

The Role of Knowledge Management in the Relationship between the Effectiveness of the Accounting Information System and the Competitive Advantage at Jordanian Public Shareholding Industrial Companies

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Abstract

The main objective of this study was to identify the role of knowledge management in the relationship between the effectiveness of the accounting information system and the competitive advantage in the Jordanian public shareholding industrial companies. The study population consisted of all workers in the Jordanian public shareholding industrial companies. The study sample, which was randomly drawn, consisted of IT managers, investment managers, internal audit managers, heads of accounting departments and accountants in the Jordanian public shareholding industrial companies. The researchers distributed 300 questionnaires developed on the basis of previous studies to the study sample across Jordanian public shareholding industrial companies (n= 67). Data analysis was conducted through SPSS software. The first hypothesis was tested using the simple regression analysis, whereas the second hypothesis was tested using the hierarchical regression analysis. The study found that there is a statistically significant effect of the accounting information system in achieving the competitive advantage of Jordanian public shareholding industrial companies. It also showed that knowledge management plays a large and important role in the relationship between the effectiveness of the accounting information system and improving the competitive advantage in Jordanian public shareholding industrial companies. Based on the results of this study, the researchers recommend that public shareholding industrial companies pay more attention to knowledge management in general and the human element in particular, by keeping up with the key developments in knowledge management and its implementation in order to maintain and improve the competitive advantage that these companies seek to achieve. The researchers also recommend applying this study in another environment, whether Arab or international, as this study was applied in the Jordanian environment, and comparing the results of these studies with the present study.

Keywords: Knowledge Management, Effectiveness of the Accounting Information System, Competitive Advantage, Jordanian Public Shareholding Industrial Companies.

1. Introduction

The constant changes in business environments, the IT revolution and the scientific and technological advancements are the main reasons which led business organizations to pay attention to the competitive advantage and reconsider their competitive status. IT has become an important method to achieve and reinforce competitive advantage for many organizations (Al-Houri & Abdulsattar, 2013). Accordingly, organization managements need to enhance their understanding of the importance of IT, alongside other means, as an essential tool for achieving and supporting competitive advantage through reducing costs, improving quality and boosting productivity (Sulaimani, 2012).

On the other hand, Shehadeh (2014) believes that the Accounting Information System plays an important and effective role in providing decision makers with suitable information that helps them take informed administrative decisions. It is one of the major systems for accounting information production which help in rationalizing and supporting economic decisions which impact the resources and wealths of communities, thus impacting the welfare of individuals (Kahaleh and Hanan, 1997). On the other hand, the accounting system is closely related to various administrative processes, as it is one of the most efficient systems in satisfying the requirements of the organization's management, improving performance levels to achieve targets, helping in solving any issues, and providing useful information for relevant decision makers which contribute to supporting the performance and continuity of such organizations (Al-Dahrawi et al.).

In addition, the accounting information system plays a major role in providing an integrated view of the organization to align capabilities with resources and functionalities in order to realize the full potential of such resources (Romney, 2013). Knowledge Management is the backbone and key input of change that has brought about a qualitative transformation at the level of organizations today. It is a means of adapting to the requirements of the present and an important resource in creating innovation under intellectual concepts such as globalization, privatization and the information revolution. There is also a kind of harmony between knowledge management and organizations' activities (Hammoudeh, 2010). Furthermore, knowledge management has become one of the better solutions used by organizations to face challenges, because knowledge and information are major and indispensable assets for organizations. Knowledge management is the most important source for building competitive advantage (Al-Shahrani, 2010). Also, Quwaidri et al. (2011) believe that the knowledge factor allows organizations to continue to achieve their competitive advantage; therefore, companies are constantly seeking to obtain this factor and organizations need to own it and know how to manage it.

This study aims mainly at identifying the role of knowledge management in the relationship between the efficiency of the accounting information system and the competitive advantage in Jordanian public shareholding industrial companies. There are many previous studies that addressed the impact of accounting information systems in achieving competitive advantage and applying them in different environments (Al-Shbiel and Al-Olimat, 2016), (Al-Shbiel, 2011), (Al-Shehadeh and Al-Assi 2008), (Al-Ali, 2013), but none of the researchers studied the effectiveness of accounting information systems in Jordanian public shareholding industrial companies. It is likely that there is a more positive effect between the efficiency of the accounting information system and the competitive advantage that these companies seek if knowledge management is applied as a variable affecting the relationship between these two variables as a variable that greatly affects the competitive advantage (Daisy, 2012) and (Suwais et al., 2011). Therefore, this study sought to identify the effect of the accounting information system on achieving competitive advantage under knowledge management in Jordanian public shareholding industrial companies.

