

The impact of knowledge management process and business intelligence on organizational performance

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ABSTRACT

The aim of this study was to study the relationship between knowledge management in its operations; including knowledge generation, knowledge sharing, knowledge usage and business intelligence; including OLAP, data mining on the performance of organizations in the branches of the Housing Bank in Irbid, Jordan. A total of 126 questionnaires were distributed to the sample of the study. A multiple regression analysis was used to test the hypotheses of the study. The study concludes that there was a positive relationship between the knowledge management processes and the performance of organizations. Moreover, the components of business intelligence had positive impacts on the performance of organizations. The results have some enormous implications for the banking sector of Jordan.

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1. Introduction

Global organizations have realized that the complexity of the business environment, intensity of competition, changing customers' needs and desires, globalization and government legislation as well as other environmental factors all push for a better performance in order to meet the challenges for high-quality data and information and attain knowledge on time while having large amounts of data, including business documents, databases, e-mail, daily and monthly reports have led companies to use and apply knowledge management technologies to research, organize and extract value from available information (Arefin et al., 2018; Farzaneh et al., 2018; Abualoush et al., 2017; Chien et al., 2015). As a result of large data volumes and complexity, most organizations now are facing challenges in the process of analyzing a wide range of relevant information. However; since many managers sometimes do not have the access to data in a timely manner, they make decisions based on their instinctive knowledge or expertise that can result in a reduced productivity and a decision-making process that lacks precision (Ochara & Mokwena, 2016; Rostami, 2014). To avoid these challenges, one of the success factors in the knowledge age is the ability of organizations to access relevant information on time and integrate them to make

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decisions more accurately which, of course, lead to the need to form business intelligence systems (BIS) to analyze the large amount of data in organizations and to create the right information for decision-making processes (Scholtz et al., 2018). Business intelligence systems enable organizations to access, analyze and share information and knowledge which, in turn, helps them track, understand and manage their business to improve the organization's overall performance (Awuah & Reinert, 2012). With the increased importance of technology and information systems, the role of knowledge as a core unit of wealth based on creativity, expertise, skills and the ability of individuals to generate new knowledge has grown rapidly (Abualoush et al., 2018). The knowledge generated and interacted by the human being, represented by human experience, values, beliefs and skills, is now one of the most effective and influential elements in knowledge and managerial processes. Knowledge in parallel with material resources became one of the most important strategic resources in building competitive advantage (Sweis et al., 2011), which ensures that today's organizations generate knowledge, make it ready for deliberation and participation and apply it to help make administrative decisions, encourage creativity, achieve strategic goals of these organizations, increase their values, improve their performance and achieve the best possible positive impact as a result of the competitive advantage (Shannak et al., 2012). In addition, there is an increase interest in performance, effectiveness and the efficiency of organizations in carrying out their functions and achieving goals. Organizations are striving to improve effective strategies that exploit opportunities in the market through their abilities to make use of their available resources (Obeidat et al., 2016). The performance of organizations depends not only on the tangible resources available in the organization but also on intangible resources such as the effective management of knowledge, attention to technology development and the adoption of advanced data collection and analysis systems (Obeidat et al., 2017). The success of organizations has been associated with the ability to exploit Knowledge, develop and create new knowledge to achieve superior performance (Abualoush et al., 2018)

The objective of this study is to examine the relationship between business intelligence systems and knowledge management processes and the effect on each other, and to study the role of knowledge management processes and business intelligence systems in improving the performance of organizations (financial and non-financial performances).

2. Literature review

2.1 Knowledge Management

Drucker adds that the world is already dealing with knowledge industries whose ideas are products and data which are their raw materials, while human minds are their tools (Drucker, 1994). Knowledge is a real wealth for both individuals and organizations to meet their tasks and direct their activities to achieve their goals efficiently, it is also a source of excellence to organizations and the basis for their advancement and successes. Knowledge is one of the most valuable assets in modern organizations and it has become one of the most important factors of production in addition to human resources and capital. It is the main engine of economic growth and the catalyst for technological progress and productivity. Knowledge generates creativity and transforms it into products and processes (Chien et al., 2015, Masa'deh, 2016). Knowledge management is defined as the processes and activities that assist the organization in generating, acquiring, and subsequently discovering, organizing, using and disseminating knowledge in the organization among working individuals, transforming the information and experiences that the organization possesses and employing them in its administrative activities such as decision-making, working procedures and strategic planning (Al-Ti, 2016). Al-Shanti (2017) believes that knowledge management enables the employees of the organization to carry out continuous activities and studies aimed at acquiring knowledge, storing, distributing and applying knowledge to achieve outstanding performance. Seleim and Khalil (2011) defined KM as processes that help the organization generate and transform important information and expertise that the organization possesses necessary into various management activities, such as decision making and problem solving, learning and strategic planning.

