Knowledge Cultivation and Knowledge Monopoly from the Postgraduate Students Perspective: A Study in the Egyptian Context

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Abstract
The objective of the research is to identify the role of Knowledge Cultivation (KC) in facing Knowledge Monopoly (KM) on postgraduate students at Sadat City University in Egypt. The research community consists of all postgraduate students at Sadat City University in Egypt. Due to time and cost constraints, the researcher adopted a sampling method to collect data for the study. The appropriate statistical methods were used to analyze the data and test the hypotheses.

The research has reached a number of results, the most important of which are: (1) KC is one of the modern concepts that need special care, because of its significant and important impact in the development of the capabilities and possibilities of human minds, which is reflected positively at Sadat City University, (2) KC of the human minds at Sadat City University, which will contribute to the interaction of previous knowledge with new knowledge in their minds, resulting in new knowledge of high value contribute to effectively improve their performance, (3) KC contributes to the motivation of the human minds of owners of useful knowledge to declare their implicit knowledge and convert it to others and share with them, which raises the level of collective knowledge and reduces the cases of monopoly knowledge at Sadat City University, (4) There is a significant correlation between KC and KM at Sadat City University, where the greater the interest and the use of KC the greater the ability to face KM, and (5) KC affects the face of KM. The application of KC contributes to raising the skills and abilities of human minds to face the cases of KM by others by increasing the absorptive capacity of knowledge, facilitating knowledge transfer processes and among them a large number at Sadat City University.

The research concluded that: (1) there is a need to adopt the method of KC effectively and encourage the process of transforming knowledge and participation among human minds at Sadat City University in order to promote and raise the level of individual and collective knowledge, (2) encouraging human minds at Sadat City University with the implicit knowledge of high importance to convert them into explicit knowledge and share them with others, (3) activating the method of communication among the human minds at Sadat City University, which enhances the exchange process and the transfer of knowledge among them, (4) the development of future plans and programs at Sadat City University in order to activate the role of KC in the face of KM, (5) the need for Sadat City University to invest in KC as it is one of the methods that can be used in the face of KM, (6) Sadat City University should benefit from the implicit knowledge that exists among the human minds working in the university in order to make it accessible to others within the university, (7) the need to communicate with universities and other similar institutes in order to benefit from specialists and experts in training human minds at Sadat City University and transfer their expertise to them, (8) providing support and participation in courses, conferences and seminars within Sadat City University, which leads to the development of knowledge and experience, (9) the need to expand the application of research in other universities, in order to reach a more comprehensive model commensurate with the Egyptian Universities.

2. Knowledge Cultivation

2.1. Knowledge Cultivation Concept

KC is the relationship between the current knowledge and the new knowledge of employees by adding new sources of thinking through the environment. The future of the innovation process through KC in the organization, and through the development and investment of knowledge is the main activity necessary for the innovation process. This activity is done through the interaction between the previous and new knowledge of staff (Jinsheng, 2009).

KC is an essential element in the process of cognitive empowerment and represents a new vision for the search for knowledge and information that is attributed to staff participation in the organization. KC is the leading role of the organization in creating, nurturing and sharing knowledge in a way that contributes to fostering creativity and innovation and empowering. KC is the leader behind the concept of knowledge management that focuses on operations only. Therefore, the term KC is more general and comprehensive.
than knowledge management. KC grows in the long run and does not stop at a certain limit (Murnane, 2008).

KC is the adoption of knowledge and the continuing process of knowledge and content exchange between members of a single group (Bettoni et al., 2007).

KC is embodied in the implicit knowledge in favor of the owners. Implicit knowledge is very personal and difficult to formalize because it is inherent in the general perception of the human mind. It is the knowledge based on experience and control that can be applied directly to future activities (Wang et al., 2004).

KC has become an important subject because it focuses on the process of creativity and innovation in the organization (Vonkrogh et al., 2000). The KC is a modern concept focusing on the leading role of organizations in creating knowledge in a way that contributes to the process of creativity and innovation (Skyme, 1997). In light of the foregoing, KC is the acquisition of science and the transformation of implicit knowledge into virtual knowledge, expression in an official language, working to discover new knowledge, nurture and ensure its growth, and store it for the purpose of benefiting from it in achieving the goals of the university.

2.2. Knowledge Cultivation Dimensions

There are three dimensions of KC (Tseng et al., 2011; Liao et al., 2010; Cabrera, 2002; Grundstien, 2002; Zahra and George, 1995). They can be explained as follows:

1. Knowledge Absorptive Capacity

The growth and development of organizations are influenced by many factors, including economic, social, and technical. The absorptive capacity of knowledge is one of the most important factors affecting the growth and development of organizations (Kim, 1995).