2. Theoretical Framework and Previous Studies:

2.1 Effectiveness of accounting information systems and competitive advantage

Accounting information systems play an important and effective role in providing the various levels of decision-making with timely, correct, accurate and timely information that helps them to make various management decisions. The importance of accounting information systems is that they exist within the organization, control all activities and address issues of identifying, combining, operating, analyzing, storing and sending information to decision makers, in line with the actual needs of requesters (Zafiri, 2008). Effective accounting information systems provide correct and up-to-date information related to a specific administrative decision (Ghorab and Hijazi, 2009).

Several researchers affirmed that the effectiveness of accounting information systems has an impact on achieving competitive advantage. In a recent study conducted on Jordanian commercial banks, Al-Shibail and Al-Olimat (2016) found that there is an Impact of Accounting Information System Effectiveness on Competitive Advantage in Jordanian commercial banks. Similarly, Al-Shehadeh & Al-Assi (2008) conducted a study on banking institutions in Syria and found that accounting information systems play an important role in achieving competitive advantage by Syrian banks. Also, Al-Ali (2013) conducted a study on the public Universities in Jordan; found that the effectiveness of accounting information systems has positive impacts on reducing costs. Al-Shbiel (2011) conducted a study on the banking sector in Jordan and found an impact for accounting information systems on reducing costs and improving the quality of services provided by banks to customers. The study also found an impact for accounting information systems on increasing market share, accelerating the provision of services and products, thus improving the competitive advantage of banks. Similarly, Al-Dhufairi (2008) conducted a study on commercial banks in Kuwait where he found that accounting information systems play an essential role in the success of pricing strategies of banking services. As for the cost-reducing aspect, which is a main pillar of the competitive advantage sought by organizations, Al-Quraan (2007) conducted a study on Jordan Electric Power Company (JEPCO) and found that there was a positive impact for accounting information systems on reducing costs. In the Jordanian health sector, Al-Shbiel & Al-Dalabeeh (2012) found that computerized accounting information systems played a major role in reducing medical costs. In the Iraqi environment, Jill (2010) found that accounting information systems in Iraqi private commercial banks are effective and play a major role in helping management in the processes of planning, monitoring and decision making.

2.2 Knowledge Management

Wiig (2013) defined knowledge management as "a set of clear and specific approaches and processes aimed at discovering knowledge functions, both positive and negative, in different types of operations, managing new products or strategies, reinforcing human resources management and achieving a number of other goals". Boasha and Ben Mansour (2012) defined it as the management responsible for organizing and observing the production of intellectual capital and the search for it through dialog among its members, to extract the knowledge through these meetings and various participations, which allow the transfer of experience from one individual to another. On the other hand, knowledge management is the "term used to describe the processes, tools and behaviors that the organization and its beneficiaries are engaged in forming and performing in order to acquire, store and disseminate knowledge to reflect business operations and reach the best applications for long-term competition and adaptation "(Al-Kubaisi, 2005, p. 42).

In addition, knowledge management is "a systematic and integrated process to coordinate the organization's various activities towards achieving its objectives. It also enhances the organization's ability to maintain and improve performance based on experience and knowledge by providing organizations with a great opportunity to reduce costs and raise their internal assets to generate new revenues" (Mageswari et al., 2016). Further, it helps in developing the organization's creativity and innovation processes (Abu Khdeir, 2009). According to Kajir (2015), the concept of knowledge management encompasses the definition and analysis of available and required knowledge resources, processes related to these resources, planning and control of actions for developing resources and processes, thereby contributing to the achievement of the organization's goals. Knowledge resources in this context are the knowledge possessed by the organization or that it needs to possess, which is related to products, market, technologies and organizations to contribute to the increase in profits or the provision of value-added services and products.

