



The Degree of Knowledge Management Production Among Department's Heads at the Private Jordanian Universities in Amman

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Abstract: This study aims to define the degree of knowledge production among the department's heads at the private Jordanian universities in Amman and its relation to the degree of administrative creativity from the point of view of faculty staff members. The sample of the study has been chosen by stratified random sampling method where it consisted of (200) members of the faculty staff members; (139) males and (61) females. In order to achieve the objectives of this study, a questionnaire was developed; the knowledge production questionnaire which consisted of (17) paragraphs. The reliability and validity of the questionnaires have been tested.

INTRODUCTION

Production of knowledge: Hasan (2008) states that the production of knowledge consists of two main words: production and knowledge. Production is defined as the product of the division of output over all inputs that have been involved in the production process. Knowledge on the other hand is defined as a web of knowledge, skills, information and the implicit cognitive abilities that are accumulated by those who worked in the institution. Knowledge production is therefore a broad field that includes basic components such as the electronic publishing industry, the knowledge content industry, the information and communication technologies industry, the human mind industry and the knowledge industry.

Al-Ali etc., suggest that the production of knowledge is the creation of knowledge for a number of writers. This is done through the participation of working teams and groups in order to generate new knowledge capital in new issues and practices that contribute in identifying the problems and creating new solutions in a continuous innovative manner.

Moreover, production of knowledge enables institutions to excel in achievement and to achieve high market position in different areas. Al-Batayneh and Al-Mashakabah (2010) confirmed that knowledge production is the process of finding, deriving and forming knowledge within the institution. It also involves the process of acquiring or developing new knowledge from the current information or from prior information. Generating explicit knowledge is mainly based on the accumulation of prior knowledge while identifying the implicit knowledge depends heavily on adaptation. It is necessary to distinguish or differentiate between what is known as the production of information and what is known as the production of knowledge. The first relates with the nature of economic decisions based on information which are either complete, certain, probable or otherwise and the second relates to innovation, creation and development. Economic decision-making becomes part of the knowledge production. Knowledge is the ability to comprehend and learn and that what distinguishes it from information. Knowledge can be improved by structured and organized information. Thus, the difference between knowledge and information

is that knowledge can be achieved mainly through education, training, learning and experience gained while information can be only obtained by copying (Atom, 2004).

In light of the above, it is noted that knowledge production is the process of creating new knowledge through the implicit and explicit knowledge of the institution or individuals or from the collection and development of prior knowledge to acquire new value added that contribute to the growth, renaissance and excellence of the institution.

The importance of knowledge production: According to Hamshari (2013), the knowledge production is the most important process in the knowledge management. This is mainly due to the fact that it achieves the competitive advantage for the institution. The success and excellence index of the institution depends on its production of new knowledge. The knowledge production plays essential and effective role in learning processes in creating new services and productions and in finding creative solutions to the problems that might be faced by the institution and this in turn will lead to increase its efficiency in dealing with such problems. Therefore, knowledge production contributes to the generation of new knowledge capital that leads the institution to achieve the superiority and development and to place itself in a prominent place in the market.

Al-Anzi and Saleh (2009) stressed that knowledge production is of a great importance in the current era for a number of reasons; including that the economic progress of a country is represented by its ability to increase productivity in the knowledge work and services and that the countries that will dominate the 21st century economically and administratively are those paying the greatest attention to the diversified knowledge production and those whose economies are mainly based on the intellectual and cognitive assets. Therefore, each institution must become a knowledge institution in order to ensure itself from being extinct in light of the knowledge explosion that is taking place in the current era where the industrial economy has shifted from a natural resources-based economy into intellectual and cognitive assets-based economy. Thus, knowledge production will be the source of wealth and value in the present time.