External sources play a key role in enhancing the capacity of the organization and its ability to innovate and innovate. This may be because it relies heavily on acquisition and borrowing rather than on invention (Ali, 2011). The absorptive capacity of knowledge is defined as the interaction between knowledge inputs and their diffusion, which amplifies the absorptive capacity within the organization (Tseng et al., 2011). Capacity plays an important role in organizational learning, which leads to creativity and innovation, thus improving overall performance (Tsai, 2001). Absorption capacity is the ability of an organization to recognize and add value to knowledge (Cohen & Levinthal, 1990).

There are two types of absorptive capacity: potential absorptive capacity and perceived absorptive capacity (Zahra & George, 2002). This can be illustrated as follows:

1. Potential Absorptive Capacity: includes the external knowledge required for the operations of the organization, in terms of assimilation, analysis, processing, interpretation, and understanding.
2. Perceived Absorptive Capacity: includes the transformational capacities of development, through current and newly acquired knowledge, addition, deletion and interpretation of that event, as well as the capacity to exploit and integrate them with the internal knowledge of the organization.

It should be noted that a number of studies have been conducted to measure the absorptive capacity of organizations. To understand the sources of knowledge absorption, we must first focus on the nature of communication between the organization and the environment, and second on the nature of experience within the organization itself (Cohen & Levinthal, 1990). It should be noted that absorptive capacity can be measured through four main factors: communication with the external environment, level of understanding and experience within the organization, diversity, and overlap in the knowledge structure, and the strategic location of the organization (Liao et al., 2010). In addition, we have to the exploitation of knowledge, conversion, absorption, and acquisition (Ali, 2012).

2. Knowledge Conversion

Implicit knowledge plays an important role in developing the capabilities of the individuals they receive and thus reflects their performance within the organization. The importance of the declaration of implicit knowledge depends on fundamental considerations: (1) the exchange of implicit knowledge is achieved through interaction between individuals; (2) the transformation of implicit knowledge contributes to explicit knowledge of knowledge expansion (Grundstien, 2002).
Knowledge conversion is the process that begins with the idea that the individual offers and is acquired through learning and technical development in order to have a viable future. This can be done through (1) acquiring and purchasing knowledge from outside the organization, and (2) creating knowledge within the organization through official research activities (Bourdreau & Couillard, 1999). Knowledge conversion contributes to the creation and expansion of new knowledge by transforming implicit knowledge into explicit knowledge from individual to collective. There are four ways in which knowledge is generated by transforming implicit knowledge into explicit knowledge. This can be expressed in four characters (SECI) (Nonaka & Takeushi, 1995). These can be expressed as follows:

1. **Socialization**: This is done through the formation of implicit knowledge through the exchange of experiences and ideas among individuals.
2. **Externalization**: It is the process of showing implicit knowledge and its embodiment to become explicit knowledge through the process of communication and the adoption of the language of dialogue and collective thinking.
3. **Combining**: It is the process of merging and categorizing explicit knowledge into new explicit knowledge.
4. **Internalization**: It is obtained through learning and using guidelines that are part of the property organization knowledge.

### 3. Knowledge Sharing

Knowledge sharing is one of the most important concepts for organizations, as knowledge becomes meaningless if it is not shared with others and is invested with the development of knowledge when it is shared and used correctly and optimally. Knowledge resources become more valuable when involved (Szulanski, 1995).

Knowledge sharing is an activity through which information, skills, and experiences are exchanged between people within the organization (Cabrera, 2002).

Knowledge sharing is the activity of individuals to contribute together to the use and investment of knowledge (Schmitz, 2011).

Knowledge sharing must become cultivated and practiced for all employees. This requires training, development, leadership activation, change, and motivation. This can be done through the knowledge sharing cycle, which involves knowledge creation, classification, organization, dissemination, access and optimal use (Skyrme, 1999).

### 3. Knowledge Monopoly

#### 3.1. Knowledge Monopoly Concept

KM suppresses new ways of thinking; entrenched hierarchies become increasingly rigid and out of touch with social realities. Challenges to elite power are likely to arise on the margins of society (Innis, 1980).

The concept of KM writings on communications extended the concept of monopoly in the field of economics to knowledge in general (Easterbrook & Watkins, 1984).