In this regard, a number of researchers stressed the close relationship between knowledge management and overall performance improvement, which in turn leads to the achievement of the competitive advantage being sought. Among these studies is the study of Al-Rubaie (2012) on the impact of knowledge management strategy on cost management strategy. The study showed that cost management strategy includes cost reduction efforts based on integrated programs and plans aimed at meeting consumer needs and satisfaction, and the implementation of cost reduction programs and plans requires access to the necessary knowledge in cost and operational aspects in accordance with a clear knowledge management strategy. Zarkoun and Arraba (2014) aimed at revealing the impact of knowledge management on performance in the Algerian economic institution by highlighting the impact of effective knowledge management on the intangible performance components of the organization, namely, employees, learning, job satisfaction, internal processes and creativity, in order to ensure the achievement of excellent performance for the organization. The study applied the descriptive analytical methodology. The study highlighted the importance of knowledge management and its positive impact on the efficiency and effectiveness of internal processes through effective steps to manage knowledge within the organization. In an applied study conducted on Syrian government banks, Dasi (2012) found that there is a significant relationship between knowledge management and competitive advantage. Also, Suweis et al. (2011) concluded in their study applied to the Jordanian Telecom Group that knowledge management plays a major role in achieving competitive advantage for the group.

3. Study Hypotheses

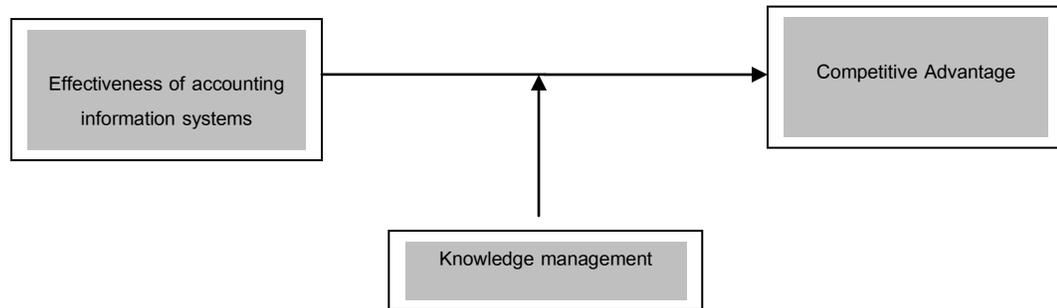
According to the above, the study hypotheses can be drafted as follows:

H1: There is no statistically significant impact for the effectiveness of accounting information systems on achieving competitive advantage for Jordanian public shareholding industrial companies.

H2: There is no role for knowledge management in the relationship between the effectiveness of the accounting information system and the competitive advantage for Jordanian public shareholding industrial companies.

4. Study Model

To illustrate the nature of the relationship between independent and dependent variables and the modified variable, the researchers designed the following model:



** The chart is prepared by the researchers

5. Study Methodology

5.1 Study population and sample

The study population consisted of all employees of Jordanian public shareholding industrial companies. The study sample, which was randomly withdrawn, consisted of IT managers, investment managers, internal audit managers, heads of accounting departments and accountants in Jordanian public shareholding industrial companies. The researchers distributed 300 questionnaires to the study sample across Jordanian public shareholding industrial companies (n= 67), of which 282 questionnaires were retrieved. Also, 12 other questionnaires were found to be unfit for statistical analysis for incomplete data or lack of seriousness. Accordingly, the number of valid questionnaires was 270.

5.2 Study instrument

A questionnaire was developed based on previous studies, whereby its items were adapted to suit the study environment. This questionnaire consisted of three sections to measure the study variables, as follows:

First aspect: Eight items to measure the independent variable (effectiveness of accounting information systems) based on the study of Jill (2010) as set out below:

The accounting information system helps maintain alignment between decisions made by the management and changes in the company's environment. The accounting information system provides financial reports to accounting data users on a periodic and regular basis. Managers make decisions mainly based on information made available by the accounting information system, away from personal preferences. The accounting information systems generate economic information used by management to forecast variables in decision-making models. The accounting information system provides decision makers with information that correspond to the decisions nature in terms of quality, time and cost. The accounting information system caters to the different decision making models in terms of the nature of information required by such models in decision making. The accounting information system helps the upper management in taking decisions in a manner that considers the long-term impacts of such decision. The accounting information system provides feedback to ensure reconsideration of decisions made and improve effectiveness.