Matar (2007) indicates that knowledge production in the 21st century has many characteristics that make it of a great importance. This might be due to several reasons including the fact that the knowledge society is not distinguished by gaining information and using it effectively to achieve the desired objectives; it is rather distinguished by its ability to withstand and survive among societies and to achieve competition and progress. Knowledge production is considered to be the winning item in the present era which witnesses political and economic domination and the social and cultural prestige

of societies and nations. The current era has witnessed a major knowledge explosion due to the increase in knowledge production globally. This in turn has made the current economy represented by the knowledge economy which has opened up new fields of production, employment, finance, marketing and human development. And from a social point of view; knowledge production is not only a means of understanding between individuals and groups but it is also the basis of continuous human communication that is difficult to be dispensed (Khudairi, 2001).

Justification of interests in knowledge production: Based on all the reasons mentioned previously, it can be noticed that the knowledge production is the wealth and the true power for any institution. Therefore, knowledge research production must receive a widespread attention in the current time. Hasan (2008) shed the light on the justifications of interests in knowledge production. They can be summarized as follow:

The apparent lack of the standards of knowledge work performance, since, there is no clear methods for calculating benefits and costs at any specific time. In light of this, companies tend to pay more attention in looking for methods to measure and assess the productivity of knowledge research. This is not only at the level of companies but also at the level of countries that are interested in working on the development of national measurement systems to measure the results of knowledge work and assets at the international level.

Knowledge is considered to be more exposed to risks as its value changes rapidly depending on the characteristics of knowledge whether as being an intangible asset or as being valuable only when used. Other characteristics may involve the ease of use and deployment in addition the rapid cloning which converts knowledge into a public one that owned by all. Companies and enterprises allocate large amounts to investments in projects and knowledge resources. This requires clear criteria and indicators to measure the returns of all investments and to evaluate the results achieved.

Matar (2007) indicates that there are many reasons behind the increasing interest in knowledge production including the knowledge explosion and this is why all institutions, especially, knowledge ones, need to understand the wide and rapid increase in their production of all different knowledge and to make as many researches as possible on this topic. This in turn necessitated for new education technologies to attract and produce knowledge.

The role of universities in the knowledge production: Universities are considered to be an important source of knowledge production and they play a major role in the process of knowledge production. This is due to several reasons, as indicated by Najem (2010). Universities are

considered as the environment that stimulates creativity and participation and provides opportunities for individual and collective achievement in both scientific research and education. Universities therefore represent the most vital and influential economic sector in the national economy. They are considered as scientific research institutions as the essence of their activities is either to create knowledge (scientific research) or to improve knowledge through suggesting new uses of prior knowledge. Universities are also considered as the model for the new knowledge production (scientific research), expertise and knowledge dissemination and distribution throughout books and documentary studies.

The university is an institution that ensures education and high scientific or professional training. It might be a public or private university. The university world is the place where a new cultural pattern is developed and that the university institution is the most important and permanent beneficiary of the world's cultural heritage. The field of producing knowledge from scientific research is the most important field of higher education that impacts and being impacted by the reality of knowledge society where the information flows is considered to be an essential feature. Universities in the knowledge society are looked at as an open system for the distribution and production of knowledge through a form that ensures increased alliances and partnerships as they seek to acquire specialized and modern knowledge resulted from a dense network of research in various fields.

Difficulties encountered in knowledge production: Najem (2005) emphasized that many institutions face difficulties in producing knowledge including the difficulty of measuring the value and performance of their intellectual assets and the difficulty of measuring the impact of knowledge production on performance. According to Matar (2007), one of the most noticed difficulties facing knowledge production is the measurement of knowledge amount that is involved in the process of knowledge production, since, it is considered as a major impediment to the knowledge production process. Some countries are trying to put strict control for the purposes of intellectual property and this in turn limits the knowledge production of these countries, in addition to that Arab governments and their knowledge institutions allocate little budgets for scientific research.