KM and the nature domination is encountered in daily life. The monopoly situation feeds the apathy, and the apathy feeds the monopoly, as it lowers the threshold for those that do want to be involved in order to advance their position. Apathy is really an extreme form of self-indulgence that says to everyone else, “I don’t care.” So, we can't find the perfect knowledge. Most of the big organizations did KM. It is related to nature domination. There is the possibility that they can result in poor risk communication and can actually precipitate crises (Paul, 1997).

There is some characteristic of a KM. It is the real belief that there are some people who know what is best for others. This causes inaccurately determining of the knowledge, which largely supports the monopolists, and encourages them to monopolize knowledge that they receive from different sources (Paul, 1997).

KM takes on a particular urgency. Industrialization and mass media had led to the mechanization of a culture in which more personal forms of oral communication were radically devalued. KM is impossible in cultures where the dominant mode of communication is the spoken word. Although this might be true to a degree, something akin to a monopoly of knowledge is possible in an oral culture. Therefore, when a given
individual knows something the average person does not and controls access to it in an authoritative way are exceedingly rare (Heyer, 2003).

KM is an example of this occurs in ancient Egypt. The complex writing system conferred a KM on literate priests and scribes. Mastering the art of writing and reading required long periods of apprenticeship and confining knowledge (Innis, 2007).

KM is created in the atmosphere of hostility between time-biased and space-biased, wherein one tradition marginalizes the other. The term “knowledge” refers to all information and data in addition to the products of literacy and science (Naru & Grace, 2010).

"Perfect knowledge" or "perfect information" is achieved only with free, open, competitive or unobstructed feedback. Therefore, any obstruction to 'iteration' in achieving this equilibrium will produce an incomplete fractal shape, imperfect knowledge and asymmetric information (Blair, 2011).

According to the above discussion, KM is the imprisonment of ideas, information, and knowledge from others. In addition, KM is based on non-participation with the others and refrains from talking with tacit knowledge in order to ensure high returns.

3.2. Knowledge Monopoly Types

There are many types of KM (military KM, geographical KM, commercial KM, technological KM and medical monopoly (Rubae, et al., 2013; Richard, 2011; Mikkonen, 2010; and Ivan, 1999). They are described as follows:

1. **Military KM**: It attempts to steal the monopolies of knowledge that existed during the Cold War between the Soviets and Americans.

2. **Geographical KM**: The intergovernmental panel on climate change has a monopoly on the provision of climate policy advice at the international level and a strong market position in national policy advice. This may have been the intention of the founders of the intergovernmental panel on climate change.

3. **Commercial KM**: A good example of the Japanese model in dealing with knowledge. The brains enclosed in Japan emphasize KM vitality and not made available to non-Japanese when doing business.

4. **Technological KM**: It concentrates on products such as Apple, Samsung, and Microsoft.

5. **Medical Monopoly**: It is related to the monopoly of drugs, medical devices, and methods that are used in treating people with dangerous and difficult diseases.

3.3. Knowledge Monopoly Dimensions

The knowledge monopoly consists of different dimensions. They are the knowledge gap, obstruction of creativity and innovation, and negative thinking (Innis, 1991). In addition to that, we have organizational distrust and conflicts (Richard, 2011).

KM arises through the intensity of competition between the parties. There are different ways of reducing KM. It needs to meet the challenges caused by these dimensions. KM can be met by bridging the knowledge gap, positive thinking and creative abilities (Jared, 2005; Thonstein, 2010; and Richard, 2011). They are described as follows:

1. **Bridging Knowledge Gap**

Reducing the knowledge gap requires attention to the fundamental pillars of the knowledge economy, namely, the development of education and knowledge, the development of innovative capabilities, the provision of information technology infrastructure, the provision of an enabling economic environment and the dissemination of knowledge (World Bank, 2012).

The knowledge gap represents the distance between current knowledge and target knowledge, representing the area of interaction between lack of knowledge and full knowledge of all its characteristics and components (Jared, 2005).

2. **Positive Thinking**

Positive thinking is the beginning of the way to think. When a person thinks positively, he actually plans his mind to think positively. Positive thinking leads to positive actions in most life affairs. Positive thinking is a set of mental, psychological and social processes that one understands, recalls and recovers.

Positive thinking also refers to optimism, looking at beauty in everything, looking for the exciting side of life, positive thoughts forming feelings and behavior, giving strategies for skills development, in
addition to optimism in most life matters. Positive thinking is characterized by a culture of openness, in contrast to negative thinking, which leads to the monopoly of ideas and knowledge and not to other people under any circumstances, but as personal property that can not be compromised (Thomstein, Hazel, 2010).

