Business, Management and Education
ISSN 2029-7491 / eISSN 2029-6169
2019 Volume 17 Issue 2: 248–268
https://doi.org/10.3846/bme.2019.11284

IMPACT OF KNOWLEDGE ORIENTED LEADERSHIP ON KNOWLEDGE MANAGEMENT PROCESSES IN THE MIDDLE EASTERN AUDIT AND CONSULTING COMPANIES

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Received 29 September 2019; accepted 24 October 2019

Abstract. *Purpose* – this article aims to evaluate the influence of knowledge oriented leadership on knowledge management processes and the influence of those processes on the performance of the Middle Eastern audit and consulting companies.

Research methodology – analysis of scientific literature, structural equation modelling and expert evaluation (structured questionnaire) were used in order to create hypotheses and research model, to collect data from the audit and consulting companies' experts and to test research model and related hypotheses.

Findings – the results of this research supported eight out of ten suggested hypotheses. Empirical evidence shows that leadership has a positive impact on knowledge acquisition, storage, and sharing processes in the Middle Eastern audit and consulting companies and knowledge management processes (creation, acquisition, sharing, storage and application) have positive influence on organizational performance.

Research limitations – conducting the research in the Middle Eastern audit and consulting companies limits the possibility of generalizing the results to other types of businesses sectors as well as other geographical areas.

Practical implications – conducted research results have practical value for audit and consulting companies as this study analyses the concept of knowledge oriented leadership and its impact on knowledge management processes and organizational performance.

Originality/Value – this research investigated one of rare studies in the Middle East business sector, where the audit and consulting companies' performance affected by the knowledge management processes was assessed considering knowledge oriented leadership as an influential factor that affects the knowledge management processes implementation.

Keywords: leadership, knowledge oriented leadership, knowledge management processes, organizational performance.

JEL Classification: M1, D8, L25.

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Introduction

Organizations seeking to create uniqueness and market leadership tend to focus not only on employees with unique competencies (knowledge, skills and abilities) and ability to apply competences, but also on employee motivation. However, many Middle Eastern audit and consulting companies face challenges in properly motivating the organization's employees to apply their unique competence through knowledge management principles, the latter which create greater value for the organization itself, its employees, and its users. The concept of employees' motivation and its role in efficiently applying knowledge management principles in a dynamic and uncertain environment with limited organization resources has been widely explored in knowledge management theories and implemented in practice through a process-based knowledge management cycle.

Knowledge management can be defined as the purposeful and systematic management of processes, methods, and tools, making full use of the organisation's knowledge potential to form goals, make efficient decisions, create and implement the uniqueness and value of the organization. Scientists, when examining the process approach to knowledge management, distinguish between different combinations of knowledge management processes (Wiig, 1993; Meyer & Zack, 1996; Mcelroy, 1999; Probst, Raub, & Romhardt, 2000; Rollett, 2003; Becerra-Fernandez, Gonzalez, & Sabherwal, 2004; Lin & Lee, 2005; Franco & Mariano, 2007; Supyuenyong, Islam, & Kulkarni, 2009; Sun, 2010; Dalkir, 2011; O'Dell & Hubert, 2011; Pinho, Rego, & Pina e Cunha, 2012; Rusly, Corner, & Sun, 2012; Wee & Chua, 2013; Agarwal & Islam, 2014; Bigliardi, Galati, & Petroni, 2014; Obeidat, Masa'deh, & Abdallah, 2014; Ranjbarfard, Aghdasi, López-Sáez, & López, 2014; Chang & Lin, 2015; Hegazy & Ghorab, 2015; García-Fernández, 2015; Tubigi & Alshawi, 2015; Wahba, 2015; Costa & Monteiro, 2016; Hwang, 2016; Kianto, Vanhala, & Heilmann, 2016; Nowacki & Bachnik, 2016; Acar, Tarim, H. Zaim, S. Zaim, & Delen, 2017; Bican, Guderian, & Ringbeck, 2017; Chhim, Somers, & Chinnam, 2017; Koohang, Paliszkiewicz, & Goluchowski, 2017; Yusr, Mokhtar, Othman, & Sulaiman, 2017; Dzenopoljac, Alasadi, Zaim, & Bontis, 2018; Hashemi, Khadivar, & Shamizanjani, 2018; Park & Kim, 2018; Gomes, Oliveira, & Chaves, 2019; Mahdi, Nassar, & Almsafir, 2019). This study will explore knowledge management processes such as creation, acquisition, storage, sharing and application.

