies carried out by faculty members or the postgraduate students as a result of the weak interaction between universities and community institutions. Finally, the decline in the outputs of the quality of education, all these challenges require the preparation and formulation of modern and innovative strategies, which bring about urgent changes in society with preserving its privacy, identity and culture and on the other hand, the need to provide additional financial sources substitute the government support, to be able to provide additional financial resources to support its various activities such as the establishment of a brochure for scientific research, endowment projects of the university, multi-field projects in cooperation with the private sector to support scientific research and innovation to change it into investment products, and adopt economic projects that benefit the community, factories and companies to contribute to the multiplicity of their products, including the material, moral, experiences, energies and human potentials of various disciplines and fields, and thus affect the building of the society culture and guide the idea of achieving its renaissance and comprehensive development. This is confirmed by the study of Tal & Sarayrah (2013), Brown-Luthango (2012), and Abul-Khair (2016) who assured the importance of the self-reliance of universities in their production and the reduction of their accumulated financial burdens through activating their partnerships with the community and its institutions. Hence the problem of the study is in the attempt to identify the challenges facing the application of the productive university's philosophy in Jordanian universities, and to reveal ways to develop them from the perspective of academic leaders by answering the following questions:

1. What is the level of challenges facing the application of the productive university's philosophy in Jordanian universities from the perspective of academic leaders?
2. Are there statistically significant differences at the level of significance ($\alpha = 0.05$) between the average level of challenges of facing the application of the productive university's philosophy in Jordanian universities from the perspective of academic leaders due to the variables (university type, college, academic grade, and job title)?

3. What are the proposed ways to develop the application of the productive university's philosophy in Jordanian universities from the point of view of academic leaders?

Study objectives

The study aims to identify the level of challenges facing the application of the productive university's philosophy in Jordanian universities and to reveal its relationship with variables such as university type, academic rank, type of college, and scientific qualification.

Significance of the Study

This study stems its significance from the importance of the subject it addresses and the objectives it seeks to achieve. The subject of applying the philosophy of the productive university is one of the modern topics that have witnessed increasing interest. Despite the importance of this topic, it still needs further study .This study differs from other studies in dealing with a significant topic that is applying the philosophy of the productive university in the Jordanian universities as they contribute to the development of universities, and their self-sufficiency, in addition to their role in influencing the behavior of faculty members and affect the degree to which they can search for ways to develop the university they belong to, and determine how the mechanism of interaction between members, university administration, students and community institutions. The study may also provide a full picture of the academic leaders on the current reality of the challenges facing the productive university in Jordanian universities.

Definitions of terms

A productive university: is a university that has self-reliance by carrying out some activities that support and complement its traditional functions (teaching, scientific research, and community service), through choosing majorities that meet the needs of the society and the faculty members, which link them to contemporary scientific and technological trends, and provide services such as training courses and consulting programs. It also benefits from the university's diverse facilities, and it employs the results of the scientific research done by students and faculty members in solving many of the local community problems, in partnership with specialized supporting institutions from the private sector. That leads to achieving financial resources that will benefit the university administration, its employees, and the local community.

The challenges of applying the philosophy of the productive university: it means the obstacles that limit the University's ability to implement the university's productive philosophy, such as the transformation from its traditional mission (teaching, research, and serving the community) to an economic institution that aims at profiting and marketing as a result of the vast amount of knowledge, technological development and the multiplicity of means of knowledge, which were measured through the responses of the sample of the study on the sections of the

study tool prepared for this study. It is defined as a set of methods used by university administrations to implement the philosophy of the productive university from the perspective of academic leaders in Jordanian universities, which was measured by the responses of the members of the study sample to the sections of the study tool prepared for this study.

Academic Leaders: Are those who are scientifically qualified and hold the following administrative positions: (Dean of the Faculty, Head of Academic Department), and teach at Jordanian universities**.**

Jordanian Universities: In this study, it means, Jordanian public and private universities belonging to the universities of the Northern Jordan Region: Jerash University, Irbid National University, Jadra University, Al-Bayt University, Science and Technology University, Yarmouk University (2019/2018).

Limitations and determinants of the study: human, spatial, and temporal determinants: This study is limited to academic leaders in Jordanian universities for the academic year (2019/2018). This study is limited to the answer of the academic leaders to the paragraphs of the questionnaire of the productive university's philosophy of (30) paragraphs, and the characteristics of the sociometric of reliability and validity.

Methodology

Study population: The study sample consisted of all the academic leaders (Dean of the Faculty, Head of Academic Department) in the public and private Jordanian universities (Yarmouk University, Science and Technology University, and he Hashemite University) and the private universities (Jadra University, Jerash University, Irbid National University) for the academic year (2018/2019) and (300) academic leaders according to the statistics of human resources for each university.

Table 1: Distribution of the characteristics of the study sample by independent study variables

Variables	categories	No.	Percent%
Types of university	public	117	78.0%
	private	33	22.0%
	Total	150	100%
Academic rank	professor	52	34.7%
	Co-professor	61	40.7%
	Assistant professor	37	24.7%
	Total	150	100%
Job title	Dean	43	31.2%
	Head of dep.	107	68.6%
collage	scientific	82	56.2%
	Humanities	68	43.8%
	Total	150	100%

Study sample (Figure 1)**:** The sample of the study consisted of (170) academic leaders (Dean of Faculty and Head of Academic Department), with 65% of the community of the mentioned

universities, after excluding the survey sample of (30) academic leaders from outside the study sample. A total of (150) valid questionnaires was retrieved from the questionnaires distributed by the researchers, as indicated in the following table

Study tool: The questionnaire consisted of (30) paragraphs, divided into six domains, to measure the level of the challenges of applying the productive university philosophy in the Jordanian universities, where the 5- point Likert scale was adopted by giving each paragraph one degree as follows: (Very high, high, Moderate, Low, Very Low) which representing digitally (5,4,3,2,1), respectively. Then the academic leaders were asked a question in the interview.