3. Creative Abilities
Creativity has greatly contributed to the advancement of human life and is one of the basic necessities of organizations. It can be defined as a set of new ideas that solve problems and can be defined as the ability of the organization to access what is new in a way that adds value and is faster than competitors. Creativity is the process of generation or new ideas, intellectual, theoretical or new scientific assumption put into practice (Schermerhorn, 2001).

4. Research Model
The proposed comprehensive conceptual model is presented in Figure (1). The diagram below shows that there is one independent variable for the study of KC. There is one dependent variable KM. In light of the above discussion, the research model is as shown in the following figure:

The research framework suggests that KC has an impact on KM at Sadat City University. KC as measured consisted of knowledge absorptive capacity, knowledge conversion and knowledge sharing (Murnane, 2008; Skyrme, 1999; Bettoni et al., 2007; Jinsheng, 2009; Bourdreau, & Couillard, 1999; Grundstein, 2002). KM is measured in the terms bridging the knowledge gap, positive thinking and creative abilities (Innis, 1991; and Thomstein, 2010).

5. Research Questions
The researcher reached the research problem through two sources. The first source is to be found in previous studies, and it turns out that there is a lack in the number of a literature review that dealt with the analysis of the relationship between KC and KM at Sadat City University. This called for the researcher to test this relationship in the Egyptian environment.

The second source is the pilot study, which was conducted an interview with (30) employees at Sadat City University to identify the dimensions of KC and KM. The researcher found through the pilot study several indicators notably the blurred important and vital role that could be played by KC in reducing KM at Sadat City University. The research questions of this study are as follows:

Q1: What is the relationship between KC (Knowledge Absorptive Capacity) and KM at Sadat City University?
Q2: What is the nature of the relationship between KC (Knowledge Conversion) and KM at Sadat City University?

Q3: What is the extent of the relationship between KC (Knowledge Sharing) and KM at Sadat City University?

6. Research Hypotheses

The following hypotheses were developed to decide if there is a significant correlation between KC and KM.

H1: There is no relationship between KC (Knowledge Absorptive Capacity) and KM at Sadat City University

H2: KC (Knowledge Conversion) has no significant effect on KM at Sadat City University in Egypt.

H3: There is no relationship between KC (Knowledge Sharing) and KM at Sadat City University

7. Research Strategy

7.1. Population and Sample

The population of the study included all employees at Sadat City University. The total population is 10980 postgraduate students. Determination of respondent sample size was calculated using the formula (Daniel, 1999) as follows:

\[ n = \frac{N \times (Z)^2 \times P(1-P)}{d^2(N-1) + (Z)^2 \times P(1-P)} \]

The number of samples obtained by 371 employees at Sadat City University is presented in Table (1).

<table>
<thead>
<tr>
<th>Faculties and Institutes</th>
<th>Number</th>
<th>Percentage</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty of Commerce</td>
<td>605</td>
<td>6%</td>
<td>371X 6% = 22</td>
</tr>
<tr>
<td>2. Faculty of Education</td>
<td>6283</td>
<td>57%</td>
<td>371X 57% = 212</td>
</tr>
<tr>
<td>3. Faculty of Physical Education</td>
<td>323</td>
<td>3%</td>
<td>371X 3% = 11</td>
</tr>
<tr>
<td>4. Faculty of Tourism</td>
<td>352</td>
<td>3%</td>
<td>371X 3% = 11</td>
</tr>
<tr>
<td>5. Faculty of Veterinary Medicine</td>
<td>745</td>
<td>7%</td>
<td>371X 7% = 26</td>
</tr>
<tr>
<td>6. Faculty of Law</td>
<td>1119</td>
<td>10%</td>
<td>371X 10% = 37</td>
</tr>
<tr>
<td>7. Environmental Studies &amp; Research Institute</td>
<td>936</td>
<td>8%</td>
<td>371X 8% = 30</td>
</tr>
<tr>
<td>8. Genetic Engineering &amp; Biotechnology Research Institute</td>
<td>617</td>
<td>6%</td>
<td>371X 6% = 22</td>
</tr>
<tr>
<td>Total</td>
<td>10980</td>
<td>100%</td>
<td>371X 100% = 371</td>
</tr>
</tbody>
</table>

Source: Personnel Department at Sadat City University, Egypt, 2017

7.2. Procedure

The goal of this study was to identify the significant role of KC in reducing KM. A survey research method was used to collect data. The questionnaire included two questions, relating to KC and KM at Sadat City University in Egypt. About 371 survey questionnaires were distributed. Multiple follow-ups yielded 300 statistically usable questionnaires. Survey responses were 80%.