Second aspect: Five items to measure the dependent variable (competitive advantage) based on Al-Houri & Abdulsattar (2013), Sulaimani (2012), Al-Shbiel (2011) and Al-Dhufairi (2008) set out as follows:

The company's management seeks to achieve the objectives set out in the company's plan for the targeted pricing of its services. The company's management is keen on providing high-quality services to its customers compared with other companies. The company's management seeks to reduce the cost of services rendered to its clients. The company's management is keen on providing speedy services to its clients. The company's management seeks to boost its market share compared with other competitors.

Third aspect: : Ten items to measure the modified variable (knowledge management) based on the studies of Zarkoun & Arraba (2014), Al-Zatma (2011) and Ne'mah (2002) set out as follows:

The company seeks to recruit human resources with sufficient technical and technological skills and expertise. The company pays special attention to its employees and encourages them to embrace creativity and innovation. The company has a database and an IT network to execute its plans and programs with utmost efficiency and effectiveness. The company's staff is competent, efficient and able to make initiatives, submit propositions and present new ideas. The company holds discussion and participatory sessions for its employees to invest in their intellectual strengths.

The company pays attention to its clients' opinions and propositions for new services or improvements to its products and services. The company documents information on its clients' desires and needs. The company has an online information system to bridge the gap with its clients. The company undertakes regular benchmarking with other leading companies. The company invites external experts to participate in seminars, workshops and lectures related to the company's activity.

5.3 Reliability of the Study Instrument

The reliability of the questionnaire's results was verified using Cronbach's Alpha test, which amounted to 82% as shown in Table (1).

Table (1): Cronbach's Alpha coefficients

variables	Cronbach's Alpha coefficient
Effectiveness of accounting information systems	80%
Competitive advantage	82%
Knowledge management	84%
All variables	82%

5.4 hypotheses testing

Data were analyzed using the software SPSS, whereas simple regression analysis was used to test the first hypothesis. The second hypothesis was tested through hierarchical analysis as follows:

H01: There is no statistically significant impact for the effectiveness of the accounting information system on achieving competitive advantage for Jordanian public shareholding industrial companies.

Simple regression analysis was used to test this hypothesis in order to identify the possible impact of the effectiveness of accounting information systems on achieving competitive advantage for Jordanian public shareholding industrial companies. Table (2) shows the results:

Table (2): Impact of the effectiveness of the accounting information systems on achieving competitive advantage at Jordanian public shareholding industrial companies

variables	R	R ²	β	F	Sig
Impact of Accounting Information System Effectiveness in Competitive Advantage	.66	.43	.72	58.8	0.000

The impact is statistically significant at ($\alpha= 0.05$)

The results of the statistical analysis, as shown in Table (2), showed a statistically significant effect on the efficiency of the accounting information system in achieving the competitive advantage of the Jordanian public shareholding industrial companies. The coefficient of correlation (R) was 0.66 between the efficiency of the accounting information system and competitive advantage, whereas the determination coefficient (R) was 0.43. As shown in the above table, the impact degree (B) was 0.72, whereas the calculated F was 58.8, which is significant at 0.05. Accordingly, reject the third null hypothesis and accept the alternative hypothesis which states that "There is a statistically significant impact of the effectiveness of the accounting information system on achieving the competitive advantage at Jordanian public shareholding industrial companies.

H02: There is no role for knowledge management in the relationship between the effectiveness of the accounting information system and the competitive advantage for Jordanian public shareholding industrial companies.

In order to verify this hypothesis, the hierarchical regression analysis test was used.

Table (3): the Role of Knowledge Management in the Relationship between the Effectiveness of the Accounting Information System and the Competitive Advantage at Jordanian Public Shareholding Industrial Companies

steps	independent variable	β	t	Sig	R	R ²	F Change	Sig
First step	Effectiveness of accounting information systems	.72	5.11	0.000	.66	.43	58.8	0.000
Second step		.74	7.88	0.000	.71	.50	.71	0.000

Dependent variable: competitive advantage.