Standard of correction of the tool: The statistical model with the fifth degree of Likert scale has been adopted, for estimating the mathematical averages of the study instrument and its paragraphs. The statistical standard was adopted using the following equation:

Very low	Low	Moderate	high	Very high
1.00-1.80	1.81-2.6	2.61-3.40	3.40-4.20	4.20-500

The scale is calculated by using the following equation:

- (5)Minimum scale (1) / Number of required categories 0.80=5/1-5 (5) And then add the answer (0.80) to the end of each category.

The validity of the study tool and its reliability: The validity of the tool was confirmed. It was presented to several arbitrators with expertise and competent professors in Jordanian universities. The arbitration is based on (11) arbitrators of academic leaders and faculty members of the faculties of education in Jordanian universities. They were asked to read the paragraphs of the questionnaire to express opinions in the paragraph clarity, language structure, and their relevance to the field to which they belong, to add or delete, to formulate or propose paragraphs. Finally, their comments were taken into consideration about the appropriateness of the questionnaire to the level of the challenges of applying the philosophy of the productive university in the Jordanian universities, until the final copy was approved, which consisted (30) paragraphs. Two methods are used to verify the reliability of the study instrument by calculating the coefficient of consistency of internal consistency through the Alpha-Cronbach coefficient.

Table 2: Results of the reliability of the study dimensions in the Cronbach Alpha method for the exploratory sample

Scales and domains	**Internal reliability**	**Stability**
Knowledge employment	0.87	0.88
Finance	0.75	0.80
Scientific research	0.82	0.84
Community service	0,86	0.87
Technological Challenges	0.87	0.88
Quality and Accreditation	0.91	0.91
Total instrument	0.922	0.932

Table (2) shows that the consistency of internal reliability ranged between (0.75-0.91) and the stability was between (0.80-0.91). In the light of the indications of validity and reliability, the researchers found that the reliability results are acceptable to achieve the objectives of this study.

Study variables

Independent variables: university type, college, academic rank, and job title.
Dependent variables: the challenges of applying the productive university's philosophy, and proposed solutions
Statistical Processes: The arithmetical averages and (SD) are used to answer the first and second question, and the third question is frequency and percentages

Results

The following is a presentation of the statistical results reached after the analysis of the data of the study tool. The differences between the variables of the study and the nature of the relationship between the variables are revealed by answering the study questions.

Results of the first question and its discussion: **"**What is the level of challenges facing the application of the productive university philosophy in Jordanian universities from the perspective of academic leaders?"

To answer this question, the statistical averages and the (SD) were extracted to the estimates of the members of the study sample at the level of the challenges facing the application of the university's philosophy produced in Jordanian universities from the perspective of the academic leaders, as shown in the following table:

Table 3: The arithmetical averages and the (SD) of the elements of the challenges of applying the philosophy of the productive university philosophy are arranged in descending order

No.	Rank	domains	Mean	SD	Degree
2	1	Finance	3.72	.80	high
6	2	Quality and Accreditation	3.72	1.04	high
4	3	Community service	3.58	.92	high
3	4	Scientific research	3.48	.82	high
1	5	Knowledge employment	3.44	.78	high
5	6	Technological challenges	3.25	.79	moderate
Total instrument			3.53	.69	high

The results of this question indicate that the level of challenges facing the application of productive university's philosophy in Jordanian universities from the perspective of the academic leaders reaches an average of (3.53) with a (high) degree. The domain of financing ranks first with the highest average score of (3.72), followed by (Quality and Accreditation) in second place with an average of (3.72) and a (high) degree. In the second place, the (knowledge employment) domain obtains an average of 3.44, (3.25), with a standard deviation (.76) and a (moderate) grade. This result is due to the absence of the role of the university in the field of local cooperation to find solutions to the many development challenges faced by society in

partnership with stakeholders and to inform them of the time, effort, and investment required by this kind of cooperation, and the difficulty of establishing and sustaining it between the university and the society. A major transformation of the institutional context within universities not only for facilitation and support but also for rewarding research that seeks to foster closer collaboration between universities and communities.

This result is estimated by the study sample due to the challenges faced by the university administration in the various components of the tool. In the financing component, the university administration suffers from a double investment against the increasing demand for education without benefiting from university resources and facilities in investment and marketing for university administration. In the area of quality and accreditation, the results may be due to the suffering of the universities administration from the central decision-making and poor coordination between the university and community institutions. The field of technological challenges may be attributed to the weak participation of the private sector in providing support for the activation of technology institutions of higher education. Spreading the culture of a productive university requires a belief in the idea of a productive university and developing its strategic plans and programs. What distinguishes productive universities from traditional ones is their direct contact with productive institutions. This is demonstrated through different forms of cooperation such as expertise houses, business incubators, central labs, knowledge parks, and others.