7.3. Research Variables and Methods of Measuring

The 16-item scale KC section is based on Murnane, 2008; Skyrme, 1999; Bettoni et al., 2007; Jinsheng, 2009; Bourdreau, & Couillard, 1999; Grundstein, 2002. There were five items measuring absorptive knowledge capacity, five items measuring knowledge conversion and six items measuring knowledge sharing.

The 18-item scale KM section is based on Innis, 1991; and Thomstein, 2010. There were six items measuring bridging knowledge gap, six items measuring positive thinking, and six items measuring creative abilities.

Responses to all items scales were anchored on a five (5) point Likert scale for each statement which ranges from (5) “full agreement,” (4) for “agree,” (3) for “neutral,” (2) for “disagree,” and (1) for “full disagreement.”

8. Data Analysis and Hypotheses Testing

8.1. Coding of variables
The research consists of two main variables. The first is KC (independent variable). The second is KM (dependent variable). Each variable consists of sub-variables.

The main variables, sub-variables, number of the statement, and methods of measuring variables can be explained in the following table:

<table>
<thead>
<tr>
<th>Main Variables</th>
<th>Sub-Variables</th>
<th>Number of Statement</th>
<th>Methods of Measuring Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Cultivation</td>
<td>Knowledge Absorptive Capacity</td>
<td>5</td>
<td>Murmance, 2008; Skyrme, 1999; Bettoni et al., 2007; Jinsheng, 2009; Bourdeau, &amp; Couillard, 1999; Grundstein, 2002</td>
</tr>
<tr>
<td></td>
<td>Knowledge Conversion</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge Sharing</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Knowledge Monopoly</td>
<td>Bridging Knowledge Gap</td>
<td>6</td>
<td>Innis, 1991; and Thomstein, 2010</td>
</tr>
<tr>
<td></td>
<td>Positive Thinking</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creative Abilities</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Construct Validity

The researcher depends on the method of Confirmatory Factor Analysis (CFA) in order to verify the quality of the various research measures. The researcher adopted the statistical program AMOS, V.23, 2015. CFA was applied to the research variables as follows:

1. Knowledge Cultivation

The researcher used CFA for KC which consists of three dimensions. They are knowledge absorption capacity, knowledge conversion, and knowledge sharing. The total number of KC is 16 statement. This can be illustrated by the following figure:

![Confirmatory Factor Analysis for Knowledge Cultivation](image)

Source: The researcher based on the outputs of AMOS, V.23, 2015

From the previous figure, it is clear that all the statement of KC is greater than 0.50, which corresponds to the Goodness of Fit Index. This is a good indicator of all other statistical analysis.

In addition to that, the researcher depends on the Structural Equation Model (SEM) because it is one of the best ways to use the multivariable test.

SEM has been used to test the compatibility model using AMOS analysis. In order to ascertain whether the model is compatible with the sample data used. Also, it already measures the variable that should be measured. The quality indicators for KC variable using AMOS analysis can be illustrated by SEM in the following table:
In light of the above-mentioned indicators, it is clear that the model achieved good indicators according to the results of the analysis, where the value of \((X^2/\text{degrees of freedom}) = 409.881\) which is greater than \(5\), and that the value of \(P\) is significant. The index of the Goodness of fit Index (GFI = 0.842) is less than (0.9), in addition to the Tucker-Lewis Index (TLI = 0.900), which is less than (0.9), as well as the Comparative Fit Index (CFI = 0.916), less than (0.9), the Normed Fit Index (NFI = 0.892), less than 0.9, and the Incremental Fit Index (IFI = 0.916), which is less than 0.95. In general, it is clear that the previous indicators are good for making all other statistical analysis.

2. Knowledge Monopoly

The researcher used CFA for KM which consists of three dimensions. They are knowledge absorption capacity, knowledge conversion, and knowledge sharing. The total number of KM is 16 statement. This can be illustrated in figure (4). According to figure (4), it is clear that all the statement of KM is greater than 0.50, which corresponds to the Goodness of Fit Index. This is a good indicator of all other statistical analysis. In addition to that, the researcher depends on the Structural Equation Model (SEM) because it is one of the best ways to use the multivariable test. SEM has been used to test the compatibility model using AMOS analysis. In order to ascertain whether the model is compatible with the sample data used. Also, it already measures the variable that should be measured.