For the aim of efficiently motivating the Middle Eastern audit and consulting companies' employees to create, acquire, store, share and apply knowledge within the organization, seeking greater mutual value and uniqueness in the market, researchers propose knowledge oriented leadership to address this type of problems (Donate & de Pablo, 2015; Shujahat et al., 2017; Ramezani, Safari, Hashemiamin, & Karimi, 2017; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018; Shariq, Mukhtar, & Anwar, 2019; Shamim, Cang, & Yu, 2019). Knowledge oriented leadership style is defined as supportive, oriented to employee's competence development, providing vision, mentoring, consulting, delegating, facilitating, recognizing, stimulating knowledge management practice, rewarding and so on (Donate & de Pablo, 2015; Shujahat et al., 2017; Ramezani et al., 2017; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018; Shariq et al., 2019; Shamim et al., 2019).

In order to verify if knowledge oriented leadership can positively influence knowledge management processes and organizational performance, this article aims to evaluate the influence of knowledge oriented leadership on knowledge management processes and the influence of those processes on the performance of the Middle Eastern audit and consulting companies. To conduct the research, analysis of scientific literature, structural equation modeling and expert evaluation (structured questionnaire) were applied.

1. Theoretical framework and hypothesis

Many scientists and business practitioners argue that efficient knowledge management has a positive impact on the overall performance of an organization and relate it to direct (value creation, return on investment) and indirect (economies of scale and scope, uniqueness and market leadership) aspects of influence (Becerra-Fernandez, Gonzalez, & Sabherwal, 2004; Anand, Kant, Patel, & Singh, 2015; Akbari & Ghaffari, 2017; Archer-brown & Kietsmann, 2018; Adeinat & Abdulfattah, 2019; Bloodgood, 2019; Campanella, Derhy, & Gangi, 2019). Furthermore, knowledge management enhances organizational processes such as the decision-making process, innovation and collaboration (Adeinat & Abdulfattah, 2019). According to scientists, knowledge management can be described as a set of strategies, activities and processes that the organization implements in order to create new knowledge and benefit from the available knowledge in increasing innovation, and improving the organization's performance, which depends on employees motivation and commitment to create value in organization (Henttonen, Kianto, & Ritala, 2016; Muthuveloo, Shanmugam, & Teoh, 2017; Hosseini, Tekmedash, Karami, & Jabarzadeh, 2019).

Knowledge management in organizations is implemented through a process-based knowledge management cycle. Researchers distinguish different sets and combinations of knowledge management processes (Wiig, 1993; Meyer & Zack, 1996; Mcelroy, 1999; Probst et al., 2000; Rollett, 2003; Becerra-Fernandez, Gonzalez, & Sabherwal, 2004; Lin & Lee, 2005; Franco & Mariano, 2007; Supyuenyong et al., 2009; Sun, 2010; Dalkir, 2011; O'Dell & Hubert, 2011; Pinho et al., 2012; Rusly et al., 2012; Wee & Chua, 2013; Agarwal & Islam, 2014; Bigliardi et al., 2014; Obeidat et al., 2014; Ranjbarfard et al., 2014; Chang & Lin, 2015; Hegazy & Ghorab, 2015; García-Fernández, 2015; Tubigi & Alshawi, 2015; Wahba, 2015; Costa & Monteiro, 2016; Hwang, 2016; Kianto et al., 2016; Nowacki & Bachnik, 2016; Acar et al., 2017; Bican et al., 2017; Chhim et al., 2017; Koohang et al., 2017; Yusr et al., 2017; Dzenopoljac et al., 2018; Hashemi et al., 2018; Park & Kim, 2018; Gomes et al., 2019; Mahdi et al., 2019). On the basis of the conducted scientific research (Raudeliūnienė, 2017; Raudeliūnienė, Davidavičienė, & Jakubavičius, 2018), it was found that scientists study such knowledge management processes as knowledge creation, knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application, which will be used in this study.