The results of this study are correspondent with the results of these studies (Cruz, 2012 & Alexandre), Brown-Luthango (2012), and Glover & Silka (2013), which have largely demonstrated the challenges facing universities. This result differs from the result of the study of Tal and the Sarayra (2013), and the study of Abu al-Khair (2016), which showed a moderate degree of challenges faced by universities. Below is a detailed presentation of each item ranked in descending order by the arithmetic averages in the results as follows:

The first domain: Finance

Table 4: The arithmetical averages and the (SD) of the paragraphs of the domain (finance)

No	Rank	Items	Mean	SD	Grade
5	1	low volume of revenues resulting from investments provided by universities in response to the increasing demand for education	3.80	.91	high
4	2	Slack among administrative cadres drains the budget of universities	3.79	1.07	high
3	3	Poor investment by the university administration for its various facilities is an additional source of income for the university.	3.75	1.12	high
1	4	Weak marketing of university administration for its production services in the field of (scientific, consultant and services) to the different community institutions.	3.69	.98	high
2	5	University administration lacks development policies to reach a productive and pioneering university.	3.57	.97	high
		Finance	**3.72**	**.80**	**high**

The results indicate that the (finance) domain ranks first, with an average of (3.72), an SD of (80.) and (high grade). This is due to the challenges facing the university administration, in terms of the low volume of revenues resulting from investments provided by universities in response to the increasing demand for education and suffer from a significant administrative slack among employees. It may be also attributed to the lack of planning in the adoption of development and

investment policies to promote the utilization of the University's resources and facilities in partnership with community institutions, which differed from what Brown-Luthango (2012). That real cooperation requires a significant transformation of the institutional context within universities not only for facilitation and support but also for rewarding research that seeks to foster closer collaboration between universities and communities. Thus, it corresponds to the result of Obeidi (2012) study which indicated that the development and support of academic scientific research towards a productive university can provide them with other sources of funding.

The second domain: Quality and Accreditation

Table 5: The arithmetical averages and (SD) of the domain of (quality and dependence)

No.	Rank	Items	Mean	SD	Grade
3	1	The university administration adopts centralization in administrative decision-making	3.95	1.12	high
2	2	Poor coordination between university faculties and labor market sectors.	3.79	1.11	high
4	3	Poor participation of the staff in the application of quality requirements in higher education institutions.	3.70	1.12	high
1	4	The poor appropriateness of physical and human resources in institutions of higher education to the requirements of the application of total quality.	3.65	1.21	high
5	5	Poor quality of educational services provided to students at the university	3.25	1.30	high
		Quality and Accreditation	**3.72**	**1.04**	**high**

The results indicate that (the quality and accreditation) domain ranks second with an average of (3.72) and an SD of (1.04) and a (high) degree. This result is due to the challenges faced by the administration of universities which adopts centralization in taking decisions on administrative matters, and they suffer from a lack of coordination between the disciplines offered by university colleges with the needs of the labor market, leading to the large stagnation of disciplines that result in high unemployment among graduates, and the poor of coordination between different university faculties with other institutions and the labor market, and this is indicated by paragraphs (1,2) The last paragraph 5, which is also high, may be attributed to the lack of coordination between universities and the labor market, poor achievement of quality standards and accreditation in many disciplines, and poor quality of education services provided to university students. This high result differed from the result of the study of Abu al-Khair (2016) which came to a moderate degree.

Third domain: Community service

Table 6: The arithmetical averages and (SD) of the fields of (community service)

No.	Rank	Items	Mean	SD	Grade
1	1	Lack of academic promotion standards accredited at the university to the contributions of faculty members and academics in the service of the community	3.65	1.19	high
3	2	Ignore coordination to hold periodic meetings with community members to discuss issues of concern to the community	3.63	1.109	high
2	3	Poor coordination with productive institutions in the local community to carry out research and studies that are compatible with the labor market	3.60	1.09	high
5	4	Weak communication between the university and the local community and limiting the knowledge within the university without its association with society and its issues.	3.54	1.01	high
4	5	Weak communication with different channels from the local community to benefit from the results of the research that it does to serve the business sectors.	3.47	1.01	high
		Community service	**3.58**	**.92**	**high**

The results indicate that the (community service) domain has an average of (3.58), an SD (.92), and to a (high) degree. This result is due to the lack of academic standards for academic promotion at the university and ignoring coordination with community members to discuss issues of concern to the community, such as coordination in conducting research and studies that are compatible with the labor market, as shown in paragraphs (1,2,3). This result may be attributed to the limited knowledge within the walls of the university, without employing them to solve the issues of society and its problems, as stated in paragraphs (4.5), which comes at a (high) degree, which corresponds to the study of (Alexandre & Cruz, 2012), (Brown-Luthango, 2012), (Glover& Silka,2013) and Abu al-Khair (2016) where the challenges came with a (high) degree. This result contradicts the results of the study of Tal and Sarayrah (2013), and the study of Abu al-Khair (2016), which came to a (moderate) degree.

Fourth domain: Scientific Research

Table 7: Arithmetic averages and (SD) of the fields of scientific research.