Table (3)

<table>
<thead>
<tr>
<th>Test the Quality of the Model</th>
<th>Test Value</th>
<th>Acceptance Condition(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(X^2/\text{Degree of freedom})</td>
<td>409.881</td>
<td>((X^2/\text{dof}) &lt; 5)</td>
</tr>
<tr>
<td>(P.\ \text{value})</td>
<td>0.000</td>
<td>(P &gt; 0.5)</td>
</tr>
<tr>
<td>Goodness of fit Index (GFI)</td>
<td>0.842</td>
<td>GFI &gt; 0.90</td>
</tr>
<tr>
<td>Tucker-Lewis Index (TLI)</td>
<td>0.900</td>
<td>TLI &gt; 0.95</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>0.916</td>
<td>CFI &gt; 0.95</td>
</tr>
<tr>
<td>Normed Fit Index (NFI)</td>
<td>0.892</td>
<td>NFI &gt; 0.90</td>
</tr>
<tr>
<td>Incremental Fit Index (IFI)</td>
<td>0.916</td>
<td>IFI &gt; 0.95</td>
</tr>
</tbody>
</table>

(*) Daire et al., 2008

Source: The researcher based on the outputs of AMOS, V.23, 2015

The quality indicators for KM variable using AMOS analysis can be illustrated by SEM in the following table:

Table (5)
In light of the above-mentioned indicators, it is clear that the model achieved good indicators according to the results of the analysis, where the value of \((X^2/\text{degrees of freedom}) = 1681.006\) which is greater than (5), and that the value of \(P\) is significant. The index of the Goodness of fit Index (GFI = 0.615) is less than (0.9), in addition to the Tuker-Lewis Index (TLI = 0.690), which is less than (0.9), as well as the Comparative Fit Index (CFI = 0.732), less than (0.9), the Normed Fit Index (NFI = 0.717), less than 0.9, and the Incremental Fit Index (IFI = 0.733), which is less than 0.95.

**8.3. Descriptive Analysis**

Before testing the hypotheses and research questions, descriptive statistics were performed to find out means and standard deviations of KC and KM.

![Table](image)

**8.4. Evaluating Reliability**

Data analysis was conducted. All scales were first subjected to reliability analysis. Cronbach’s Alpha was used to assess the reliability of the scales. Item analysis indicated that dropping any item from the scales would not significantly raise the alphas.
To assess the reliability of the data, Cronbach’s Alpha test was conducted. Table (7) shows the reliability results for KC and KM. All items had alphas above 0.70 and were therefore excellent, according to Langridge’s (2004) criteria.

Table (7) presents the reliability of KC. The reliabilities of absorptive knowledge capacity, knowledge conversion, and knowledge sharing are generally higher. The 16 items of KC are reliable because the Cronbach’s Alpha is 0.955. The absorptive knowledge capacity, which consists of 5 items, is reliable because the Cronbach’s Alpha is 0.876.

The 5 items related to knowledge conversion, are reliable because the Cronbach’s Alpha is 0.869 while the 6 items of knowledge sharing are reliable because the Cronbach’s Alpha is 0.891. Thus, the internal consistency of KC can be acceptable.

According to Table (7), the 18 items of KM are reliable because the Cronbach’s Alpha is 0.942. The bridging knowledge gap, which consists of 6 items, is reliable because the Cronbach’s Alpha is 0.886. The 6 items related to positive thinking are reliable because the Cronbach’s Alpha is 0.912 while the 6 items of creative abilities are reliable because the Cronbach’s Alpha is 0.920. Thus, the internal consistency of the KM can be acceptable.

Accordingly, two scales were defined, KC (16 variables), where Cronbach’s Alpha represented about 0.955, and KM (18 variables), where Cronbach’s Alpha represented 0.942.

### 8.5. The Means, St. Deviations, and Correlation among Variables

Table (8): Means, Standard Deviations and Intercorrelations among Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>KC</th>
<th>KM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Cultivation</td>
<td>2.72</td>
<td>0.877</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Knowledge Monopoly</td>
<td>2.60</td>
<td>0.744</td>
<td>0.785**</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: The researcher based on the outputs of SPSS, V.23, 2015

Table (8) shows correlation coefficients between the research variables, and results indicate the presence of significant correlation between variables (KC, and KM). The level of KC is high (Mean=2.72; SD=0.877), while KM is (Mean=2.60; SD=0.744).

### 8.6. The Correlation between KC and KM

The relationship between KC and KM at Sadat City University is presented in the following table:

Table (9): Correlation Matrix between KC and KM

<table>
<thead>
<tr>
<th>Research Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Absorptive Capacity</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Conversion</td>
<td>0.871**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>0.858**</td>
<td>0.867**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Knowledge Monopoly</td>
<td>0.748**</td>
<td>0.750**</td>
<td>0.748**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at 0.01 level

Source: The researcher based on the outputs of SPSS, V.23, 2015

Based on the Table (9), the correlation between KC (knowledge absorptive capacity) and KM is 0.748. For KC (knowledge conversion) and KM, the value is 0.750 whereas KC (knowledge sharing) and KM show correlation value of 0.748. The overall correlation between KC and KM is 0.785.