The knowledge creation process is defined by scientists as the process of knowledge transformation through different levels of learning (García-Fernández, 2015; Känsäkoski, 2017; Claver-cortes et al., 2018), the development of existing or new competence within the organization (Probst et al., 2000; Ceptureanu & Popescu, 2018; Mahdi et al., 2019), the dynamic interaction of tacit and explicit knowledge and the transformation of individual knowledge

into organizational context (Nonaka & Toyama, 2004; Sun, 2010; Rusly et al., 2012; Wee & Chua, 2013; Wahba, 2015; Little & Deokar, 2016), the ability of an organization to generate new and useful ideas and solutions (Sangari, Hosnavi, & Zahedi, 2015; Henttonen et al., 2016; Kianto et al., 2016) in order to improve processes, identify new opportunities, develop innovation (Wee & Chua, 2013; Ranjbarfard et al., 2014; Little & Deokar, 2016), increase knowledge created value (Rusly et al., 2012; Claver-cortes et al., 2018), and preserve or gain a competitive advantage (Mehralian, Nazari, Akhavan, & Rasekh, 2014; Little & Deokar, 2016; Sirorei & Fombad, 2019). Knowledge creation is defined as the development of existing and new organizational competence (knowledge, abilities and skills) in order to implement knowledge strategy, achieve organizational performance outcomes, create mutual value, and increase uniqueness and leadership in the market.

The knowledge acquisition process is related to organizational practices, activities and processes during which existing knowledge is used and new knowledge is accumulated (Lin, 2007; Dang & McKelvey, 2016; Henttonen et al., 2016; Pandey, Dutta, & Nayak, 2018), when decisions are made in the context of both external and internal interactions within an organization to eliminate internal knowledge gaps (Probst et al., 2000; Gold, Malhotra, & Segars, 2001; Kianto et al., 2016) in order to perform work activities, to solve various types of problems and improve their performance (Henttonen et al., 2016; Dzenopoljac et al., 2018; Pandey et al., 2018). Knowledge acquisition can be described as a process that takes place in the context of external and internal interactions within an organization to form and make decisions related to the elimination of knowledge gaps in order to implement a knowledge strategy and to achieve organizational performance outcomes.

The knowledge storage process is seen as turning an individuals' and experts' knowledge into a resource for the organization (Kotnour & Proctor, 1996; Sumbal, Tsui, See-to, & Barendrecht, 2017; Ceptureanu & Popescu, 2018; Mahdi et al., 2019), by capturing and "wrapping" knowledge (Edvardsson & Durst, 2013), by selecting, accumulating and updating knowledge (Probst et al., 2000; Acharya & Mishra, 2017; Dzenopoljac et al., 2018; Sirorei & Fombad, 2019), and by using information technology tools (Sumbal et al., 2017), in order to protect knowledge value from loss (Probst et al., 2000; Edvardsson & Durst, 2013; Kianto et al., 2016) and to access knowledge for decision making (Sangari et al., 2015). In defining the process of knowledge storage, researchers note the importance of organizational memory (Easterby-Smith & Lyles, 2011; Sangari et al., 2015; Kianto et al., 2016). Scientists differentiate between internal and external memory types. The internal memory type refers to the knowledge, abilities and skills of the members of the organization. The external memory type is associated with codified and explicit organizational knowledge, procedures, and documents management (Easterby-Smith & Lyles, 2011). Knowledge storage can be described as selection, accumulation and update of valuable knowledge of an organization by using various methods and tools in order to implement a knowledge strategy and to achieve organizational performance outcomes.

The knowledge sharing process is described as the transfer and dissemination of explicit and tacit knowledge between individuals (Probst et al., 2000; Lin & Lee, 2005; Kamasak & Bulutlar, 2010; Rusly et al., 2012; Lee, Shiue, & Chen, 2016; Hosseini & Akhavan, 2017; Matoskova & Smesna, 2017; AlShamsi & Ajmal, 2018; Marques, La Falce, Marques, De Muylder,

& Silva, 2019) in order to efficiently manage and execute the process through integrating organizational and technical tools (Probst et al., 2000; Kianto et al., 2016; Lee et al., 2016; Matoskova & Smesna, 2017), to generate new knowledge (García-Fernández, 2015) which would allow the organization to gain competitive advantage (Wee & Chua, 2013; Le & Lei, 2018; Rafique, Hameed, & Agha, 2018; Dzenopoljac et al., 2018). Knowledge sharing can be defined as collaboration based on trust, whereby explicit and tacit knowledge is shared and accessed using the available knowledge potential to implement the knowledge strategy and to achieve organizational performance outcomes.