Knowledge management in its broad sense indicates that the availability of information and data in the organization's databases is not an important issue in itself without benefiting from it and enriching it and

conducting various operations aimed at interpreting it and making it more useful. Many researchers disagreed in defining the processes and the dimensions of knowledge management (Obeid & Rabay'a, 2016; Hernaus et al., 2012; Ramadan et al., 2017). Obeidat et al. (2016) consider Knowledge Management in three processes; namely Knowledge Dissemination, Knowledge Application and Knowledge Use. While, Hsu and Sabherwal (2012) identified three processes including application of knowledge, transformation of knowledge, and acquisition of knowledge. Shujahat et al. (2019) indicated that knowledge management processes include Knowledge creation, Knowledge sharing, Knowledge utilization, which will be referred to in this study.

2.2 Knowledge creation

Knowledge creation includes all processes through which the organization seeks to produce and acquire knowledge, whether it is between implicit knowledge and explicit knowledge (Obaid & Rabea, 2016), in which it is an interaction between implicit knowledge and explicit knowledge through new knowledge is created and created within the organization to secure the various types of knowledge in favor of future decisions (Al-Kasasbeh, 2015, Abualoush et al., 2018a,b; Zawaideh et al., 2018). Knowledge generation is a process by which new knowledge is created through four sub-processes of the continuous knowledge generation theory (Shujahat et al., 2019; Al-Tit, 2016). Knowledge generation includes socialization; the conversion of implicit knowledge to anew implicit knowledge such as the exchange of experience among staff in an organization. Externalization; the transformation of implicit knowledge into explicit knowledge such as documenting past experiences of members (Ranjbarfard et al., 2014; Baldé et al., 2018).

2.3 Knowledge sharing

Knowledge sharing is one of the most important elements of successful knowledge management because it covers the differences that cannot be achieved from other knowledge management processes, and is critical for the proper utilization and use of knowledge assets, as well as having a direct impact on other knowledge processes such as knowledge integration and generation (Masa'deh et al., 2016), the process of knowledge sharing is done through people sharing implicit and explicit knowledge which generates new knowledge (Hsiao et al., 2011). Knowledge sharing is defined as the processes and methods of the organization to disseminate and transfer knowledge among employees to use and develop it to generate new knowledge (Obeidat et al., 2018; Dalkir, 2005). Knowledge is not important without the participation and access of the employees to benefit from it, and it cannot be developed or generated without the presence of active participation in knowledge, so staying in the employees' minds without the participation of others will not be improved or increased but on the contrary be vulnerable to loss. There are tools and methods to share knowledge such as training, informal meetings, best practices, knowledge bases, electronic communication tools and the organization's culture (Dalkir, 2005; Obeidat, 2016).

2.4 Knowledge utilization

Effective use of the knowledge and its efficiency use is to ensure the achievement of the objectives of the organization efficiently and effectively, and this requires the delegation of wide powers and giving sufficient freedom to use knowledge, the organization is to apply the actual knowledge of its activities and benefit from it after storage and develop ways to use and implement (Bouraghda & Dris, 2015). The use of knowledge is practiced through using and benefiting from this knowledge in real work. Storage and participation are not enough, importance lies in transforming this knowledge into practical applications. The success of any organization in its knowledge management program depends on the Knowledge size used in relation to what it stores (Shujahat et al., 2019). Knowledge should be used to solve and cope with the problems facing the organization. It is the primary objective of the knowledge management process by employing them in organizational activities and processes such as human resource management, Quality of goods and services (Sweis et al., 2011).