### 8.7. Knowledge Cultivation (Knowledge Absorptive Capacity) and KM

The relationship between KC (Knowledge Absorptive Capacity) and KM is determined. The first hypothesis to be tested is:

**H1: There is no relationship between KC (Knowledge Absorptive Capacity) and KM at Sadat City University**

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Table (10): MRA Results for KC (Knowledge Absorptive Capacity) and KM

<table>
<thead>
<tr>
<th>The Variables of KC (Knowledge Absorptive Capacity)</th>
<th>Beta</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You can contact other colleagues easily within the college to ask for help.</td>
<td>0.325**</td>
<td>0.681</td>
<td>0.463</td>
</tr>
<tr>
<td>2. I have the ability to continue to make progress in my work.</td>
<td>0.186**</td>
<td>0.647</td>
<td>0.418</td>
</tr>
<tr>
<td>3. Have the ability to compile new knowledge without any external assistance.</td>
<td>0.215**</td>
<td>0.631</td>
<td>0.398</td>
</tr>
<tr>
<td>4. An environment that helps me share ideas with other colleagues easily.</td>
<td>0.029</td>
<td>0.567</td>
<td>0.321</td>
</tr>
<tr>
<td>5. I can understand the knowledge that others provide me easily and from the first time.</td>
<td>0.232**</td>
<td>0.524</td>
<td>0.274</td>
</tr>
</tbody>
</table>

- **MCC**
- **DC**
- **Calculated F**
- **Degree of Freedom**
- **Indexed F**
- **Level of Significance**

**P < .01**

Source: The researcher based on the outputs of SPSS, V.23, 2015

As Table (10) proves, the MRA resulted in the R of 0.763 demonstrating that the 5 independent variables of KC (knowledge absorptive capacity) construe KM significantly. The five independent variables of KC (knowledge absorptive capacity) can explain 58% of the total factors in KM level. Hence, 42% is explained by other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

**8.8. Knowledge Cultivation (Knowledge Conversion) and KM**

The relationship between KC (Knowledge Conversion) and KM is determined. The second hypothesis to be tested is:

**H2: KC (Knowledge conversion) has no significant effect on KM at Sadat City University in Egypt.**

As Table (11) proves, the MRA resulted in the R of 0.761. This means that KM has been significantly explained by the 5 independent variables of KC (knowledge conversion).

The five independent variables of KC (knowledge conversion) justified only 57% of the total factors in KM level. Hence, 43% is explained by other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

Table (11) MRA Results for KC (Knowledge Conversion) and KM

<table>
<thead>
<tr>
<th>The Variables of KC (Knowledge conversion)</th>
<th>Beta</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that experienced individuals have no desire to transfer their knowledge to others.</td>
<td>0.305**</td>
<td>0.665</td>
<td>0.442</td>
</tr>
<tr>
<td>2. Faculty provides an appropriate environment for gathering knowledge from different sources.</td>
<td>0.215**</td>
<td>0.649</td>
<td>0.421</td>
</tr>
<tr>
<td>3. Faculty members are interested in transferring the knowledge they possess to the knowledge that is easy to trade.</td>
<td>0.180**</td>
<td>0.644</td>
<td>0.414</td>
</tr>
<tr>
<td>4. Faculty works to store knowledge in a way that helps in reuse.</td>
<td>0.009</td>
<td>0.563</td>
<td>0.316</td>
</tr>
<tr>
<td>5. The faculty is interested in transforming knowledge through communication and collective thinking.</td>
<td>0.226**</td>
<td>0.510</td>
<td>0.260</td>
</tr>
</tbody>
</table>

- **MCC**
- **DC**
- **Calculated F**
- **Degree of Freedom**
- **Indexed F**
- **Level of Significance**

**P < .01**

Source: The researcher based on the outputs of SPSS, V.23, 2015

**8.9. Knowledge Cultivation (Knowledge Sharing) and KM**

The relationship between KC (Knowledge Sharing) and KM is determined. The third hypothesis to be tested is:
H3: There is no relationship between KC (Knowledge Sharing) and KM at Sadat City University