The knowledge application process is defined as the amount of gained knowledge (Qasrawi, Almahamid, & Qasrawi, 2017), the implementation stage of the knowledge management cycle (Probst et al., 2000; Wahba, 2015; Chhim et al., 2017; Pandey et al., 2018), the exploration and usage of resources, the adaptation and changes of environment, learning (García-Fernández, 2015), and the consolidation of newly created knowledge through different processes (Qasrawi et al., 2017), in order to access organization's knowledge easier (Gold et al., 2001; Qasrawi et al., 2017), to transform new knowledge (García-Fernández, 2015) into concrete performance (Probst et al., 2000), to develop dynamic skills (Hesamamiri, Mahdavi Mazdeh, Jafari, & Shahanaghi, 2015), to solve work-related problems, and to improve operational processes (Lin, 2007; Martelo-Landroguez et al., 2016; Chhim et al., 2017; Dzenopoljac et al., 2018; Pandey et al., 2018). Knowledge application can be described as transforming knowledge into concrete activity's results and applying it to problem solving, process improvement, knowledge strategy implementation, and organizational performance outcomes achievement.

Among different organizational factors that would influence the knowledge management cycle within organizations, scientists have identified the knowledge oriented leadership as a crucial factor (Donate & de Pablo, 2015; Shujahat et al., 2017; Ramezani et al., 2017; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018; Shariq et al., 2019; Shamim et al., 2019) that impacts knowledge creation, acquisition, storage, sharing, and application processes which are related to achievement of desired organizational performance outcomes.

Similarly, leadership has been recognized as an essential research object in business management and organizational behaviour where different leadership theories, practices, styles and techniques were analysed in order to motivate employees to improve their competence, product (service) quality, create innovation, to achieve knowledge strategy and organizational performance outcomes (Lashari & Rana, 2018; Waris, Khan, Ismail, Adeleke, & Panigrahi, 2018; Al Ahbabi, Singh, Balasubramanian, & Gaur, 2019). Leadership can be described as the combination of figurative, inventive, inspiring leadership, emotional and moral values, individualized attention (Sholikhah, Wang, & Li, 2019) that build and improve employees' abilities and skills, guide and encourage them to increase their commitment to the organization, motivate them to keep involved aiming towards achieving organizational goals (Xiao, Zhang, & de Pablos, 2017; Waris et al., 2018). Leadership can empower individuals to achieve the desired goals (Heldal & Antonsen, 2014; Waris et al., 2018), and to raise innovation and creativity (Mubarak & Noor, 2018). Leadership is considered as a key factor that contributes to the success of the team's work through supportive and encouraging relationship with the team which leads to the improvement of the

organization's performance (Heldal & Antonsen, 2014; Mubarak & Noor, 2018). Summing up scientists' insights, leadership can be defined as the power and the process by which leaders influence, guide, empower and encourage individuals through maintaining supportive relationship with them and facilitating their activities (Heldal & Antonsen, 2014; Waris et al., 2018; Mubarak & Noor, 2018) in order to raise innovation and creativity (Li et al., 2019) which lead to accomplishing the organization's desired objectives and to improve the organization's overall performance (Heldal & Antonsen, 2014; Najmi, A. R. Kadir, & M. I. A. Kadir, 2017; Mubarak & Noor, 2018; Waris et al., 2018; Sholikhah et al., 2019). The aspirations of leaders should be to build an environment that encourages employees to innovate, experiment, generate new ideas and create new knowledge (Millar, Chen, & Waller, 2017). In the scientific literature such leadership styles as transformational, transactional, authentic, and laissez-faire are analysed (Waris et al., 2018). Transformational leaders influence other individuals through promoting mutual trust, which is an important factor in the relation between the leaders and their subordinates. Transformational leaders encourage employees to be more creative, innovate and to make independent decisions leading to accomplish the organizational desired performance (Le & Lei, 2018; Park & Kim, 2018; Breevaart & Zacher, 2019; Li et al., 2019; Jada, Mukhopadhyay, & Titiyal, 2019). Transformational leaders communicate clearly the organizational vision and goals, and encourage employees to improve their skills seeking new opportunities for the development of the organization and accomplishment of its vision (Le & Lei, 2018; Guhr, Lebek, & Breitner, 2018). They also create an empowered and motivating working environment through being role models who inspire their followers (Park & Kim, 2018). Transformational leadership influences positively both individuals and organizations' outcomes (Breevaart & Zacher, 2019). Transactional leaders motivate other individuals by fulfilling their interest through providing the deserved rewards against achieving the desired goals. Transactional leaders control their followers' behaviors by rewarding them for high performance and punishing them for their mistakes after defining their expectations and clarifying the organization's goals (Waris et al., 2018; Guhr et al., 2018). Authentic leaders help other individuals inside the organization to get involved and make good relationships at work in order to confront with the work environment. Authentic leaders are characterized by their self-regulation system of values, their ethical decision-making process, their understanding of the strengths and weaknesses they possess, and their knowledge sharing among their followers (Mubarak & Noor, 2018; Seidel, Saurin, Tortorella, & Marodin, 2019; Adigüzel, & Kuloğlu, 2019). Laissez-faire leaders have no influence over other individuals in the organization since they do not interact with the employees and do not set clear the goals and the expectations to them as well (Guhr et al., 2018; Breevaart & Zacher, 2019). This form of leadership is considered less effective than other forms because of the lack of information communicated to the employees from the leaders, which result in negative consequences such as reduction of employees' satisfaction and increase in work conflicts (Breevaart & Zacher, 2019). Transformational leadership is the most studied form by the researchers recently because of its positive impact on employees and organizational performance.