2.5 Business Intelligence (BI)

Business intelligence are applications and techniques for collecting, accessing, and analyzing large amounts of data for the organization to make effective decisions (Wang & Wang, 2008). Business Intelligence (BI) is a readily available tool that enables the collection, storage and processing of information. So, the key role of BI tools in managing information effectively is the management's help to improve access to accurate information when needed (Farzaneh et al., 2018). These business intelligence systems can provide strategic management and stakeholders with a complete vision of the organization, thus providing benefits such as the ability to make a faster, more accurate and reliable decision (Schultz et al., 2018). BIS can be defined or determined as a combination of methodologies, processes, and computer tools and techniques that handle data into information with accumulated experience to knowledge, and accumulated knowledge to intelligence that departments are able to make strategic, tactical and operational decisions. Also, BIS is an integrated approach such as operational process performance, to achieve key objectives through timely interaction and data access, and its ability to provide managers with the required analysis that analyze historical and current data and compare them with previous time periods (Turban et al., 2008). BIs features, if implemented correctly, an integrated and up-to-date information, timely provision of information, higher quality information, enhanced support for organizational and strategic objectives, and improved organizational performance (Holsapple et al., 2014). BIS is used to collect data from within and outside the organization, to collect information, to discover important hidden patterns between heterogeneous data from different sources within and outside the organization, and to transform them into the required knowledge to make high quality and accurate decisions (Teoh et al., 2014), The great development of the business environment and the flexible architecture of business intelligence make its technical components not limited to a specific number and includes components such as data repositories, data analysis tools, dashboard and user interface (Turban et al., 2008).

2.6 Data Warehouse

The data warehouse is a new technical trend, described as one of the latest concepts in the field of information systems and it is very important in many business applications because it has an effective role in managing its information resources (Inmon, 2003). The basis of the data warehouse is the integration between distributed and dispersed and heterogeneous data in various databases, transaction processing systems and legacy systems, as well as external data sources relevant to their work, so that the organization has a unified and integrated environment for its current and historical data within a single repository (Aloush, 2015). Data warehouse is a data-oriented analytical data storage system that consolidates and preserves heterogeneous data after repeated removal and standardization within an efficient storage and retrieval architecture. Turban et al. (2008) noted that the data repository is a set of historical data. It is designed to extract, process and present data in an appropriate format for this purpose and includes large amounts of data collected from sources of different systems and locations.

2.7 Online analytical processing (OLAP)

Online analytical processing has emerged as a result of the difficulties encountered in the analysis of data in databases that are updated through transaction processing systems, as well as the inability of traditional analytical tools to perform their functions of data processing and analysis and information production (Inmon, 2003). OLAP has great capabilities for analyzing data in a variety of ways, helping to provide quick answers to complex queries according to the needs of senior management or even middle management within the organization. OLAP is an effective method of data retrieval and analysis, so that it is easy to set up reports for management in the organization when needed in a timely manner (Laxmaiah & Govardhan, 2013)

2.8 Data Mining

Tan (2005) provides a comprehensive and detailed definition that data mining is a process by which the computer is used to discover useful information from the vast amount of stored data to find useful information or patterns that are not known. While Teoh et al. (2014) defined data mining as an activity tools

and processes used to obtain the best information to support scientific decision-making. Işık et al. (2013) described data mining as a range of activities used to find hidden and unexpected patterns of data in the data warehouse within the organization. However, the concept of data mining is centered around the definition of Turban et al. (2011) as a process in which statistical, mathematical, artificial intelligence and machine learning techniques are used to identify and extract useful information and new knowledge from data repositories.

2.9 Organizational Performance

Organizational performance is considered as one of the most important variables and dimensions studied in management research and business (Cania, 2014). Organizations seek to make their best efforts to improve their performance which reflects the way organizations benefit from tangible and intangible resources to achieve their objectives and the success of organizations is largely dependent on their performance, which relates to their abilities to effectively implement strategies to achieve organizational goals (Obeidat, 2016). Continuous performance is the focus of any organization, because through performance organizations it is possible to grow (Cania, 2014). Performance concept is broad and comprehensive to all organizations disregarding their size and operations. Performance is known through the quality of work, effectiveness of employees in decision making, development of processes, relationship of employees with managers, provision of various services and products, innovations, market share, staff skills and also their abilities to solve problems quickly with new methods and modern tools of product development (Imran, 2014), and the actual outputs of the organization as compared with targeted or stated outputs. Also, the ability of the organization to access and manage multiple different organizational resources in order to achieve its objectives and goals (Masa'deh et al., 2016). There is consensus among researchers that performance measurement systems are vital for organizations since it provides information on the quality of the processes they perform within the organizations which helps in the development of strategic plans and assesses the achievement of the organizational goals (Alrewad et al., 2017). In addition, organizational performance is a measure to assess the efficiency and effectiveness of an organization that pursues its goals (Al-Ti, 2016). In the business settings of Jordan, available studies were focused on measuring organizational performance based on two major dimensions: financial performance and operational performance. Financial performance is measured using financial indicators such as return on asset, return on investment, return on equities, sales, costs, and growth. On the other hand, the dimension of operational performance which is non-financial in nature, is measured through product quality, customer satisfaction, employee satisfaction, timeliness of delivery, productivity, efficiency, market share, strategic goal accomplishment, as well as workforce development and enhancement (Abualoush et al., 2018; Alrowwad et al., 2017; Obeidat et al., 2017). These dimensions are also employed in this study's measurement of organizational performance.