As shown in Table (3), the correlation coefficient between the effectiveness of the accounting information system and the improvement of competitive advantage increased from (0.66) to (0.71) after the knowledge management variable was added to show its impact as a modifying variable of the regression model. Table (3) also shows that the value of R-square has reached (0.50), that the change in the R-square change, and that the value of F Change reached (71) at the confidence level of (0.000), which confirms the significance of the regression at the level of significance ($\alpha \leq 0.05$), which means that knowledge management has contributed to improving the impact between the effectiveness of the accounting information system and improving the competitive advantage of Jordanian public shareholding industrial companies. The interpretation added (0.07) of the variance in the competitive advantage, thus increasing the total interpretation value to (50%). Accordingly, it can be said that there is a statistically significant impact at ($\leq 0.05\alpha$) for the effectiveness of the accounting information system in achieving the competitive advantage of the Jordanian public shareholding industrial companies under knowledge management. Based on the above, reject the second main hypothesis and accept the alternative, which emphasizes that there is a positive role for knowledge management in the relationship between the efficiency of the accounting information system and competitive advantage in Jordanian public shareholding industrial companies.

6. Conclusions

The results of the first hypothesis show that there is a statistically significant impact for the effectiveness of the accounting information system in achieving the competitive advantage of Jordanian public shareholding industrial companies. This result is consistent with many previous studies such as Al-Shbiel and Al-Olimat (2016), Al-Shibail (2011), Shehada and Al-Assi (2008) and Al-Ali (2013).

The second main study hypothesis shows that knowledge management plays a major and important role in the relationship between the efficiency of the accounting information system and improving the competitive advantage of Jordanian public shareholding industrial companies. This result can be explained by the fact that knowledge management contributes to providing accurate and fair information about allocating available resources, improving the management of operations and activities, as well as enhancing the efficient exploitation of resources, all through the provision of knowledge management methods to increase the value of the company and raise its performance and improve its competitive advantage through its ability to attract competent, qualified and experienced professionals in the field of accounting information systems, keeping up with recent changes in advanced technology and accounting systems, and taking care of infrastructure and technology to increase their effectiveness, as well as encouraging employees of accounting information systems to participate in work and decision making and work as one team, which in turn reflects on its competitive advantage in terms of reducing the cost of its products, improving its quality and increasing its market share in comparison to other companies.

7. Recommendations and future studies

The study focuses on the role of knowledge management in the relationship between the efficiency of the accounting information system and the competitive advantage in the Jordanian public shareholding industrial companies. Based on the results of this study, the researchers recommend that public shareholding industrial companies pay more attention to knowledge management in general and the human element in particular, through keeping pace with the most important developments in knowledge management and employing it constantly to maintain the competitive advantage that these companies seek and improve. Further, the researchers recommend the application of this study in a different environment, whether Arab or foreign, as this study was applied in the Jordanian environment, and comparing the results of these studies with the current study.

Also, other studies can address dealing with another modifying variable such as intellectual capital rather than knowledge management, or conduct the same study on another sector, such as the Jordanian banking sector.