Azyadat (2008) indicates that the most difficulties facing knowledge production can be summarized in the difficulty of measuring knowledge production. The most noticed one of these difficulties is the identification of the knowledge value, since, it is considered to be an implicit one. In other words, it achieves value only if it is extracted in a catalytic manner such as the involvement of the knowledge owner in a homogenous team and there is an interest in research. Another noticed difficulty facing knowledge production is the problem of poor knowledge,

knowledge can become poor, since, it quickly becomes outdated and therefore there might a lot of knowledge that is out of use. Hamshari (2013) added that the difficulty behind measuring the knowledge production lie in the fact that knowledge, no matter how great, remains latent and has no value unless being used within or outside the institution.

Summary of previous studies and the site of the current study: Previous studies shed light on the importance of knowledge production, particularly in the present time and on the great role that universities play in producing new knowledge in the various fields of life. Knowledge production has been widely studied and explored by researchers in its various fields due to its remarkable impact on the excellence and advancement of institutions. There was a variety in the objectives of the previous studies that addressing knowledge production.

Some of them aim to identify the degree of applying knowledge management processes such as the study of Almomani (2004), the study of Alagha and Abu Al-Khair (2012), the study of Abualola (2012), the study of Abdulrahman and Tadros (2014) and the study of Al-Samadi. The study of Ahmad (2010) focuses mainly on analyzing all indicators of the scientific knowledge production from a sociological point of view. The study of Alotaibi (2006) aims to identify the extent to which academic and administrative staff owe some concepts of knowledge management. Moravec (2008) envisioned future events expected to take place in knowledge production processes while (Odigwe, 2014) addresses the lecturer's expectations for research activities to produce knowledge.

MATERIALS AND METHODS

This section includes an overview of the procedures undertaken by the researchers to achieve the objectives of the study, starting with the study methodology and the study population from which the sample was collected and on which way. Then, there will be the description of the study tools and procedures followed to test their validity and reliability and how to apply them to the sample while explaining the study procedures followed and the statistical methods used as follows:

The study methodology: The descriptive correlation method was used, since, it is considered as the appropriate method for the nature of the current study and the nature of its objectives and that in order to determine the degree of knowledge produced by department heads from the point of view of faculty members. The questionnaire was used as a means of data collection.

The study population: The study population is composed of all members of the teaching staff at the private

Table 1: The distribution of the study sample of the faculty members in Jordanian private universities in Amman by gender

University	Male	Female	Total
Middle East University	17	3	20
Petra University	35	24	58
Al-Zaytoonah Private University of Jordan	45	21	66
Applied Sciences University	50	35	85
Total	147	83	230

Jordanian universities in Amman during the second semester and their number was 2383 of whom 1669 are males and 714 are females.

The study sample: The researchers used two methods to choose the sample of the study. A random cluster sample was first selected from private Jordanian universities in Amman out of the sample of the study. Four private universities were selected in Amman: the Middle East University, Petra University, Al-Zaytoonah Private University of Jordan and Applied Sciences University based on the sample size calculator prepared by Bartlett *et al.* (2001). After selecting the random cluster sample, stratified random sample was selected according to the sample size calculator mentioned earlier where the total was 230 faculty members (147 males and 83 females). As shown in Table 1. After distributing the questionnaire, 200 of faculty members have answered on them.

The study instrument: To achieve the objectives of the study, researchers used the following instrument: knowledge.

Production questionnaire: The researchers developed a questionnaire to measure the degree of knowledge production among department heads at private Jordanian universities in Amman from the point of view of the faculty members by reference to the review of related literature and the previous studies such as Almomani (2004) and Ahmad (2010).

The questionnaire was composed of 20 items and each item was given graded points according to Likert scale to estimate the degrees of knowledge production (always-often-sometimes-rarely-never) 5 points were given to “always”, 4 points were given to “often” three points were given to “sometimes”, two points were given to “rarely” and one point was given to “never”. The validity of the first instrument (Knowledge Production Questionnaire):

The validity of the first study instrument was tested by presenting them to ten specialized arbitrators in educational administration and curricula from the faculty members in the Middle East University, the University of Jordan and the Hashemite University in order to ascertain that the items contained in the questionnaire comply with the objectives of the study and its validity and if they need to be deleted or modified and what is the suggested modification. All the paragraphs that have been approved by 80% or more by the arbitrators are selected.