3. Research theoretical model and hypotheses development

3.1 KM process and organization performance

The effectiveness of knowledge management and its contribution to organizational performance is a major challenge for many organizations, and what defines the effectiveness of knowledge management in an organization is the benefits or the outcomes of using knowledge management (Jyoti & Rani, 2017). Knowledge that is owned by the organization is usually considered the vital factor in performance levels (Yadav, 2013). Knowledge and knowledge assets have gained the attention of organizations as one of the most strategically important resources of the organization (Masa'deh et al., 2016) because of its impact on the competitive advantage and innovation that leads the organization to Superior performance (Obeidat et al., 2016; Tomislav et al., 2012; Bouraghda & Dris, 2015). Knowledge management gains its importance through its operations and practices to achieve positivity in the organizing context, enriching work and enhancing productivity (Seleim & Khalil, 2011). Organizations recognize that they must shift their attention to knowledge management processes; creation, transformation, dissemination, participation, storage, selection and processing to increase their performance. Knowledge sharing is becoming critical to the utilization of knowledge assets and their use as appropriate, and the reason behind this is

that sharing knowledge can be considered an indispensable part of the organization for the reason that the knowledge in which arises in organizations requires transfer and participation in order to be known and understood (Masa'deh, et al. 2016; Mills & Smith, 2011), Explicit and implicit knowledge are considered the main resource for companies to gain and maintain a competitive advantage. Knowledge sharing or integration combines dispersed knowledge to foster innovation and creativity. There are many current knowledge sharing practices such as training and development programs, IT systems, reports, official documents and multifunctional teams, are all examples of integrating knowledge by combining knowledge across a wide spectrum or environment to enhance the quality of products and services which increase responsiveness to customers' needs, enhance innovation capacity, and to improve the overall organizational performance (Wang et al., 2014)

3.2 BI and Organizational Performance

BI is a framework, including processes, tools and various techniques designed to move from data to information and from information to knowledge and add value to the organization. Using the knowledge gained, managers can make better decisions and do business more effectively (Eidizadeh et al., 2017). BI has an impact on improving knowledge, while effective BI system, enhances knowledge and improves mental model for the decision maker (Teoh et al., 2014), BI not only goes beyond policy or database sharing, but also involves employee experience and participation, BI can be considered as an effective catalyst for sharing knowledge used by staff in the organization (Rostami, 2014). The BI systems have different positive regulatory consequences (Arefin et al., 2015). BI systems help companies store, analyze and retrieve large volumes of information, and can use knowledge gained from competitors, new technologies to create new products, or to improve processes. Therefore, BI improves the performance of organizations (Arefin et al., 2015). Despite the emphasis on strategic management literature on the BI concept as a critical competitive tool (Ahmed, 2015). The organization can overcome its competitors and achieve a competitive edge by recognizing current marketing activities and potential competition and developing appropriate strategies. BI is very useful in obtaining information about a competitive environment especially in market forces, public policy, new technology and competitors, and adds value to predict the future of the environment in which the company will operate (Ahmad, 2015; Ochara & Mokwena, 2016). Fig. 1. represents the Research theoretical model. The model shows that the relationship between knowledge management processes and organizational performance. Furthermore, it depicts the relationship between business intelligence and organizational performance.