No.	Rank	Items	Mean	SD	Grade
5	1	Increasing the teaching tasks and administrative burdens that constitute an obstacle to accomplishing research tasks that serve the community	3.57	1.14	high
1	2	Weak activation of the university administration specialized centers in terms of (training, consultancy, research, community service), to meet the needs of different groups of the local community	3.51	1.02	high
4	3	Lack of scientific research outputs in the production of new research products serving the local community	3.48	.94	high
2	4	The lack of coordination between the university administration and the exchange of visits between scientists and researchers to keep current what is new in the field of scientific research.	3.47	.96	high
3	5	Absence of incentives policy which encourages scientific research on continuity in creativity and innovation.	3.39	1.01	moderate
		Scientific Research	**3.48**	**.82**	**high**

The results indicate that (the scientific research) with an average of (3.48), an SD (.82), and a high degree. This result is due to the suffering facing faculty members from increasing the teaching tasks and administrative burdens as well as the weak activation of the university's administration specialized centers in terms of (training, consulting, research, community service), to meet the needs of different groups of the community. In addition, they show the lack of coordination between the university administration and the exchange of visits between scientists and researchers to keep current with what is new in the field of scientific research, and this is indicated in paragraphs (1, 2, 3, 4). As for the last paragraph, which comes to a (moderate) degree, it is attributed to the fact that the administrations of the universities face a challenge centered on the absence of encouraging motivation for researchers from the members and students of higher education to maintain creativity and innovation.

Fifth domain: knowledge employment

Table 8: The arithmetical averages and the (SD) of the elements of (knowledge utilization)

No.	Rank	Items	Mean	SD	Grade
1	1	The weakness of the universities administration is to market educational services provided by them through the mass media.	3.61	.87	high
3	2	Weak legislation and policies that support cooperation and coordination between universities and production sectors	3.51	1.01	high
2	3	The university administration lacks access to patents and innovations as well as working to implement them	3.47	.98	high
4	4	The weakness of the universities administration in identifying the urgent research problems needed by different community institutions	3.32	.96	moderate
5	5	Lack of university administration to work together to create new research products	3.31	1.06	moderate
		Knowledge employment	**3.44**	**.78**	**high**

The results indicate that (the knowledge-employment) has an average of (3.44), an SD of (.78). This high percentage, according to the sample of the study, is due to the weakness of the university administration to market educational services provided by universities through the mass media, since the legislation and policies of universities suffer from weak support of cooperation between universities and production sectors, which is characterized by the weakness in the use of patents and innovations (provided by leaders, faculty members, and postgraduate students) and working on applying and taking advantage of them as well as implementing them with different partners. To benefit from the financial revenue on all parties that achieve quality and productivity, and promote the university to rely on itself, as indicated by the following paragraphs (1,2,3), all of which come in a high grade, and this is because the university administration is confronting challenges faced in the field of Knowledge Employment. As for the paragraphs that come in a (moderate) degree, paragraphs (4.5) are attributed to the ability of the university administration to work collectively in identifying the research problems by scientific bodies that are prepared with the assistance of the student and the faculty member. But they are also suffering from the firm laws and legislations that support cooperation and coordination between universities and production sectors, the weak role of the media that markets creations and inventions of the university. This result differs from the result of the Abu al-Khair study (2016).

Sixth domain: Technological Challenges

Table 9: Arithmetical averages and (SD) of field (Technological challenges)

No.	Rank	Items	Mean	SD	Grade
3	1	Weak participation of the private sector in providing support for the activation of technology institutions of higher education	3.47	1.00	high
1	2	Weak financial allocations to provide modern technology	3.25	1.08	moderate
2	3	Lack of clear IT development policies.	3.23	1.03	moderate
5	4	Lack of performance standards through which the technological progress of their employees can be monitored.	3.17	.86	moderate
4	5	Weakness of the means of modern dialogue between university community through information and communication technology	3.12	.98	moderate
		Technological Challenges	**3.25**	**.76**	**moderate**

The results indicate that the technological challenges come in the last rank, with an average of (3.25) an SD of (.76,) at (moderate) degrees. This is estimated by the academic leaders due to the weak participation of the university administration in the private sector in providing the material

and human support necessary to activate the technology, because of the deficiency of its policies clarity that contributes to the development of technology, This is shown in paragraphs (1,2,3,4), which come between high and moderate, while the last paragraph, which comes to a moderate degree, may be attributed to the lack of coordination among university communities in using more effective means of dialogue through information and communication technology.

Table 10: The statistical averages and (SD) of the level of challenges facing the application of the productive university philosophy in Jordanian universities from the perspective of academic leaders attributed to variables (Type university, college, academic rank, job title).

