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Challenges Facing Productive University Approach from Faculty Perspective at Alpha University in Saudi Arabia

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ABSTRACT The current study is an attempt to identify the challenges facing productive university approach at Alpha University in Saudi Arabia from faculty perspective. It adopted the quantitative and qualitative method, and concluded that the challenges facing productive university approach were medium in all domains of the study: organizational challenges, academic challenges, financial challenges, and social challenges. It also showed statistically significant differences between humanities specialization from one hand, and each of the health and scientific specializations from the other hand in academic and financial challenges, where differences were in favor of humanities specialization; it also showed statistically significant differences between associate professor and professor, in financial and social challenges, where differences were in favor of professor. It also resulted in statistically significant differences in all domains between associate professor and assistant professor, where differences were in favor of assistant professor.

INTRODUCTION

At the advent of the third millennium, the world faces a set of challenges in fields of information technology and communication, as these challenges impose a series of difficulties on higher education institutions that could not address them, especially due to lack of human, financial and technological resources in those institutions, which make it necessary for them to establish partnerships, alliances and cooperation with related business and industrial corporations, in order to reinforce its prospects and potentialities in the various services provided. Many universities in developed countries initiated to follow approaches and models backed up this trend, most important is the productive university approach (AlKhateeb 2015).

Alqahtani (2006) pointed out that productive university approach is one of the most important steps of development in higher education institutions, for this approach contributes in addressing and solving funding problems for these institutions under the doubling financial requirements, especially those ones, which depend on yearly provided budgets by the state; with its reliance on this policy in funding, its activities and strategies are going to be short-term goals and only solve the forthcoming issues and difficulties of the status quo.

Ashipa (2000) indicated that the productive university approach does not contradict with the general approach of the university, its duties and its essential roles, but it supports and deepens the university role in education, scientific research and community service, as it confirms the importance of its sharing with various community organizations in the implementation and development of its programs; therefore, it can be considered a productive university doing well in education, scientific research and public service, in which these duties are integrated to achieve some extra financial resources for the university through various approaches and means including self-funded education, continuing education, contractual consultations and researches, and productive activities.

It is worth mentioning that the productive university approach was adopted earlier in the higher education system of the United States of America, where David Libry, professor of education at Stanford university, indicated that this approach has contributed to making the American higher education distinguished, where uni-

versities relied on educational market, through donations, endowments, researches and services provided by university, and the highest ratio of funding for universities from the United States governments did not exceed 36 percent (Alissa 2011).

Almaliki (2013) pointed out that Saudi Arabia depends essentially on funding the higher education on one source, that is, governmental funding, where education expenditure rated 25 percent yearly, he confirmed that the per capita of education expenditure doubled (50) times in 2010 more than in 1970.

AlHareth (2016) opined that one of the most important factors on which Saudi universities depend in order to develop their tasks and responsibilities in terms of applying the principles of the University of the Future is to adopt the pattern of the productive university through universities' trend for community partnership with the industry sectors.

Many scholars of higher education in Saudi Arabia recommended the importance of adopting the productive university approach, where Alrwaili (2014) recommended that Saudi Arabia universities should consider their inputs, processes and outputs from a productive university perspective, and seek to promote some of its programs, services and prospects, where Wezinany (2007) proposed conducting a study about the reality of application of the productive university model in Saudi universities, as well as Khelewi (2014) proposed a study on challenges of applying the productive university approach in Saudi universities.

Based on the above mentioned, the productive university approach is significant for investigating the factors that hinder Saudi universities to apply this approach; one Saudi university was selected as a case study, and for considerations of ethics of scientific research, which emphasize privacy of target university; and for ensuring anonymity of the respondents, (Alpha University), pseudonymous university is a suggested university name (untrue university name) referred to in this study.