Table (12): MRA Results for KC (Knowledge Sharing) and KM

<table>
<thead>
<tr>
<th>The Variables of KC Knowledge Sharing</th>
<th>Beta</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty encourages cooperation among all its members.</td>
<td>0.244**</td>
<td>0.586</td>
<td>0.343</td>
</tr>
<tr>
<td>2. Everyone has the opportunity to learn about and share knowledge.</td>
<td>0.216**</td>
<td>0.674</td>
<td>0.454</td>
</tr>
<tr>
<td>3. There is a desire of the owners of new knowledge to transfer to others.</td>
<td>0.060</td>
<td>0.584</td>
<td>0.341</td>
</tr>
<tr>
<td>4. Working as a team helps to exchange ideas and experiences within the college.</td>
<td>0.159**</td>
<td>0.614</td>
<td>0.376</td>
</tr>
<tr>
<td>5. Faculty members are interested in exchanging ideas effectively with specialized experts.</td>
<td>0.101*</td>
<td>0.547</td>
<td>0.299</td>
</tr>
<tr>
<td>6. Faculty shall allocate adequate financial allocations to disseminate knowledge among all its employees.</td>
<td>0.156**</td>
<td>0.608</td>
<td>0.369</td>
</tr>
</tbody>
</table>

- **MCC**
- **DC**
- **Calculated F**: 64.951
- **Degree of Freedom**: 6, 293
- **Indexed F**: 2.80
- **Level of Significance**: 0.000

**P < .01**  **P < .05**

Source: The researcher based on the outputs of SPSS, V.23, 2015

As Table (12) proves, the MRA resulted in the R of 0.756 demonstrating that the 6 independent variables of KC (knowledge sharing) construe KM significantly. Furthermore, the value of R square, 6 independent variables of KC (knowledge sharing) can explain only 57% of the total factors in KM level. Hence, 43% is explained by other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

9. Research Results

By reviewing the results of the descriptive analysis of the data on which the study was based on and testing the research hypothesis, the study reached a set of results which will be reviewed and discussed as follows:

1. KC is one of the modern concepts that need special care, because of its significant and important impact in the development of the capabilities and possibilities of human minds, which is reflected positively at Sadat City University.

2. KC of the human minds at Sadat City University will contribute to the interaction of previous knowledge with new knowledge in their minds, resulting in new knowledge of high value contribute to improving their performance effectively.

3. KC contributes to the motivation of the human minds of owners of useful knowledge to declare their implicit knowledge and convert it to others and share with them, which raises the level of collective knowledge and reduces the cases of monopoly knowledge at Sadat City University.

4. The researcher used the Confirmatory Factor Analysis (CFA) in order to verify the quality of the various research measures. It is clear that all the statement of KC and KM are greater than 0.50, which corresponds to the Goodness of Fit Index. This is a good indicator of all other statistical analysis. In addition to that, the researcher depends on the Structural Equation Model (SEM) because it is one of the best ways to use the multivariable test. SEM has been used to test the compatibility model using AMOS analysis. In order to ascertain whether the model is compatible with the sample data used. Also, it already measures the variable that should be measured. In general, it is clear that the previous indicators are good for making all other statistical analysis.

5. There is a significant correlation between KC (knowledge absorptive capacity, knowledge conversion, and knowledge sharing)and KM (bridging the knowledge gap, positive thinking, and creative abilities) at Sadat City University, where the greater the interest and the use of KC the greater the ability to face KM.

6. KC affects the face of KM. The application of KC contributes to raising the skills and abilities of human minds to face the cases of KM by others by increasing the absorptive capacity of knowledge, facilitating knowledge transfer processes and among them a large number at Sadat City University.

10. Recommendations

In the light of the previous results, the researcher concluded with a set of recommendations as follows:
1. The need to adopt the method of KC effectively and encourage the process of transforming knowledge and participation among human minds at Sadat City University in order to promote and raise the level of individual and collective knowledge.

2. Encouraging human minds at Sadat City University with the implicit knowledge of high importance to convert them into explicit knowledge and share them with others.

3. Activating the method of communication among the human minds at Sadat City University, which ultimately enhances the exchange process and the transfer of knowledge among them.

4. The development of future plans and programs at Sadat City University to activate the role of KC in the face of KM.

5. The need for Sadat City University to invest in KC as it is one of the methods that can be used in the face of KM.

6. Sadat City University should benefit from the implicit knowledge that exists among the human minds working in the university in order to make it accessible to others within the university.

7. The need to communicate with universities and other similar institutes in order to benefit from specialists and experts in training human minds at Sadat City University and transfer their expertise to them.

8. Providing support and participation in courses, conferences, and seminars at Sadat City University, which ultimately lead to the development of knowledge and experience.

9. The need to expand the application of research in other universities in order to reach a more comprehensive model commensurate with the Egyptian Universities.

References