Table 2: The values of stability coefficients for the instruments of the study

Questionnaire	Fields	Test-retest stability coefficient	Internal consistency coefficient
Knowledge production	-	0.87	0.85

The stability of the study first instrument (knowledge production): To ascertain the stability of the study first instrument, the researcher used the (test-retest) method by applying the instrument to a sample of 25 faculty members from outside the study sample at a time interval of two weeks between the two application periods. The stability coefficient was calculated using pearson correlation coefficient. The value of the stability coefficient indicates that the instrument enjoys a high level of stability as the correlation coefficient is 0.87. Cronbach alpha was also used to measure the internal consistency coefficient where it was 0.85. These two values are considered to be acceptable in the educational and psychological research. This is shown in Table 2:

The study variables: This study included the following variables:

- Independent variable: the degree of knowledge production
- Gender: males, females
- Academic level (Professor, Associate Professor, Assistant Professor)

RESULTS AND DISCUSSION

The study findings: This study presents the findings of this study by answering its questions, as follows:

Question 1: What is the degree of knowledge production among heads of departments in Jordanian private universities from the point of view of faculty members in these universities?

In order to answer this question, the averages and the standard deviations of the degree of knowledge production by the heads of departments in Jordanian private universities from the point of view of faculty members in these universities were calculated in general and for each item of the study instrument. Table 3 shows that:

Table 3 shows that the degree of knowledge production among department heads in Jordanian private universities from the point of view of faculty members in these universities was medium. The average was 3.43 and the standard deviation was 0.56. The items come within the high and medium degrees where the averages range between 3.22-3.75. Item No. 1 which states: “To use the faculty members to produce knowledge” comes first with an average of 3.75, a standard deviation of 0.79 and a high degree. Item No. 10 which states that: “To suggest

Table 3: Averages, standard deviations and levels of the degree of knowledge production among heads of departments in private Jordanian universities from the point of view of faculty members in these universities

Items	Average	SD	Level	Degree of knowledge production
To use the faculty members to produce knowledge	3.75	0.79	1	High
To suggest financial and moral incentives to be given for faculty members who are excellent in producing scientific knowledge	3.60	1.07	2	Medium
To encourage faculty members to enrich the knowledge of what is new	3.53	0.79	3	Medium
To adopt educational experience as a source of knowledge production	3.51	0.97	4	Medium
To seek to attract knowledge from outside the faculty	3.49	0.92	5	Medium
To provides facilities to encourage faculty members to produce knowledge	3.47	1.00	6	Medium
To form teams of the faculty members with a diversity of knowledge	3.46	0.72	7	Medium
To provide technology means for the purpose of producing new knowledge	3.44	1.26	8	Medium
To use the distinguished skills of faculty members to develop the existing knowledge	3.43	0.94	9	Medium
To promotes the dissemination of scientific research in scientific journals	3.37	1.10	10	Medium
To allocate amounts in the budget to encourage faculty members to produce knowledge	3.36	1.13	11	Medium
To urges faculty members to follow the latest technological developments	3.34	1.19	12	Medium
To develops solutions to the difficulties facing knowledge production	3.34	1.22	12	Medium
Encourages faculty members to participate in scientific conferences	3.33	1.07	14	Medium
To urges faculty members to write books as they are considered as a scientific source of different courses	3.23	1.27	15	Medium
To organizes seminars to identify new sources of knowledge	3.22	0.87	16	Medium
The total degree of knowledge production	3.43	0.56	12	Medium

financial and moral incentives to be given for faculty members who are excellent in producing scientific knowledge” comes in the second rank with an average of 3.60, standard deviation 1.07 and with a medium degree. Item No. 9 which states: “To urges faculty members to write books as they are considered as a scientific source of different courses” comes in the second rank from the end with an average of 3.23, a standard deviation of 1.27 and with a medium degree. Item No. 6 which states: “To organizes seminars to identify new sources of knowledge” comes in the last rank with an average of 3.22, a standard deviation of (0.87) and with a medium degree.