Review of Studies

Ashipa (2000) conducted a study aimed at identifying the principles and basics of productive university, its functions, responsibilities and its majors, as well as its role in achieving the objects of privatization of higher education in Egypt; the study showed that the productive university is one of the appropriate alternatives for private universities, provided that adopting appropriate procedures such as sensitizing the rectors and university officials about the concept of productive university and its principles, and about issue legislations, which facilitate applying such approach, review university facilities and equipment, and achieve the effective cooperation and partnership between the university and community institutions.

Carlsson and Fridh (2002) examined the role of offices of technology transfer in 12 U.S. universities in commercializing research results in the form of patents, licenses, and start-ups of new companies. Data was collected through a mail questionnaire followed up through telephone interviews, in addition to statistical data analysis for (170) universities, hospitals and research institutes for the period (1991-1996), the results of this study indicated that the main objective of technology transfer offices is to assist researchers in disseminating the results of their research papers for the public good. Success in this endeavor is only partially reflected in income generated for the university or the number of business start-ups. The degree of success depends not only on the nature of the interface between the university and the business community but also on the receptivity in the surrounding community as well as the culture, organization, and incentives within the universities themselves. The study also showed that most patents and registered licenses in universities were in favor of Faculty of Medicine, followed by Faculty of Engineering.

Abd El Haseeb (2006) carried out a study aimed to figure out the justifications of adopting the productive university approach, its philosophy, and the requirements for its application, and presenting a proposal to apply this approach in Al Azhar University in Egypt, where a questionnaire was applied to 411 faculty members, the study concluded that there are local and international justifications, internal and external challenges necessitate adopting the productive university approach. There are also several challenges that hinder the application of the productive university approach in Al Azhar University, the most notable are the lack of financial and moral incentives provided for faculty members for their scientific consultations and re-

search projects for community institutions, and the lack of capable administration to administer the productive university approach, the study also put forward a proposal to apply the productive university model in Al Azhar University.

Zahir et al. (2013) carried out a study aimed to identify the concept of the productive university and the most valuable benefits followed from the Arab and international models, which apply the productive university approach, and to make a proposal for the most important requirements for the application of the productive university approach in the Egyptian Universities.

Khelewi (2014) carried out a study for putting forward a proposal that contributes in building supporting organizational culture for the application of the productive university approach in Saudi universities, and a questionnaire applied to 375 faculty members in Saudi universities, and 74 interviews were conducted; the study concluded that the reality of application of the productive university in Saudi universities was low, and the most notable challenges for applying the productive university approach are the lack of data base of labor market needs from academic disciplines and research projects, and the scarcity of marketing plans for services provided by the university, and the teaching load for faculty members, and finally the study put forward a proposal for building a supporting organizational culture for the application of the productive university.

Aljamasi (2014) carried out a study for identifying the extent of availability of the characteristics of the productive university approach in Palestinian Universities from the perspective of deans and heads of academic and administrative departments, and also to identify the means, which promote the characteristics of the productive university approach in Palestinian Universities, a questionnaire was applied to (252) individuals, the study showed that the extent of availability of the characteristics of the productive university approach in the Palestinian universities was medium, and the most important means to promote the characteristics of the productive university in Palestinian universities is to promote the idea of belonging by employees and alumni to the productive university.

Rubiano et al. (2015) aimed to identify the factors of utilizing the research results in the productive sector through research collaboration in four Colombian public universities, where (30) department heads and (35) participants ranging from researchers and business people were interviewed, the study found that especially in the last decade universities have promoted research collaboration with an openness among participants for enriching the productive sector and reinforcing the formation and building of research processes. The study results showed an increasing attention of various stakeholders to strengthen the bonds between the universities and the productive sector, though there may be some difficulties in the process of research collaboration due to the lack of an appropriate regulatory framework.

Bani AlMakdad (2016) conducted a study to identify the role of university administration in applying the concept of productive university at Yarmouk University and identifying the obstacles and solutions of applying this concept. The questionnaire was designed and applied to 72 academic leaders. The study concluded that the role of academic administration, from the perspective of academic leaders, in applying the concept of the productive university was medium. The results also highlighted some obstacles of applying this concept; the most prominent one was “lack of funding sources”. Some solutions were recommended, such as “exploring new funding sources.”