Variables	Statistics	Knowledge employment	Finance	Scientific research	Community service	Technological challenges	Quality and accreditation	Total
Type of University								
Public	average	3.49	3.74	3.50	3.63	3.28	3.83	3.58
	No.	**117**	**117**	**117**	**117**	**117**	**117**	**117**
	deviation	.749	.856	.827	.983	.737	1.088	.723
private	average	3.27	3.67	3.44	3.38	3.15	2.35	3.38
	No.	**33**	**33**	**33**	**33**	**33**	**33**	**33**
	deviation	.889	.570	.807	.584	.827	.730	.517
Total	average	3.44	3.72	3.48	3.58	3.25	3.72	3.53
	No.	150	150	150	150	150	150	150
	deviation	.784	.801	.820	.915	.756	1.037	.687
Academic rank								
Professor	average	3.49	3.67	3.49	3.59	3.32	3.64	3.53
No.		**52**	**52**	**52**	**52**	**52**	**52**	**52**
	deviation	.731	.893	.778	.965	.816	1.233	.781.
Co-professor	average	3.50	3.80	3.50	3.68	3.27	3.81	3.59
No.		61	61	61	61	61	61	61
	deviation	.740	.848	.918	.976	.721	.985	.708
Asst. professor	average	3.28	3.68	3.45	3.39	3.11	3.69	3.43
No.		37	37	37	37	37	37	37
	deviation	.915	.556	.722	.709	730	.812	.488
Total	average	3.44	3.72	3.48	3.58	3.25	3.72	3.53
	No.	150	150	150	150	150	150	150
	deviation	.784	.801	820	.915	.756	1.037	.687
Job title								
Dean	average	3.57	3.83	3.80	3.70	3.39	3.05	3.72
No.		43	43	43	43	43	43	43
	deviation	.755	.784	.747	.874	.776	.959	.642
Head of dept.	average	3.39	3.68	3.36	3.53	3.19	3.59	3.46
No.		107	107	107	107	107	107	107
	deviation	.793	.807	.816	.930	.744	1.044	.692
Total	average	3.44	3.72	3.48	3.58	3.25	3.72	3.53
	No.	150	150	150	150	150	150	150
	deviation	.784	.801	.820	.915	.756	1.037	.687
Collage								
Scientific	average	3.47	3.80	3.54	3.52	3.21	3.65	3.53
No.		82	82	82	82	82	82	82
	deviation	.781	.916	.875	.970	.852	1.146	.755
Humanity	average	3.41	3.64	3.41	3.64	3.29	3.81	3.53
No.		68	68	68	68	68	68	68
	deviation	.792	.631	.773	.846	.626	.889	.600
Total	average	3.44	3.72	3.48	3.58	3.25	3.72	3.53
	No.	150	150	150	150	150	150	150
	deviation	.784	.801	.820	.915	.756	1.037	.687

The answer to the second question, which states: Are there statistically significant differences at the level of significance ($\alpha = 0.05$) between the average level of challenges facing the application of the productive university philosophy in Jordanian universities from the perspective of the academic leaders due to the variables (type of university, college, And job title)? To answer this question, the arithmetical averages and (SD) of the level of challenges facing the application of the productive university philosophy in Jordanian universities from the perspective of the academic leaders is due to variables (university type, college, academic rank, and job title) as shown in Table 10 above.

Table 10 shows an apparent variance in the arithmetical averages and (SD) in the level of the challenges facing the application of the productive university philosophy in Jordanian

universities from the perspective of academic leaders due to the variables (university type, college, academic grade, and job title) Quadratic analysis was used as shown in Table 11.

Table 11: Analysis of the quadratic variance of the effect of the variables of the study (type of university, college, academic rank, and job title) on the level of challenges facing the application of the productive university philosophy in Jordanian universities

Source of Variance	Areas	Sum of Squares	Df	Mean square	f	Statistical significance
Type of university	Knowledge employment	.013	1	.013	.033	.855
	Finance	.005	1	.005	.009	.926
	Scientific research	.001	1	.001	.002	.967
	Community service	.054	1	.054	.071	.790
	Technological challenges	1.222	1	1.222	2.764	.099
	Quality and accreditation	3.761	1	3.761	4.558	.034
	Total instrument	.023	1	.023	.058	.810
Academic Rank	**Knowledge employment**	**2.578**	**2**	**1.289**	**3.382**	**.037**
	Finance	.291	2	.146	.248	.781
	Scientific research	.401	2	.200	.369	.692
	Community service	1.817	2	.908	1.185	.309
	Technological challenges	1.873	2	.937	2.118	.124
	Quality and accreditation	3.154	2	1.577	1.924	.150
	Total instrument	.196	3	.098	.245	.783
Job title	**Knowledge employment**	**1.799**	**1**	**1.799**	**4.721**	**.032**
	Finance	1.929	1	1.929	3.283	.072
	Scientific research	**7.479**	**1**	**7.479**	**13.771**	**.000**
	Community service	.816	1	.816	1.064	.304
	Technological challenges	.129	1	.129	.292	.590
	Quality and accreditation	**5.946**	**1**	**5.946**	**7.254**	**.008**
	Total instrument	**2.334**	**1**	**2.334**	**5.836**	**.017**
Collage	**Knowledge employment**	**3.997**	**1**	**3.997**	**10.487**	**.002**
	Finance	.673	1	.673	1.145	.287
	Scientific research	**2.759**	**1**	**2.759**	**5.081**	**.026**
	Community service	.699	1	.699	.912	.341
	Technological challenges	.185	1	.185	.419	.518
	Quality and accreditation	**.535**	**1**	**.535**	**.652**	**.421**
	Total	**.311**	**1**	**.311**	**.777**	**.380**
Error	Knowledge employment	50.309	**132**	**.381**		
	Finance	77.582	132	.588		
	Scientific research	71.688	132	.543		
	Community service	101.211	132	.767		
	Technological challenges	58.385	132	.442		
	Quality and accreditation	108.205	132	.820		
	Total	**52.792**	**132**	**.400**		
Total	Knowledge employment	**1870.680**	**150**			
	Finance	2174.320	150			
	Scientific research	1919.520	150			
	Community service	2044.280	150			
	Technological challenges	1667.680	150			
	Quality and accreditation	2239.120	150			
	Total	**1942.469**	**150**			
Total	Knowledge employment	**91.510**	**149**			
	Finance	95.583	149			
	Scientific research	100.175	149			
	Community service	124.683	149			
	Technological challenges	85.254	149			
	Quality and accreditation	160.383	149			
	Total	**70.273**	**149**			

Table 11 below indicates that there are no statistically significant differences at the level of significance (α <0.05) for the level attributed to the variable of the university type except for the

field of quality and accreditation with a value of (4.588) and a significance level (0.034). This result is because public universities are characterized by the confidence of the local community, with the efficiency of its outputs. On the other hand, it is a free government university that is not profitable but seeks to provide service to the local community, Although in a few cases it demands some fees, their services are based on providing knowledge within the university without involving the local community in the investment of their products, which is one of the most important challenges that limit their ability to be self-reliant universities, they have the resources, facilities, and potentials that help them to invest, promote and upgrade productive universities by investing their research products and investing their public facilities for community partners.