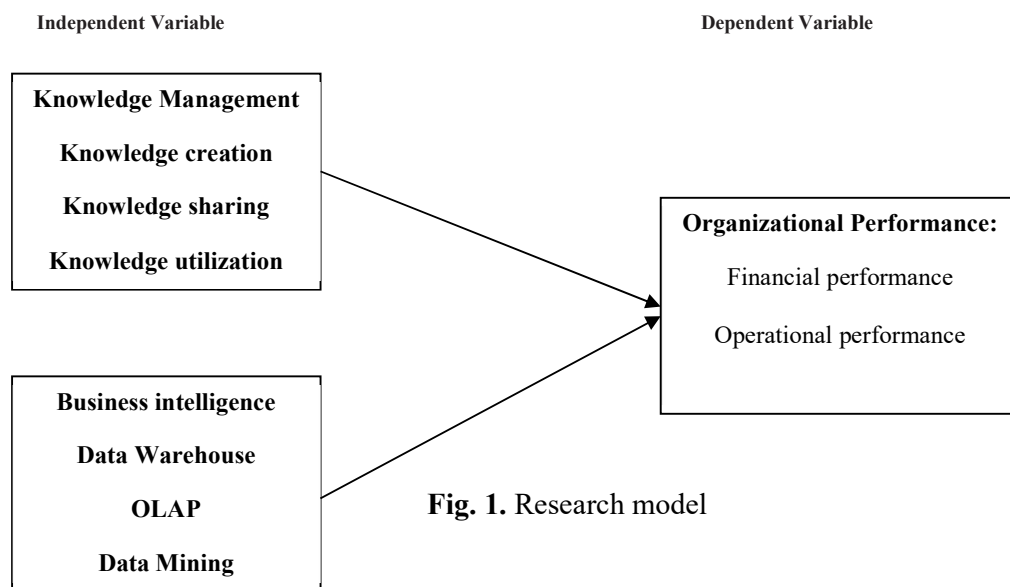


Fig. 1. Research model

4. Methodology

4.1 Population and Sample

The study population consists of all the branches of the Housing Bank for Trade operating in the city of Irbid with 15 branches. The total number of employees in these branches were 181 employees. The sample of the study consisted of all the employees at the administrative levels (senior management, administrative level and operational level). A total of (145) questionnaires were distributed to employees at all administrative levels in the bank's branches in the city of Irbid. After retrieving the questionnaire, it was found that the valid questionnaires for statistical analysis are (126) or 86.8%.

4.2 Respondents Demographic Profile

As shown in Fig. 2, which demonstrates the demographic characteristics of the respondents, the percentage of male was significantly higher than that of female and most respondents had a bachelor's degree (88.6%), and 68.3% represented the level of operational management, while 75.6% had experience ranging from 5 to less than 10 years.