Al Fallah (2016) explored the investment of future educational programs and chances of distance learning at Saudi universities. The study adopted the methods of descriptive survey, descriptive documentation and Delphi method. The sample consisted of 72 deans, vice-deans and faculty members of distance-learning deanships and (97) members of the councils of Chamber of Commerce and Industry in Saudi Arabia. The study proved an increasing internal rate of return from the distance-learning programs at Saudi universities from sixty-five percent to one hundred and ninety-seven percent and that there are investment opportunities in future educational programs and opportunities of distance learning at Saudi universities in the specializations of computer engineering, software engineering and communication engineering.

Objectives

The current study aimed to identify the challenges, which hinder the activation of productive university approach in Alpha University from

faculty perspective, and detecting the differences among faculty members due to challenges hindering the productive university approach in Alfa University according to the variables of specialization and academic rank.

Questions

The study sought to answer the following questions:

1) What are the challenges facing the productive university approach in Alpha University from faculty perspective?
2) Are there any statistically significant differences in the perspective of faculty about the challenges facing the productive university approach in Alpha University due to specialization and academic rank?

Significance

This study significance lies in addressing the productive university approach, a recently adopted trend in higher education. The current study also provides the educational literature with a classification of challenges facing the productive university approach, such as organizational challenges, academic challenges, financial challenges and social challenges. The author of the current study hopes that the results of this study contribute in identifying the challenges facing the productive university approach, which helps make sound decisions compatible with the priorities of planning and development especially in Alpha University and other Saudi universities in general. The author also hopes this study contributes in providing the officials and leaders of these institutions with information required to overcome the challenges hindering activating the productive university approach.

METHODOLOGY

Method

The current study adopted the mixed method (quantitative and qualitative method), where the author, through quantitative method, used a questionnaire for data collection, which was prepared and designed after reviewing literature, its final draft consisted of two parts: the first part included data according to the variable of specialization and academic rank, and the second part included (35) items of the questionnaire utilized.

The items were corrected as follows: (4) if the answer of the faculty member (strongly agree), (3) if the answer (moderately agree), (2) if the answer (slightly agree), and (1) if the answer (disagree), as well as the adoption of the following measurement to convey challenge degree, according to the value of the arithmetic mean: (1) to (1.75) means (none), and (1.76) to (2.50) means (weak), (2.51) to (3.25) means (medium), and (3.26) to (4) means (high).

The author of the current study, through the qualitative method, discussed and explained the results of the questionnaire after being statistically analyzed, through conducting interviews with some of the faculty members who expressed their willingness and readiness to cooperate with the author, where result explanation is one of the purposes for conducting a Mixed Method Research that is used when the author collects and analyses data by a questionnaire and needs an explanation of certain results. Then, qualitative data should be collected and analyzed to provide the required explanation (Plano et al. 2008).

Population

The study population consisted of all male faculty members (2755), according to the statistics of Ministry of Higher Education in (2014), academically ranked professors, associate professors and assistant professors with their different health, scientific and humanities specializations in Alpha University, one of the public universities in Saudi Arabia.

Sample

Stratified random sample rated ten percent was selected, the sample population consisted of 276 participants, and the number of returned questionnaires was 228 with rerun rate eighty-three percent, equivalent to eight percent of the total population of the study, the study was conducted in the second semester of the academic year 2015/2016, and Table 1 shows the distribution of the participants according to the variables of the study:

Table 1: Distribution of the participants according to the variables of the study (specialization and academic rank)

Variable	*Groups*	*No.*	*Percentage*
Specialization	Health	58	25.4
	Scientific	94	41.2
	Humanities	76	33.3
Academic Rank	Professor	86	37.7
	Associate Professor	60	26.3
	Assistant Professor	82	36
Total	228	100	

The author conducted an interview with (9) of the faculty with different specializations (health, scientific and humanities) and different academic ranks (assistant professor, associate professor and professor), were given numbers from (1) to (9).