While scientists were previously concerned about transformational and transactional leadership styles, knowledge oriented leadership is considered as a combination of both styles

which emphasizes the leaders communication of the organization main goals and objectives to the employees and motivating them to work towards achieving those goals through the integration of knowledge management processes (Donate & de Pablo, 2015; Naqshbandi & Jasimuddi, 2018; Shamim et al., 2019). Knowledge oriented leadership is a transformed leadership concept, which integrates both good traditional leadership practice and new leadership concept based on knowledge management theories and practice. Knowledge oriented leadership style can be described as supportive and oriented to employee's competence development, focused on providing vision, mentoring, consulting, delegating, facilitating, recognizing, stimulating and rewarding knowledge management practices (Donate & de Pablo, 2015; Naqshbandi & Jasimuddi, 2018; Shariq et al., 2019; Shamim et al., 2019), in order to encourage employees efficiently to implement a knowledge strategy and to achieve organizational performance outcomes.

According to scientists, knowledge management cycle (knowledge creation, acquisition, storage, sharing, and application) intends to result in an efficient implementation of knowledge management processes in order to implement knowledge strategy and to achieve the desired organizational performance outcomes (Chugh, Chugh, & Punia, 2015; Shahzad, Bajwa, Siddiqi, Ahmid, & Raza Sultani, 2016; Dzenopoljac et al., 2018; Raudeliūnienė et al., 2018; Raudeliūnienė & Szarucki, 2019; Al Ahbabi et al., 2019; Hosseini et al., 2019). Evaluating organizational performance has always been the main concern for scientists and business practitioners (Jenatabadi, 2015; Tubigi & AlShawi, 2015; Najmi et al., 2017; Lashari & Rana, 2018). Organizational performance is the outcome and combination of strategies, ongoing activities and processes applied in organization which is reflected through employees' motivation, social responsibilities, customer satisfaction, financial returns, leadership, and uniqueness in the market (Al Rubaiee, Alzubi, Hanandeh, & Al Ali, 2015; Jenatabadi, 2015; Najmi et al., 2017; Al Ahbabi et al., 2019). Organizational performance measurements depend on different specifications such as the region, business sector, and variety of business activities that each organization is engaged in (Al Rubaiee et al., 2015; Al Hakim & Hassan, 2015; Jenatabadi, 2015). Summing up scientists' research, organizational performance measurement can be divided into non-financial (innovation, quality service delivery and operational efficiency, customer satisfaction and retention) and financial measurements (financial performance, profitability, sales growth, market share) (English, Guthrie, Broadbent, & Laughlin, 2010; Al Hakim & Hassan, 2012; Al Rubaiee et al., 2015; Jenatabadi, 2015; Tubigi & Al Shawi, 2015; Najmi et al., 2017; Lashari & Rana, 2018; Al Ahbabi et al., 2019). This study focuses on three main dimensions for measuring impact of knowledge management processes on organizational performance: knowledge strategy effectiveness (the relation between knowledge strategy and performance), resources' efficiency (the relation between organization resources and performance), and leadership (the relation between organization's leadership in the market and performance).