Although private universities are often seen as profitable universities that seek to secure their human resources investment requirements, far from community service, they have a supportive role to government universities. For instance, the University of Jadra which is one of the private universities that has contributed to a real partnership with the local community in terms of reducing the fees of academic courses to compete with the price of public universities, and offers a lot of jobs for many of the graduate students who have received the degree of academic excellence, and scholarships from outside the university for students who met the scientific requirements. Previous studies did not show differences due to the university type variable.

There are no statistically significant differences in the level due to the academic level variable at the level of significance (α <0.05) for all fields and the total instrument, except for the field of knowledge employment with a value of (3.382) and a level of significance (0.037). The Post Hoc Comparisons using LSD did not show differences between academic grade categories. This result may be due to the position of the academic leader whatever his scientific rank is the leader in his work and the authority and power to implement the orders in partnership with the university administration. This result was consistent with the outcome of Tal and Sarayrah (2013).

There are no statistically significant differences at the level of significance (α <0.05) for the level attributed to the variable of the job title except for the field of knowledge employment, scientific research, quality and accreditation, and the total tool, at a significant level (0.000), the differences were in favor of a dean. This result is due to the powers granted to the administrative leader, and the role that leads to maintaining the status of his institution excellence and improve the quality of its services, and its powers granted to him also to employ and invest the results of research and studies obtained by faculty members and students. No studies have dealt with the job title.

There are no statistically significant differences at the level of significance (α <0.05) due to the variable Collage except for the field of employing knowledge and scientific research with a level of significance less than (0.05). The differences are in favor of the scientific college. This result is attributed to the role played by the scientific colleges in the employment of knowledge and scientific research, which focuses on the field of application, its research projects are often

development projects aiming at solving a problem on the ground if invested properly, they deal with equipment and devices and materials which can be controlled and in turn return to the university if invested with the high return, which contributes to the advancement of the university, to become self-reliant. Unlike the human faculties that deal with human elements which are characterized by temperament and emotional fluctuations, which make it difficult to control them with accuracy and consistency, despite the human aspect which is the main element motivating to do various research work. This result agrees with the result of the Abu al-Khair study (2016), which came in favor of scientific colleges. The result of this study differs from the result of the study of Tal and Sarayrah (2013), which showed no differences.

Table 12: Recurrence Table and Percentage of Sample (Academic Leaders) Descending by Frequency of Response to Question 3 (N = 150)

No.	Answer	Frequency	Percentage
1	The university administration should seek to re-line in achieving a balance between the volume of revenues resulting from investments provided by universities in return for the increasing demand for education	24	15.89%
1	The universities administration should contribute to the restructuring of management on an ongoing basis to ensure that there is no slack among the administrative cadres drain the budget of universities	23	15.23%
2	The university administration grants decentralize the administrative decisions that suit it.	23	15.23%
2	University administration should adopt development policies to be a productive and pioneering university.	22	15.22%
3	The university administration should follow a relevant policy of the two accord the material and human resources in the institutions of higher education to the requirements of the application of total quality.	17	11.26%
4	The academic promotion standards adopted at the university should be based on the contributions of faculty members, academics, and students in serving the local community	15	9.93%
5	Minimize teaching tasks and administrative burdens that are an obstacle to the achievement of research tasks that serve the community	14	9.27%
6	The University administration should place the marketing of educational services among the priorities that universities provide through the media and communication.	10	6.62%
6	The universities administration should enhance the participation of the private sector in providing the necessary support for the activation of technology institutions of higher education	10	6.62%
The total answers		150	100.00%

To answer the third question, which states: “What are the proposed ways to develop the application of productive university philosophy in Jordanian universities from the perspective of academic leaders?”, the frequency and percentages of the responses of the sample were extracted to this open question, as shown in Table 12 above. Following the responses of the members of the sample that the highest percentage attained in paragraphs (1.2) on the paragraph stated (The university administration should seek to re-line in achieving a balance between the volume of revenues resulting from investments provided by universities in return for the increasing demand for education), and the paragraph, (The universities administration should contribute to the restructuring of management on an ongoing basis to ensure that there is no slack among the administrative cadres drain the budget of universities) With a frequency (24) and a percentage (15.89%), followed by the paragraph (grant the university administration to decentralize the administrative decisions that suit it) with frequency (23) and percentage of (15.23%), and the

answer (University administration should adopt development policies to be a productive and pioneering university) with the frequency (22%) and by percentage (15.23%). The rest of the responses ranged between (6.62% -11.26 %).