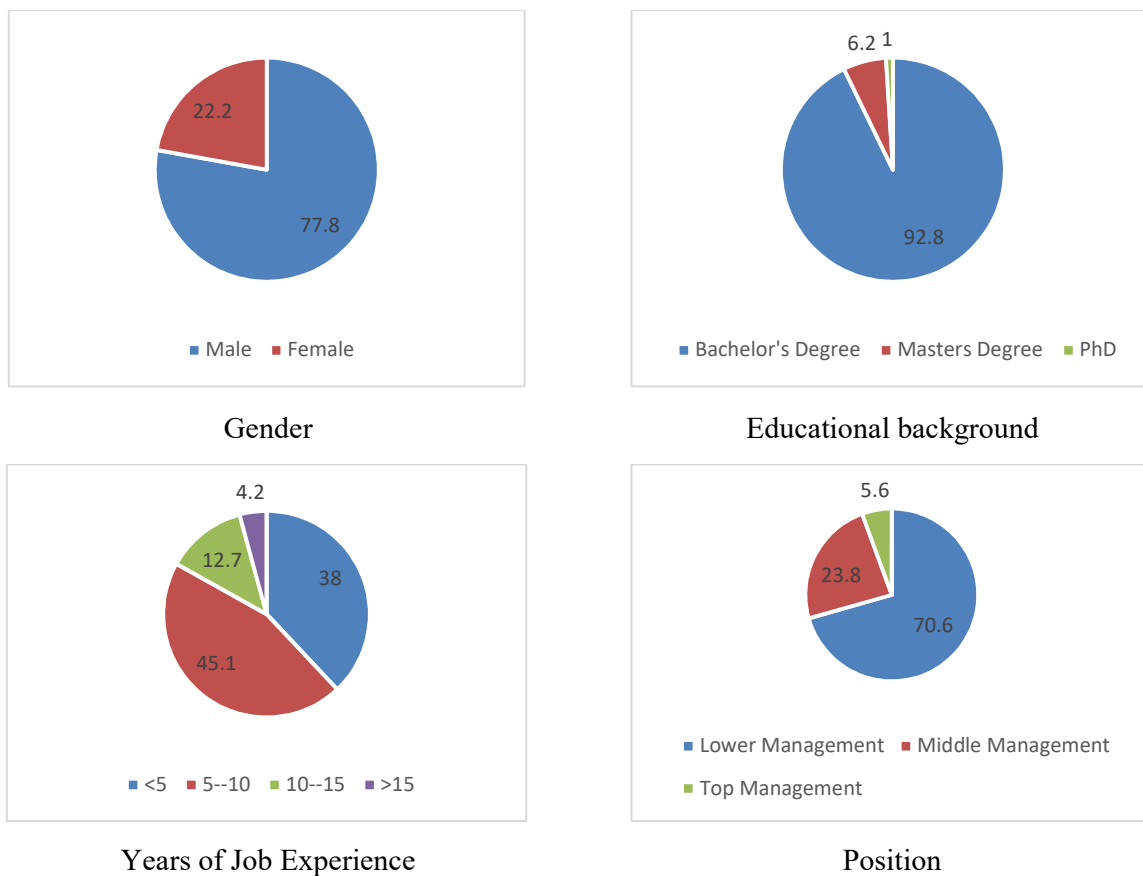


Fig. 2. Personal characteristics of the participants

4.3. Operational measures

In order to achieve the purpose and even the objective of the study, a questionnaire was used as a major tool for collecting data on independent and dependent variables. The study instrument consisted of two parts. The first section presents the demographic characteristics of the sample of the study (gender, practical experience, administrative level, and educational level). The second part deals with the categories of the independent variables; knowledge management and processes (knowledge generation, knowledge sharing, knowledge usage), BI (warehouse, OLAP, data mining) and organization performance (financial performance, non-financial performance). In measuring the variables, the five point Likert-scales ranging

from “1” for “strongly disagree” to “5” for “strongly agree” were adopted. The questionnaire includes 30 items to measure the model constructs. Those items were selected from preceding empirical research. Minor modifications were made on these items to fit the housing bank in Jordan, our research context. The measurements were adapted from previous studies. The dimensions of Knowledge Management Process (*knowledge sharing*, *knowledge utilization*) were adapted from the studies by Abualosh et al. (2018a,b), Shujahat et al. (2019), Masa’deh et al. (2016) and Zawaideh et al. (2018). The Variable of Business intelligence (data warehouse, OLAP, Data mining) was adapted from the studies by Ochara and Mokwena (2016), Eidizadeh et al. (2017), and Organization Performance (Non-financial performance, and Financial performance) was adapted from the studies by Tomislav et al. (2012) and Wang et al. (2014).

4.3.1 Validity and reliability

The questionnaire was presented to a group of specialists and arbitrators consisting of (12) faculty members of the Jordanian universities specialized in the field of business management and knowledge management. The suggestions and recommendations received were taken on the expression and adjustments were made according to their opinions. The researchers verified the stability of the questionnaire by using the internal consistency measurement of Cronbach’s α to measure the strength of correlation and cohesion between the paragraphs in order to test the reliability of the data collection tool used to measure the variables included in the study (See Table 1). The value of Cronbach’s α was higher than 70% which is acceptable (Bagozzi & Yi, 1988).

Table 1

Cronbach's Alpha for all the variables

Variables	Number of items	Cronbach's Alpha
Knowledge creation	8	0.854
Knowledge sharing	4	0.821
Knowledge utilization	4	0.854
Data Warehouse	4	0.782
OLAP	8	0.801
Data Mining	3	0.793
Financial performance		0.781
Operational performance		0.785

4.4. Descriptive Analysis

This part of the study presents a description of the study variables. The mean and standard deviations of the responses were calculated to determine the degree of approval and to determine the relative importance of each paragraph.

Table 2

Mean and standard deviation of the research’s Variables

Type of Variable	Variables	Mean	Standard Deviation	Order
Independent Variables	Knowledge creation	3.84	0.934	3
	Knowledge sharing	4.14	0.865	1
	Knowledge utilization	4.02	0.831	2
	Data Warehouse	4.08	0.799	1
	OLAP	4.06	0.856	2
	Data Mining	3.92	0.842	3
Dependent Variable	Organization Performance	3.87	0.907	1

The results were as follows: As shown in Table 2, the results of the data analysis showed that there was a clear interest in applying knowledge management processes to a large extent in the Housing Bank for Trade and Finance where the mean was 3.89. This indicator points to the importance of knowledge management processes and the role of higher management in the direction of knowledge generation, participation and application. This high level of supply demonstrates a positive attitude towards knowledge management processes. In addition to, it is found that the Housing Bank has a great interest in the use of

advanced information technology and systems such as business intelligence, especially data warehousing and direct analytical processing (OLAP) because it helps employees at all levels of management make decisions quickly and thus improve the performance of the organization.