References

- Al-Ali, Hamza. A. (2013), Factors Impacting the Effectiveness of Accounting Information Systems and Their Role in Reducing Costs at Jordanian Public Universities, an unpublished thesis for master's degree, Al al-Bayt University.
- Al-Dahrawy, Kamal Al-Deen & Mohammad, Sameer Kamil (2010), Accounting Information Systems, Dar Elgamaa Elgadida Printing, Publishing & Distribution, Alexandria, Egypt.
- Al-Dhufairi, Nawaf & Badan (2008), The Role of Accounting Information Systems in Pricing Banking Services at Kuwaiti Commercial Banks, an unpublished thesis for master's degree, Al al-Bayt University, Jordan.
- Al-Houri, Faleh Abdulqader & Ali, Abdulsattar (2013). "Information Technology Strategies and Their Role in Enhancing Competitive Advantage: A Field Study in the Jordanian Banking Sector", Al-Basaer Journal, issue 1, volume 1.
- Al-Quraan, Ahed (2007), "The Role of Accounting Information Systems in Measuring and Rationalizing Costs at Jordanian Electricity Companies", an unpublished thesis for master's degree, Al al-Bayt University, Mafraq, Jordan.
- Al-Shahrani, Abdulaziz Saad (2010), "Employment of knowledge management in the development of educational institutions security, unpublished master thesis, Riyadh, King Saud University.
- Al-Shbiel, Mohannad (2011), "The Impact of Using Accounting Information Systems on Achieving Competitive Advantage for Jordanian Commercial Banks, an unpublished thesis for master's degree, Al al-Bayt University.
- Al-Shbiel, S. O. & Al-Olimat, N. H. (2016). Impact of Information Technology on Competitive Advantage in Jordanian Commercial Banks: Accounting Information System Effectiveness as a Mediating Variable. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 1(6), 202-211.
- Al-Shehadeh, Abdelrazaq Qasim & Al-Assi, Sa'ad (2008), "An Integrated Framework for Evaluating the Efficiency of Accounting Information Systems at Banking Institutions in Light of the Global Financial Crisis: A Field Study on Banks Operating in Aleppo, Aleppo Research Journal, Vol. 3, Issue 1.
- Al-Rubaie, Kamal (2012), The Impact of Knowledge Management Strategy in Cost Management Strategy, Baghdad College of Economic Sciences Journal, Issue 33.
- Al-Zatma, Nidal (2011), Knowledge Management and its Impact on Performance Excellence: An Applied Study on Colleges and Institutes of Technology in the Gaza Strip, Unpublished Master Thesis, Islamic University, Palestine.
- Bousha, Mubarak and Ben Mansour, Lilia (2012), Knowledge Management as a Modern Management Approach to Organizations in an Era of Globalization, International Scientific Conference Globalization of Management in the Age of Knowledge, December, Al-Jinan University Tripoli, Lebanon.
- Dalabeeh, A. E. R., & Alshbiel, S. O. (2012). The Role of Computerized Accounting Information Systems in Reducing The Costs of Medical Services at King Abdullah University Hospital. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 893-900.
- Dassy, Wahiba (2011), Role of Knowledge Management in Achieving Competitive Advantage - An Empirical Study in Syrian Government Banks, Al-Bahith Magazine, Issue 11.
- Hamouda, Khudair (2010), Ma'arif Organization, 1st Edition, Dar Safa for Publishing and Distribution, Jordan.
- Kahaleh, Jibrael and Joseph and Hanan, Redwan (1997), Management Accounting: An Introduction to Responsibility Accounting and Performance Evaluation, 1st Edition, Dar Al Thaqafa for Publishing & Distribution, Jordan.
- Kubaisi, Saladin (2005) Knowledge Management, Publications of the Arab Organization for Administrative Development, Cairo.
- Jill, Edmon Tariq Edmon (2010), The Effectiveness of Accounting Information Systems at Iraqi Private Commercial Banks from the Management's Perspective, an unpublished thesis for master's degree, Middle East University.

- Mageswari, s. D. Uma; sivasubramanian, chitra; dath, t. N. Srikantha.(2016), the impact of government initiatives on knowledge management processes: an empirical analysis. journal of knowledge management. Jan2016, vol. 14 issue 1, p7-32. 26p., database: business source complete.
- Nowshade, Kabir. (2015)m semantic knowledge management system framework integration from mobile devices. Proceedings of the European conference on intellectual capital, p 157-164.
- Qwaidri Naima and Mazraq, Ashour "The Role of Intellectual Capital in Achieving the Competitive Advantage of Business Organizations", 5th International conference on "Intellectual Capital in Arab Business Organizations under Modern Economies", Faculty of Economic and Commercial Sciences of Management, Huseiba Bin University Bou Ali Chlef, Algeria.
- Shehadeh, Hussein (2014), Economics of Accounting Data and Information, an unpublished thesis for PhD, Arab Open Academy in Denmark, Denmark.
- Sulaimani & Munira (2012). The Role of Information Technology in Achieving Competitive Advantage, an unpublished thesis for master's degree, Faculty of Economic, Financial and Facilitation Sciences, Université Mohamed Khider Biskra, Algeria.
- Suweis, Murad and Falaq Muhammad, Boujjani, Abu Hammad, Jannah and Ayman (2011), Knowledge Management Processes and Their Impact on Achieving Competitive Advantage - A Case Study of the Jordanian Telecom Group, Jordanian Journal of Business Administration, vol. 7, no. 4.
- Romeny , Steinbert, (2013), “ Accounting Information System”, Prentice Hall Business Publishing.
- Wiig, Karl. 2013 , Knowledge Management Foundations Thinking about Thinking, USA: Schema Pres.
- Zarkoun, Mohamed, Araba El Haj (2014), The Effect of Knowledge Management on Performance in the Economic Institution, Algerian Journal of Economic Development, No. 1.