Validity

To verify the instrument validity, the first draft was reviewed and evaluated by a group of evaluators, specialized in fundamentals of education and educational administration, where they were asked to check the appropriateness of the items and to ensure the language and the appropriateness of the instrument to achieve the study objectives. In light of the views and suggestions of the evaluators, the required modifications were made with agreement percentage (80%).

Reliability

The reliability calculated for the total questionnaire and all its domains by Alpha Cronbach Test, where the value of reliability of the total questionnaire was (0.93), and it is a high value, which indicates that the questionnaire is highly reliable.

RESULTS

Firstly, the results related to the answer of the first question: What are the challenges facing the productive university approach in Alpha University from faculty perspective? To answer this question, the author utilized the arithmetic mean and standard deviations.

Table 2 indicates that the arithmetic mean for participants' responses according to items of domain of organizational challenges ranged between 2.04 and 3.26, where item (3) "Bureaucracy in making cooperation agreements between the university and community productive and service institutions" got high degree.

Table 2: The arithmetic means and standard deviations for items of the domain of organizational challenges in descending order according to the arithmetic mean

Item number	*Items*	*Mean*	*Standard deviation*
3	Bureaucracy in making cooperation agreements between the university and community productive and service institutions.	3.26	0.881
4	The complexity of the procedures in signing contracts between faculty member and stakeholders.	3.23	0.967
8	The poor role of university media and public relations in in troducing research and consulting potentialities and academic programs at the university to productive and service institutions.	3.04	0.860
5	The lack of consulting offices in the various disciplines at the university.	3.03	1.074
2	The lack of competent authority for marketing services provided by the university (research services, training courses and consultations, and so on.)	2.95	1.035
9	The lack of faculty databases and their scientific and practical experiences.	2.67	0.936
1	The university lacks legislations (regulations, laws and policies) which support productive university approach.	2.46	1.096
6	The poor facilities provided in the university (equipment and laboratories).	2.04	1.082
7	The lack of library databases of resources and references for the various disciplines at the university.	2.04	1.032
	Organizational challenges	2.75	0.665

The Second Domain: Academic Challenges

Table 3 shows that the arithmetic means of participants' responses according to items of academic challenges domain ranged between 2.56 and 3.37, where three items of this domain got a high degree: item (19) "The lack of skills of self-learning and scientific research among students", item (14) "Faculty member is preoccupied with teaching load", and item (16) "The gap between researches and problems of productive and service institutions of community".

The Third Domain: Financial Challenges

Table 4 points out that the arithmetic means of the participants' responses according to items of the domain of financial challenges ranged between 3.04 and 3.53, where item 23 "The lack of funding provided by community institutions and companies to finance productive activities at the university", and item 25 "The lack of financial incentives for faculty members who are supporting the productive university approach" got high degrees.

Table 3: The arithmetic means and standard deviations for items of the domain of academic challenges in descending order according to arithmetic means

Item number	*Items*	*Mean*	*Standard deviation*
19	The lack of skills of self-learning and scientific research among students.	3.37	0.777
14	Faculty member is preoccupied with teaching load.	3.35	0.818
16	The gap between researches and problems of productive and service institutions of community.	3.32	0.802
20	The various university activities are unable to find solutions for real challenges in various fields of work.	3.20	0.841
21	The lack of teamwork skills among faculty members.	3.17	0.928
17	The lack of interest in applied research compared to humanities research.	3.10	0.929
12	The lack of integration between theoretical and practical side in building study courses.	2.97	0.971
11	The lack of experience among university senior officials for the application of productive university approach.	2.90	1.053
15	Traditional teaching methods are used by faculty.	2.89	0.908
13	Faculty member is not interested in practical aspects of courses.	2.82	0.981
10	Faculty's poor awareness of the importance of the application of productive university approach.	2.66	0.974
18	The lack of academic programs (disciplines) at the university, which serve various fields of work.	2.56	1.029
	Academic challenges	3.03	0.614