In this research, both the effect of knowledge oriented leadership on the knowledge management processes and the effect of the latter on organizations' performance in the Middle Eastern audit and consulting companies are investigated (Figure 1).

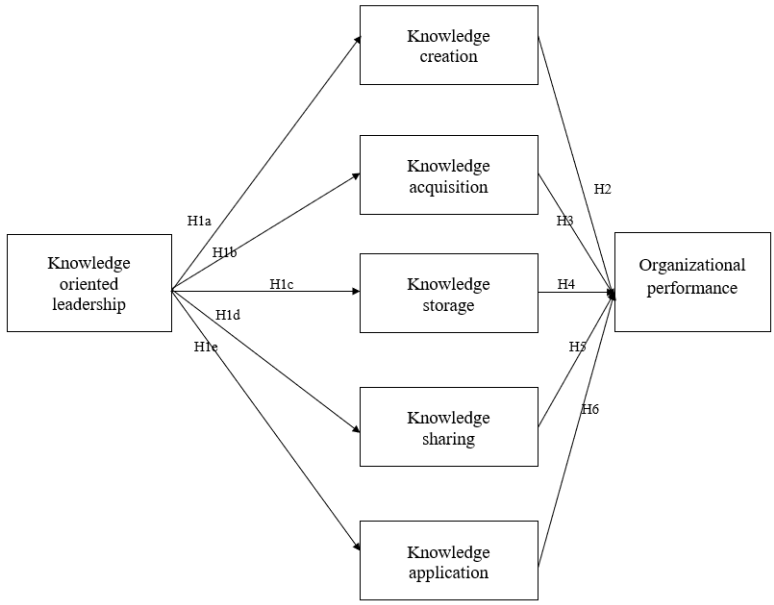

Figure 1. Research model (created by the authors)

The following hypotheses are formulated in the attempt to test the research model:

H1a: Knowledge oriented leadership positively influences knowledge creation process

H1b: Knowledge oriented leadership positively influences knowledge acquisition process

H1c: Knowledge oriented leadership positively influences knowledge storage process

H1d: Knowledge oriented leadership positively influences knowledge sharing process

H1e: Knowledge oriented leadership positively influences knowledge application process

H2: Knowledge creation positively influences private sector organizational performance

H3: Knowledge acquisition positively influences private sector organizational performance

H4: Knowledge storage positively influences private sector organizational performance

H5: Knowledge sharing positively influences private sector organizational performance

H6: Knowledge application positively influences private sector organizational performance

2. Research methodology

This study aims to assess two main relationships in the Middle Eastern audit and consulting sector: (1) the relationship between knowledge oriented leadership, which characterizes the independent variable, and the knowledge management processes, which consist of knowledge creation, acquisition, storage, sharing, and knowledge application, and which characterize the dependent variables; (2) the relationship between knowledge management processes and the organizations' performance.

A structured questionnaire was disseminated among the members of the Lebanese Association of Certified Public Accountants who are certified auditors, either owners of local audit companies or working for multinational audit companies operating in Lebanon and the Middle East countries, in order to collect the data required for this research. The experts' evaluation (structured questionnaire) was conducted in March-April 2019. While 500 auditors were contacted, 210 responded by filling up the questionnaire, resulting in a 42% response rate which constitutes the sample size of the study. Experts' evaluation involved (75.72%) of males and (24.28%) of females, aged between 25 years and 35 years (45.24%) and between 35 years and 45 years (21.43%), holding a master's degree (37.14%) and certified public accountants (34.76%), operating in upper management positions (31.9%) and in senior positions (26.67%), working in local companies (72.86%) and multinational forms (27.14%) (Table 1).

The questions were based on a five-point Likert-scales ranging from "1" meaning "strongly disagree" to "5" meaning "strongly agree". The elements used to evaluate the variables were obtained from scientific studies. Knowledge creation process was assessed through generation of best practices, seek for new opportunities and delivery of new services (Lin, 2007; Wu & Chen, 2014; Ali, Musawir, & Ali, 2018). Knowledge acquisition process was assessed

Table 1. Demographic characteristics of respondents (created by the authors)