4.5. Testing hypotheses

The main aim of this paper is to investigate the relationship between Knowledge management (*knowledge sharing, knowledge utilization*) and Business intelligence (data warehouse, OLAP, Data mining) on organizational performance in bank housing in Jordan. Therefore, in order to examine the hypotheses connected with this paper, multiple regression was used. Further, the level of significance (α level) was chosen to be (0.05) and the probability value (p-value) obtained from the statistical hypotheses test is considered to be the decision rule for rejecting the null hypotheses.

H1. There is statistically a significant relationship (at the level ($\leq \alpha$ 0.05)) between knowledge management (knowledge sharing, knowledge utilization) and organizational performance (OP).

Table 3

Multiple Regression of the H1

Knowledge management	(B)	(β)	T	Sig t*
knowledge creation	0.263	0.342	3.376	0.002
knowledge sharing	0.254	0.387	3.369	0.000
knowledge utilization	0.253	0.356	3.378	0.000

R = 0.658 R² = 0.432 F = 61.165 Sig F* = 0.000

Note. The impact is statistically significant at level ($\leq \alpha$ 0.05)

a-Predictors: (Constant), knowledge creation, knowledge sharing and knowledge utilization

b. Dependent variable: organization performance

The results of Table 3 indicate that the effect of knowledge management on all operations on the dependent variable (organizational performance) is statistically significant. The calculated F value is 61.165 and the level of significance (Sig F = 0.000) is less than 0.05, the correlation coefficient (R = 0.658) indicates the positive relationship between knowledge management in all its operations and organization performance. In addition, the value of the coefficient of selection was (R² = 0.432), which indicates that 43.2% of the variation in organizational performance can be explained by the variation in knowledge management and the three processes mentioned above.

The regression coefficient of the variable knowledge creation is 0.342 (β). It refers to the direct effect of knowledge creation on the performance of the organizations which is significant, where the value of t is 3.376 at a significant level (Sig = 0.000), which is less than (0.05). The regression coefficient of the variable knowledge sharing = 0.387 (β) indicates the direct impact of knowledge sharing on the performance of the organizations which has a significant effect, where the value of t is (3.369) and the level of significance (Sig = 0.000) is less than (0.05). As for the regression coefficient knowledge utilization = 0.356 (β) indicates the direct effect of knowledge utilization on organizational performance, which has a significant effect, where (t) has a value of 3.378 and a level of significance (Sig = 0.000 < 0.05).

H2. There is statistically a significant relationship (at the level ($\leq \alpha$ 0.05)) between Business intelligence (data warehouse, OLAP, Data mining) and organizational performance (OP).

The results of Table 4 indicate that the effect of business intelligence on all its components on the dependent variable (organizational performance) is positive and statistically significant. The calculated F value is 64.182 and Sig F = 0.002, is less than 0.05. The coefficient of correlation (R = 0.632) indicates the positive relationship between business intelligence and the elements of organizational performance. In addition, the value of the coefficient of selection was R² = 0.399, which indicates that 39.9% of the variation in organizational performance can be explained by Business Intelligence at Housing Bank for Trade and Finance. The data regression coefficient is 0.376 (β), which indicates the direct effect of the data warehouse on the performance of the organizations which is significant, where the value of t is (4.354) and the level of significance (Sig = 0.000) is less than (0.05), and the regression coefficient of

the variable OLAP = 0.345 (β). It indicates the direct effect of OLAP on the performance of the organizations which is significant, where the value of t is 3.562 and the level of significance is (Sig = 0.000), less than (0.05) Data mining = 0.392 (β). It indicates the direct effect of data mining on the performance of the organizations which is significant, where the value of t is (3.429) and the level of significance (Sig = 0.000) is less than (0.05).

Table 4
Multiple Regression of the H1

Business intelligence	(B)	(β)	T	Sig t*
Data warehouse	0.298	0.376	4.354	0.002
OLAP	0.354	0.345	3.562	0.000
Data mining	0.326	0.392	3.429	0.000

R = 0.632 R² = 0.399 F = 64.182 Sig. F* = 0.000

4.6 Discussion of results

The purpose of this paper is to study the impact of knowledge management, knowledge sharing, knowledge utilization and data mining on the performance of organizations in the branches of the housing bank operating in Irbid.

H₁. There is statistically a significant relationship (at the level ($\leq \alpha$ 0.05)) between knowledge management (knowledge sharing, knowledge utilization) and organizational performance (OP).