Table 4: The arithmetic means and standard deviations for the items of the domain of financial challenges in descending order according to arithmetic means

Item number	*Items*	*Mean*	*Standard deviation*
23	The lack of funding provided by community institutions and companies to finance productive activities at the university.	3.53	0.675
25	The lack of financial incentives for faculty members who are supporting the productive university approach.	3.32	0.875
27	The lack of financial support provided by the university to strengthen community partnership with the productive and service institutions of community.	3.18	0.925
22	The lack of allocated budgets for supporting productive activities at the university (research projects, training courses, and so on.).	3.17	0.938
24	Poor financial incentives provided by the university for the personnel who are supporting the productive university approach.	3.04	0.947
26	Increased financial incentives provided by private sector, compared to public universities, to faculty members to recruit them.	3.04	0.988
	Financial challenges	3.21	0.719

The Fourth Domain: Social Challenges

Table 5 illustrates that the arithmetic means of participants' responses according to items of social challenges ranged between 2.61 and 3.50, where only five items got high degree, including item 35 "The poor role of educational institutions (family, school, and mass media) to acquire individuals values of production since childhood", item 30 "Lack of awareness of the productive and service institutions of the concept of productive university approach", item 31 "The lack of sharing of field visits between the university and the productive and service institutions of community", item 28 "The poverty of relationship (partnership) between the university and the productive and service institutions of community", and item (32) "Negative attitudes of community towards local products compared to global ones".

Secondly, the results related to the answer of the second question: Are there any statistically significant differences in the perspective of faculty about the challenges facing the productive university approach in Alpha University due to specialization and academic rank?

Regarding the variable of specialization, the arithmetic mean and standard deviation for the challenges facing the productive university approach in Alpha University were calculated according to specialization. One-way variation analysis was conducted to identify the statistical differences among arithmetic mean, and it showed statistically significant differences at significant level (a=0.05) in the two domains, academic and financial challenges, due to specialization; by using Scheffé Test, it pointed out that there are statistically significant differences between humanities specialization on one hand and health and scientific specializations on the other hand in academic and financial challenges, where differences were in favor of humanities specialization.

With respect to the variable of academic rank, the arithmetic mean and standard deviation for the challenges facing the productive university approach in Alpha University were calculated according to academic rank. One-way variation analysis was conducted to identify the statistical differences among arithmetic means, and it showed statistically significant differences at significant level (a=0.05) in all domains attributed to academic rank; by using Scheffé Test, it pointed out that there are statistically significant differences between associate professor and assistant professor in all domains, and differences were in favor of assistant professor. Hence, the study showed statistically significant differences between associate professor and full professor, in financial and social challenges, where differences were in favor of full professor.

Table 5: The arithmetic means and standard deviations for the items of the domain of social challenges in descending order according to arithmetic means

Item number	*Items*	*Mean*	*Standard deviation*
35	The poor role of educational institutions (family, school, and mass media) to acquire individuals values of production since childhood.	3.50	0.788
30	Lack of awareness of the productive and service institutions of the concept of productive university approach.	3.39	0.768
31	The lack of sharing of field visits between the university and the productive and service institutions of community.	3.39	0.807
28	The poverty of relationship (partnership) between the university and the productive and service institutions of community.	3.30	0.855
32	Negative attitudes of community towards local products compared to global ones.	3.28	0.903
29	Lack of confidence of productive and service institution of community at the university.	3.18	0.050
34	The underestimation of the university by the individuals that it `provides its research and consulting services to community for financial returns.	2.72	0.059
33	Resistance of productive and service institutions of community on the idea of productive university out of fear of competition.	2.61	1.059
	Social challenges	3.17	0.588

DISCUSSION

The study concluded that the challenges facing the activation of productive university approach in Alpha University from faculty perspective were medium in all domains of the study (organizational challenges, academic challenges, financial challenges and social challenges).