Category	Frequency	Percentage (%)
Age		
< 25	10	4.76%
≥ 25 and < 35	95	45.24%
≥ 35 and < 45	45	21.43%
≥ 45	60	28.57%
Gender		
Male	159	75.72%
Female	51	24.28%
Education		
Bachelor	58	27.62%
Master	78	37.14%
Certified public accountant (CPA)	73	34.76%
Other	1	0.48%
Job position		
Junior level	39	18.57%
Middle level	48	22.86%
Senior level	56	26.67%
Upper management	67	31.90%
Type of organization		
Local	153	72.86%
Multinational	57	27.14%

through the ability to acquire knowledge for developing specific programs, and the process of acquiring expertise (Ali et al., 2018). Knowledge storage process was assessed through the availability of customer databases and the availability of knowledge databases (Lin, 2007; Ramachandran, Chong, & Ismail, 2009; Yusr et al., 2017). Knowledge sharing process was assessed through the ability to share knowledge with colleagues, the ability to share knowledge among business units and with stakeholders (Casimir, Ng, & Cheng, 2012; Fullwood, Rowley, & Delbridge, 2013; Mura, Lettieri, Radaelli, & Spiller, 2013; Dijk Van, Hendriks, & Romo-leroux, 2016; Ali et al., 2018). Knowledge application process was assessed through converting knowledge into action plans, and using knowledge efficiently to solve problems and reach specific goals (Lin, 2007; Ramachandran et al., 2009; Casimir et al., 2012; Fullwood et al., 2013; Dijk Van et al., 2016; Ali et al., 2018).

Knowledge oriented leadership was assessed through the encouragement of employees to create, acquire, store, share and apply knowledge (Fullwood et al., 2013; Donate & de Pablo, 2015; Yusr et al., 2017; Naqshbandi & Jasimuddi, 2018; Shariq et al., 2019; Shamim et al., 2019).

Organizational performance was assessed through knowledge strategy effectiveness (the relation between knowledge strategy and performance), resources' efficiency (the relation between organization resources and performance), and leadership (the relation between organization's leadership in the market and performance) (Lin, 2007; English et al., 2010; Al Hakim & Hassan, 2012; Al Rubaiee et al., 2015; Jenatabadi, 2015; Tubigi & Al Shawi, 2015; Najmi et al., 2017; Yusr et al., 2017; Ali et al., 2018; Lashari & Rana, 2018; Al Ahbabi et al., 2019).

In this study, correlation and structural equation modeling (SEM) techniques, which use various types of models to depict relationships among observed variables, were used, in order to provide quantitative results for the proposed hypotheses.

3. Research results and discussion

Research results show the mean values of each variable pertaining to each indicator including knowledge creation, acquisition, storage, sharing, and application in addition to knowledge oriented leadership factor and organizational performance indicators. If the average is more than or equal to 3.75 then the respondents have highly agreed to the statement. If the average is between 2.75 and 3.74 then the respondents were on a medium agreement with the statement and if the average is below 2.75 then respondents were on a low agreement with the statement.

Knowledge oriented leadership relation with the knowledge management processes results in the following averages: storage of knowledge (3.85), creation of new knowledge (3.87), sharing of knowledge (3.90), acquisition of new knowledge (3.92), and application of knowledge in an efficient way (3.99). All results are greater than 3.75, which means experts highly agreed with the analysed statements and application of knowledge in an efficient way is the most valuable statement in this relation (Table 2).

Experts highly agreed to knowledge management processes statements from each group as: organization quickly uses new opportunities to serve clients (4.06, highest mean from knowledge creation group); organization has the ability to acquire knowledge which is used

Table 2. Descriptive statistics of the indicators and variables (created by the authors)