The results of this study are consistent with previous studies (Jyoti & Rani, 2017; Hussinki et al., 2017), noting that organizations that encourage their employees to generate, share, use and apply new knowledge perform better. Organizations that are more focused on the management of their knowledge assets can significantly affect the organization's activities, relationship to the market and its innovations which leads to superior performance. Jyoti and Rani (2017), pointed out that knowledge management controls organizational knowledge assets to enhance competitive advantage and to improve creativity and effective and innovative performance. In addition, organizations with an effective knowledge management application have the ability to learn quickly to achieve better strategic potential than their competitors as it facilitates the way to competitive advantage and improve and develop long-term performance. The findings of Inkinen (2016) found that knowledge-based organizational and management processes are critical to the performance of the company, and that the success of companies is due to their internal knowledge; how they are applied and developed, knowledge, knowledge generation and dissemination and use of knowledge can all be considered essential Knowledge that affects the organization's competitive capacity, improves and develops its performance. Knowledge management has become an important part of the organization, as it can support the organization's strategic decisions, thus enhancing competitiveness and access to highest performance levels (Masa'deh, 2016).

H₂. There is statistically a significant relationship (at the level ($\leq \alpha$ 0.05)) between Business intelligence (data warehouse, OLAP, Data mining) and organizational performance (OP).

The result of this study is consistent with the results of Popovič et al. (2019). Business Intelligence is a data-based decision support system at all levels of the organization that collects data and stores data and presents it ready for decision-making analysis. It also enables employees to apply a variety of data to analyze huge amounts of data, which are cleaned, arranged and refined from data repositories that contain all data from internal and external sources (Côte-Real et al., 2017). The results of these analyzes are used to make decisions of organizations that lead to the improvement and development of the overall performance of the organization regularly to analyze customers, products and sales information; and to monitor the activities of competitors; market trends and conditions. With the benefit of data integration and forecasting capabilities, business intelligence can dramatically improve a company's position in the marketplace (Chen & Siau, 2011). For example, the richness of information can benefit from marketing investments; advanced analytical capabilities can strengthen the relationship between the organization and its customers; predictive capabilities enable organizations to increase their sales potential by taking

advantage of the data integration and forecasting capabilities offered by business intelligence (Audzejeva & Hudson, 2016), and business intelligence is used to support internal processes, such as planning, production and quality assurance. In addition, the value of business intelligence has been emphasized in relation to the procurement process as one of the main operations of organizations where analysts can get a better understanding of procurement processes, so that they can identify deficiencies in the operations, as well as possibilities for improvement. In summary, business intelligence and data integration capabilities enable value creation for organizations through improved marketing, sales, internal processes and procurement initiatives. Therefore, this business intelligence value may improve the company's overall performance (Olszak & Zurada, 2015; Ochara & Mokwena, 2016; Farzaneh et al., 2018).

5. Implications

The study has presented a theoretical implications in the Jordanian business environment and presented the studies that have examined the impact of knowledge assets such as knowledge management and intellectual capital on the performance of organizations and other studies that examined the relationship between information technology and systems, especially business intelligence and its impact on the performance of organizations. It has been noted that rare studies examined the relationship between knowledge management and business intelligence together and their impact on the performance of organizations in the Jordanian business environment. Therefore, this study was important to deal with this gap because organizations, especially banks in Jordan in which are facing a high competition in the development of knowledge management and operations through its attempt to generate new knowledge, dissemination and application or use and implementing the use of the intelligence work of the system in a way to support the sustainability of their business competitiveness and to improve and develop its performance that leads to superior performance. The study also has provided a set of recommendations of importance to managers. Organizations and managers should recognize the importance of knowledge management and operations and to do more in building their capacity to generate, acquire and share knowledge in order to develop their organizational performance. In terms of knowledge generation, organizations can encourage their employees to acquire knowledge or generate new knowledge regularly through activities such as reading professional reports, trying to contact external experts, attending training courses and external workshops. Organizations also need to establish knowledge-sharing bases such as databases, intranet and training activities to efficiently share knowledge among staff and divisions within an organization. Through the implementation of knowledge generation activities and the establishment of knowledge sharing platforms efficiently and effectively, organizations can strengthen knowledge management capacity and improve their organizational performance. Organizations can provide incentives to encourage their employees to exchange information, discussions, communities of practice and experience with others formally and informally and benefit from data exchange results in the performance of their duties.

Managers who have a desire to improve the performance of their organizations should quickly adopt and use business intelligence. After adopting an integrated business intelligence system with all of its components, their performance will improve. In order to maximize the value of their business using business intelligence, they should not be using traditional ways that restrict the collection and storage of data as in the normal databases or the inherited systems and to expand the use of business intelligence to include innovative ways, and to create additional value for the organization and improve performance.

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