The researchers attribute this finding to the fact that these proposals correspond to the challenges that limit the productive university's philosophy in Jordanian universities to be ranked productive universities which depend on their investment and funding their research projects in partnership with the local community. This high response is due to the first and second paragraphs, as indicated in the frequency table and response to the students' responses which are the universities administration should contribute to the restructuring of management on an ongoing basis to ensure that there is no slack among the administrative cadres drain the budget of universities and the university administration should seek to re-line in achieving a balance between the volume of revenues resulting from investments provided by universities in return for the increasing demand for education.

This is evident that one of the most prominent challenges facing the universities administration is the slack of career among its administrative cadres, in addition to weak strategic planning to achieve a balance between the inputs of the university and its outputs. Which is followed by the third paragraph (The university administration grants decentralize the administrative decisions that suit it) and paragraph (the university administration should follow a relevant policy of the two accord the material and human resources in the institutions of higher education to the requirements of the application of total quality) that came at a rate of (15.23%) and to a high. This result may be attributed to the fact that one of the most important proposals that contribute to the preparation of universities as productive universities is the adoption by the university administration of the policy of decentralization in decision-making so that they make appropriate decisions and ensures quality and accreditation. In the last rank come the paragraphs, (The University administration should place the marketing of educational services among the priorities that universities provide through the media and communication.), and the paragraph (The universities administration should enhance the participation of the private sector in providing the necessary support for the activation of technology institutions of higher education) at a percentage of (6.62%). The researchers attribute this result to the importance of activating the field of marketing of its administrative, educational, and research services in partnership with local community institutions. This finding is correspondent to the study of (& Alexandre& Cruz, 2012), (Brown-Luthango, 2012) and (Glover & Silka, 2013).

Study proposals

The study suggests that to achieve the philosophy of a productive university these tips should be followed:

- Believing in non-contradiction between the concept of the productive university and the general concept of the university and its basic functions (teaching, scientific research, community service).

- The concept of a productive university should be linked to its cooperation with the local community institutions and the private sector in solving the problems of the local community by implementing its programs.
- Enhancing research partnership between the university and the community by allowing universities to select, generate and employ knowledge, which may open up new opportunities for knowledge development and use of research knowledge.
- Removing the barriers between the university as a focal point for openness and a ray of scientific and cultural knowledge, and between the surrounding profitable and productive institutions.
- Setting standards and measures that determine the academic capabilities of the higher education students, which is considered a source of income for the university. Which reflects positively on the quality of education.
- To encourage the university administration to get donations and sponsorship from the persons who can provide support for the funding to the university and its scientific research.

Recommendations

Based on the findings of the study, the researchers recommend the following:

- The administration of the universities should attempt to follow the policy of decentralization in making administrative decisions and reducing the bureaucracy in the legislations and laws with the investors from the local community, taking into consideration the administrative restructuring on an ongoing basis to ensure that there is no slack among the administrative cadres.
- The university administration should follow clear criteria and principles in terms of promotion, attracting students, or marketing investment inside and outside the university.
- To activate the investment of various channels of communication, media, dialogue, and others, in enhancing the participation of the private sector in providing the necessary support to activate technology for higher education institutions.
- Enhance cooperation between the productive university and the community within the university, as well as facilitation and support, should be turned into a research grant that seeks to strengthen cooperation between universities and local communities and contribute to solving their problems.

- Benefiting from successful experiences of a productive university in both Arab and foreign countries, which adopted the university's productive philosophy in addition to making the best use of the available resources and resources.

Conclusion

Following the previous results the level of challenges facing the application of productive university's philosophy in Jordanian universities from the perspective of academic leaders come at a high degree, this indicates that the extent of the challenges facing Jordanian universities is represented in:

1. ***Finance:*** It ranked first and comes at a high degree indicating that funding is an important challenge because of the low volume of income resulting from the investments provided by universities compared to the increasing demand for education. This also results from different reasons such as career slack among administrative cadres that depleting the budget of the university. Universities lack the marketing skills of their productive services in these sectors (scientific, consulting, and services) and they cannot also implement developmental strategies that enable them to be productive universities through marketing their productive services in the field of (scientific, advisory and services) to the different institutions of society and lack of development policies to reach a productive and pioneering university.

2. ***Quality and accreditation:*** It ranks second, it ensures that the applying of the productive university's philosophy is facing challenges due to the university's adoption of the centralization in administrative decisions, weak coordination between university faculties and sectors of the labor market, and the low participation of workers in the application of quality requirements institutions of higher education. The poor quality of educational services provided to students at the university also forms a difficulty for the university.

3. ***The challenge of community service*** comes third, which means that university administrations do not approve promotion as a criterion in the service of society but use educational research for promotion purposes only. In addition, the universities administration neglects to communicate and to interact with the community to identify their problems and challenges as well as it lacks a policy of coordination with the productive institutions which contributed to the weakness of the university's communication with the local community. Consequently, it limits the knowledge within the university without its association with society and its issues.

4. As for ***the challenge of scientific research and the employment of knowledge***, the increasing teaching tasks and administrative burdens form a challenge to accomplish the research tasks that serve the community, the weak activation of the university administrative centers specialized in terms of (training, consulting, research, community service) did not enable it to meet the needs of different groups of the community because

of the weak policies and legislation of the university administration to benefit from patents and innovations and to promote their marketing to local community institutions.

5. Finally, ***technological challenges***, which are the least challenges faced by universities according to the sample of the study. The results indicate that universities administration suffers from weak participation of the private sector which has a significant role in providing support for the activation of technology institutions of higher education. These major challenges have contributed to hindering the progress of Jordanian universities and limit their ability to be self-sufficient universities.