Question 2: Are there any statistically significant differences between the averages of the faculty member’s responses from the degree of knowledge production among the department heads in the private Jordanian universities that might be attributed to the gender variables and the academic rank? This question was answered as follows:

Gender variable: The averages and standard deviations of the faculty member’s responses from the degree of knowledge production among heads of departments in Jordanian private universities were calculated according to the gender variable. The t-test was also applied. This is shown in Table 4. Table 5 indicates that there are statistically significant differences at ($\alpha \leq 0.05$) of the faculty member’s responses from the degree of knowledge production among the heads of departments in the private Jordanian universities according to the gender variable, based on the t-calculated value which was 2.839 and at a significance level of 0.005. The difference was in favor of males due to the increase in their averages compared to the average of females.

Table 4: Averages and standard deviations of the faculty member’s responses from the degree of knowledge production among heads of departments in Jordanian private universities and the t-test according to the gender variable

Gender	No.	Average	SD	t-value	Level of significance
Male	139	3.50	0.55	2.839	0.005*
Female	61	3.26	0.57		

Table 5: Averages and standard deviations of the faculty member’s responses from the degree of knowledge production among heads of departments in Jordanian private universities according to the academic rank variable

Experiences	No.	Average	SD
Professor	45	3.42	0.55
Associate professor	60	3.31	0.56
Assistant professor	95	3.51	0.56
Total	200	3.43	0.56

Academic rank variable: The averages and standard deviations of the faculty member’s responses from the degree of knowledge production among heads of departments in Jordanian private universities were calculated according to the academic rank variable as shown in Table 5.

Table 5 indicates that there are apparent differences between the averages of the faculty member’s responses from the degree of knowledge production among the department heads in the private Jordanian universities, according to the academic rank variable where “Assistant professors” received the highest average at 3.51, “Professors” comes in the second rank with an average of 3.42 and finally, “Associate professors” comes in the last rank with an average of 3.31. In order to determine whether the differences between the averages were statistically significant at the level of $\alpha \leq 0.05$, one way Analysis of Variance (ANOVA) was applied. The results of the variance analysis shown in Table 6:

Table 6: One way Analysis of Variance (ANOVA) to find the significance of differences for the faculty member's responses of the degree of knowledge production among heads of departments in private Jordanian universities, according to the academic rank variable

The source of variance	Sum of Squares (SS)	Degrees of freedom	Means of Squares (MS)	F-value	Level of significance
Between groups	1.556	2	0.778	2.485	0.086
Within groups	61.692	197	0.313		
Total	63.248	199	0.778		

Table 6 indicates that there is no statistical significance difference at $\alpha \leq 0.05$ for the faculty member's responses of the degree of knowledge production among heads of departments in private Jordanian universities according to the academic rank variable, based on the tabulated F-value which was 2.485 at a significance level of 0.086.

CONCLUSION

The degree of knowledge production among department's heads at the private Jordanian universities in Amman from the point of view of faculty members in these universities was medium.

RECOMMENDATIONS

This study includes a discussion of the findings that the study arrived at and recommendations suggested in the light of these findings. This can be seen as follow: discuss the findings of the first question which states (What is the degree of knowledge production among heads of departments in Jordanian private universities from the point of view of faculty members in these universities? The degree of knowledge production among heads of departments in Jordanian private universities from the point of view of faculty members was medium with an average of 3.43. This can be attributed to the fact that faculty members are not sufficiently convinced that the knowledge production by heads of departments was high. It can be also attributed to the fact that faculty members at these universities tend to underestimate the importance of department heads in the knowledge production and therefore, they have avoided giving them a low degree, since, they wary of that their answers might be known by the departments heads. Therefore, faculty members preferred to give a "medium" degree for most of the heads of departments.

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