The results showed that the most important organizational challenge is "Bureaucracy in making cooperation agreements between the university and community productive and service institutions", faculty members numbered 1, 5 and 9 explained this result that the adopted organizational and regulatory policies at the university for making cooperation agreements between the university and community productive and service institutions require a lot of time-consuming procedures and approvals, which in turn negatively affects the quantity and quality of these agreements, which are one of the most important means of productive university approach, and this result is consistent with Zahir et al. (2013), which confirmed the inappropriateness of bureaucracy and routine in productive university. This result is different from the results of Bani AlMakdad (2016) which showed that the centralization of decision-making and the laws and regulations in force are the least factors hindering the application of the concept of the productive university.

The results also indicated that the most important academic challenge is "The lack of skills of self-learning and scientific research among students", faculty members numbered 2, 6 and 7 explained this result that the type of education delivered to students during their study in public education, which focused on memorization and indoctrination, and not the development of critical, creative and innovative thinking among them, and this result agrees with the study of Ashipa (2000), which explored student's ability of criticism, analysis and utilization of scientific thinking opining that it is one of the productive university fundamentals.

The current study also noted that the most important financial challenge is "The lack of funding provided by community institutions and companies to finance productive activities at the university", faculty members numbered 3, 4 and 8 attributed this result to the lack of awareness among institutions and companies of the importance of its role and its social responsibility to support educational institutions of community, and this result is consistent with Abd El Haseeb (2006), Aljamasi (2014) and Bani AlMakdad (2016).

The results also indicated that the most important social challenge is "The poor role of educational institutions (family, school, and mass media) to acquire individual values of production since childhood", faculty members numbered 2, 4 and 9 found that this result may be due to the deficiencies of these institutions in achieving its mission by adopting approaches that do not positively affect the behaviors of individuals, therefore the community and its various institutions were non-productive, this study agrees with the study of Zahir et al. (2013), which confirmed that reinforcement of values of work, production, seriousness and persistence, within learning framework, is one of the requirements for applying for the productive university approach.

The study also indicated that there are statistically significant differences between humanities specialization from one hand and health and scientific specializations on the other hand, in academic and financial challenges, where differences were in favor of humanities specialization. The faculty members numbered 1, 4, and 7 believed that this may be due to the great attention paid more by the university to health and scientific specialization than to humanities specialization, as well as the means of the productive university, that research projects, consultations, and training courses are less quantitatively and qualitatively represented in humanities specializations than in health and scientific specializations because humanities specializations are less related to the application and production, and this result is consistent with the study of Carlsson and Fridh (2002), which concluded that most of the registered patents and licenses in universities were in favor of Faculty of Medicine, followed by Faculty of Engineering. It is also consistent with the study of AlFallah (2016) which indicated that investment opportunities in future educational programs and opportunities of distance learning at Saudi universities are in the specializations of computer engineering, software engineering and communication engineering.

The study also found out that there are statistically significant differences between professor and associate professor, in financial and social challenges, where the differences were in favor of professor, possibly due to the increased ambition, aspirations and perception of faculty members with professor degree with respect to financial and social challenges as explained by

faculty members numbered (3, 6 and 9), this result is inconsistent with Khelewi (2014).

It also indicated that there are statistically significant differences between associate professor and assistant professor, in all domains, where the differences were in favor of assistant professor, possibly due to the lack of experience in conducting scientific researches among assistant professors, for scientific research is the most important reliable means in the productive university approach, as accounted for by faculty numbered 2, 5 and 8.

CONCLUSION

Saudi universities should adopt and apply the productive university approach by getting rid of organizational, academic, financial and social challenges, so that they can become self-funded through means of productive university, such as scientific research, consultations, continuing education and productive activities.