References

Abu al-Khair, R. (2016). The availability of the requirements of the productive university and its relation to the organizational effectiveness in the technical colleges in the Gaza governorates. (unpublished master thesis). Al-Azhar University – Gaza

Abdul Mohtasib, c. (2006). The development of Azhar university education considering the university's productive philosophy and trends of members

Abdel Fattah, Z. (2015). The challenges of higher education in Egypt: the productive universities as a solution to the crisis. http://cfy.ksu.edu.sa

Abu Shawish، H. (2014). The influence of transformational leadership, Organizational culture, and strategic change on organizational effectiveness in Palestinian higher education", Philosophy thesis, University Sains Malaysia

Alexandre،J & Cruz, V. (2012):" What are the University-Productive Sectors links that Matters in a Small Island Country?"University Autonomy Metropolitan-Unidad Xochimilco.

Bovalta, M., Moussaoui, A. (2015). Trends in the transition to the productive university (investment) as a source of self-financing. Humanitarian Journal, 43: 392-377

Boussada, R., Boukker, S. (2000), The productive university, 1, Tunisia, Arab Organization for Education, Culture and Science.

Bashir, M. (2012). Productive university and the growth of scientific research. Retrieved from the site on 32/9/2018 http://arsco.org/

Beni Salama, M. (2008). Universities and community development. Via the website http://www.assawsana.com/

Brown-Luthango, M. (2012). Community-university engagement: the Philippi CityLab in Cape Town and the challenge of collaboration across boundaries. Higher Education, 65(3), 309–324.

Faculty towards their application. (Unpublished doctoral dissertation), Faculty of Education, Al-Azhar University Faculty members of the university. Mu'tah Magazine for Research and Studies, Series of Humanities and Social Sciences, 28 (4): 70-35.

Glover, R & Silka, L. (2013). Choice, power, and perspective: The neglected question of who initiates engaged campus-community partnerships. Gateways: International Journal of Community Research and Engagement, 6 (2013): 38–56

Hariri, R. (2010). Leadership and Quality Management in Higher Education, Amman, Jordan, Dar Al Thaqafa for Publishing and Distribution.

Haikel, N (2014). Developing scientific research centers in Egyptian universities considering the requirements of the productive university: a strategic vision, (unpublished doctoral dissertation), Faculty of Education: Banha University.

Jamasi, M. (2014). The degree of availability of the characteristics of the productive university in the Palestinian universities and ways of enhancing them, unpublished master thesis, Islamic University, Gaza, Palestine.

Jarrah, A. (2017). Science and Technology "in the top 500 universities worldwide. Retrieved from the source on 11/10/2018 www.ammonnews.ne/

Khalifa, A. (2014). Proposed formula for activating the social partnership of Saudi universities in the light of the philosophy of the productive university (Imam Muhammad bin Abdul Aziz Islamic University model), Journal of Education and Psychology, No. (46) https://platform.almanhal.com

Obeidi, N. (2012). "Funding Strategy for Productive Universities: Universities of Saudi Arabia and the Kingdom of Bahrain - Model, Journal of the Arab Academy of Denmark, Issue 10, Electronic Copy

Perkmann, M., Salter, A. (2012). How to create productive partnerships with universities. MIT Sloan Management Review 53, 79–88.

Perkmann, M., King, Z., Pavelin, S., (2011). Engaging excellence? Effects of faculty quality on university engagement with industry. Research Policy, 40, 539–552

Ponomariov, B., (2008). Effects of university characteristics on scientists' interactions with the private sector: an exploratory assessment. The Journal of Technology Transfer, 33, 485–503

Qatawneh, Q, Al Khalafat, (2015). Imagine a proposal to finance universities in Jordan. Obtained from the source on 29/8/2018 https://platform.almanhal.com/

Ramadan, M. (2004). The role of the university in the service of society and the environment. The 10th Annual Arab Conference of the Center for the Development of University Education, Arab University Education: Prospects for Reform and Development, 2004 - 19/18 Cairo: Ain Shams University

Shammari, A. (2010). The five requirements for building a pioneering university. Retrieved on 2/9/2018 from the website http://www.aleqt.com/

Sherbini, V. (2009). New ways to increase university resources. Retrieved from the site on 30/9/2018 http://www.almarefh.net

Tal, S. (1997). Teaching rules at the university. Directory of faculty members in universities and institutions of higher education in the Arab world. Amman, Jordan, Dar Al Fikr for Publishing and Distribution.

Tal &, Sarayrah, Kh. (2013). The degree of interest Mu'tah University in the quality of its role in serving the community in the light of the estimates of

Tweissi, Adel (2017). Universities and self-financing opportunities - Al-Rai Newspaper http://www.alrai.com

Zuhairi, p. (2015). Mechanisms turning universities into productive institutions. Retrieved from the site on 22/9/2018 http://www.alsabaah.iq/

Walsh, J. P., Baba, Y., Goto, A., Yasaki, Y., (2008). Promoting university-industry linkages in Japan: faculty responses to a changing policy environment. Prometheus, 26, 39–54.

William, F. Massy, Teresa, A. Sullivan & Christopher, M.(2013). Improving Measurement of Productivity in Higher Education. , Change, The Magazine of Higher Learning, 45(1), 2013. (Available at: www.changemag.org/)