RECOMMENDATIONS

According to the results of this study, some recommendations were made:

1) The availability of flexible management in the university to secure the prompt completion of cooperation agreements between the university and the productive and service institutions of community.
2) Skills of self-learning and scientific research, creative and innovative thinking among students should be developed through joining training courses, and encouraging them to participate in scientific conferences.
3) Financial incentives for faculty members should be increased to encourage them to participate in various means of productive university.
4) The various educational institutions (family, schools and mass media) should adopt educational methods and programs for the promotion of production values among individuals, within an appropriate environment.

REFERENCES

Abd El Haseeb J 2006. *The Development of Al-Azhar Higher Education According to the Philosophy of Productive University and the Trends of University Members to its Application*. PhD Thesis, Unpublished. Cairo: Al-Azhar University.

Al AlHareth F 2016. *A Strategy Proposed to Develop the Tasks of Saudi Universities in Terms of Applying the Principles of the University of the Future*. PhD Thesis, Unpublished. Abha: King Khalid University.

AlFallah A 2016. *The Future Distance-learning Investments at Saudi Universities*. PhD Thesis, Unpublished. Riyadh: King Saud University.

Alissa M 2011. *Higher Education in Saudi Arabia: Search for Identity*. Lebanon: Al-Saqi House.

Aljamasi M 2014. *Degree of the Availability of Characteristics of Productive University in Palestinian Universities and Ways of Reinforcement*. Master Thesis, Unpublished. Gaza: Islamic University.

AlKhateeb A 2015. *Management of Higher Education: The Challenges - Modern Approaches - Future Prospects*. Riyadh: Al Roshd Bookstore.

Almaliki A 2013. Alternatives of funding public higher education in the Kingdom of Saudi Arabia. *Saudi Journal of Higher Education*, (10): 113-147.

Alqahtani S 2006. *Education in the Kingdom of Saudi Arabia: Critical Vision*. Copy rights reserved for the author.

Alrwaili N 2014. The reality of higher education in some Saudi universities: Its challenges from faculty perspective: Field study. *Aljouf of Social Sciences Journal*, 1(1): 95-120.

Ashipa F 2000. Productive University One of the Alternatives for the Privatization of Higher Education in Egypt: Analytical Study. *Second Educational Conference: Privatization of Higher and University Education*. Faculty of Education, Sultan Qaboos University, 2: 496-586.

Bani AlMakdad N 2016. *The Role of University Administration in Applying the Concept of Productive University at Yarmouk University: Obstacles and Solutions*. PhD Thesis, Unpublished. Irbid: Yarmouk University.

Carlsson B, Fridh A 2002. Technology transfer in United States universities: A survey and statistical analysis. *Journal of Evolutionary Economics*, 12(1-2): 199-232.

Khelewi L 2014. *The Productive University and its Relationship with Organizational Culture in Saudi Universities: Proposed Model*. PhD Thesis, Unpublished. Riyadh: King Saud University.

Plano Clark VL, Creswell JW, O'Neil Green D, Shope RJ 2008. Mixing quantitative and qualitative approaches: An introduction to emergent mixed methods research. In: SN Hesse-Biber, P Leavy (Eds.): *Handbook of Emergent Methods*. New York: Guilford Press, pp. 363–387.

Rubiano M, Rangell P, Pacheco P, Pacheco F, Hernández F 2015. Research results transfer towards the productive sector via research collaboration in four Colombian public universities. *Journal of Technology Management & Innovation*, 10(4): 28-44.

Wezinany J 2007. *Knowledge Management: Approach to Apply Productive University Model*. MA Thesis, Unpublished. Mecca: Umm Al Qura University.

Zahir M, Abu Saeda W, Haykal H 2013. The productive university model at Egyptian Universities "reasons and requirements". *Journal of Educational Knowledge*, 1(1): 31-80.

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