Variable	Mean	Standard deviation
Knowledge creation	3.92	0.682
Our organization generates best practices from previous projects to improve future projects	3.85	0.80
Our organization quickly uses new opportunities to serve our clients	4.06	0.73
Our organization provides new services depending on the market demands	3.85	0.83
Knowledge acquisition	3.78	0.812
Our organization has the ability to acquire knowledge which is used to develop specific programs	3.87	0.87
Our organization has a clear process for acquiring expertise	3.78	0.94
Our organization has a clear process for acquiring intelligence	3.69	0.88
Knowledge storage	3.95	0.696
In our organization we often write case notes on all executed projects	3.78	0.77
In our organization we keep a customer information database that is easy to access	4.06	0.84
In our organization we have knowledge database that is easy to access	4.02	0.91
Knowledge sharing	4.01	0.764
We personally share with our colleagues the knowledge necessary for projects on hand	4.21	0.77
Our organization always shares its knowledge with its stakeholders	3.76	1.06
Our organization has the capability to share relevant knowledge among business units	4.07	0.71
Knowledge application	4.03	0.675
Our organization has processes for converting knowledge into action plans	3.88	0.91
Our organization has processes for matching sources of knowledge to problem solving	4.12	0.73
Our organization applies knowledge efficiently to reach its goals	4.09	0.65
Knowledge oriented leadership	3.90	0.964
In our organization managers at all levels actively encourage employees to create new knowledge	3.87	1.00
In our organization managers at all levels actively encourage employees to acquire new knowledge	3.92	0.96
In our organization managers at all levels actively encourage employees to store their knowledge	3.85	0.98
In our organization managers at all levels actively encourage employees to share their knowledge	3.90	0.96
In our organization managers at all levels actively encourage employees to use knowledge in an efficient way	3.99	0.92
Organizational performance	4.10	0.47
The organization provides high quality services	4.34	0.61
The organization provides quality services with low cost	3.60	0.96
The organization provides quality services with high speed	4.09	0.68
The organization performs well in improving effectiveness of services delivered	4.13	0.88
The organization adopts quickly to unanticipated changes	4.04	0.75
The organization ensures compliance to customer needs through processes that are designed to deliver the right skills and capacities	4.19	0.54
The organization is able to adopt new services opportunities	4.25	0.72
The organization is able to compete in the current market	4.23	0.61
The organization is considered profitable in the market	4.04	0.69

to develop specific programs (3.87, highest mean from knowledge acquisition group); employees keep a customer information database that is easy to access (4.06, highest mean from knowledge storage group); employees personally share with colleagues the knowledge necessary for projects on hand (4.21; highest mean from knowledge sharing group); and organization has processes for matching sources of knowledge to problem solving (4.12; highest mean from knowledge application group) (Table 2).

Almost all of the respondents rated the indicators of the organizational performance as high agreement such as providing high quality services (4.34), ability of the organization to adopt new service opportunities (4.25), ability to compete in the current market (4.23), ensuring compliance to customer needs through processes that are designed to deliver the right skills and capacities (4.19), performing well in improving effectiveness of services delivered (4.13), providing quality services with high speed (4.09), adoption of unanticipated changes (4.04), and consideration of profitability in the market (4.04). However, experts were in a medium agreement with the idea that the organization provides quality services with low cost (3.60) (Table 2).

Knowledge oriented leadership has a strong association with knowledge storage (0.6014), medium-strength correlation with knowledge creation (0.5253), acquisition (0.4430) and sharing (0.4829), and a weak correlation with knowledge application (0.3093) (Table 3).

Organizational performance is significantly correlated with knowledge creation, acquisition, storage, sharing and application. Strength of association varied between each component, where organizational performance shows a medium-strength correlation with knowledge creation (0.5304), knowledge acquisition (0.5774), knowledge sharing (0.4215) and knowledge application (0.5743), and a weak correlation with knowledge storage (0.3450) (Table 3).

Knowledge management processes including creation, acquisition, storage, sharing and application as well as the knowledge oriented leadership factor were assessed using factor analysis. Factor loadings were determined for all the processes. Followed by factor analysis, regression analysis was used to test each hypothesis under the relevant indicators. Results show that all of the processes are positively and significantly associated with organizational performance with P-value of less than 0.05 (Table 4).

Table 3. Pearson correlation of knowledge oriented leadership factor and organizational performance with the relevant indicators of knowledge management processes (created by the authors)

Factors	Creation	Acquisition	Storage	Sharing	Application
Knowledge oriented leadership	0.5253				
Knowledge oriented leadership		0.4430*			
Knowledge oriented leadership			0.6014*		
Knowledge oriented leadership				0.4829*	
Knowledge oriented leadership					0.3093
Organizational performance	0.5304*	0.5774*	0.3450*	0.4215*	0.5743*

Note: * represents values that are significant at P-values less than 0.05.

Table 4. Structural equation modelling with the research proposed hypotheses (created by the authors)

Research hypotheses	Standardized coefficient	t-value	P-value	Empirical evidence
H1a	0.402	7.47	0.088	Not supported
H1b	0.378	6.51	0.032	Supported
H1c	0.372	6.66	0.003	Supported
H1d	0.355	6.13	0.041	Supported
H1e	0.422	7.13	0.058	Not supported
H2	0.365	9.02	<0.001	Supported
H3	0.334	10.20	<0.001	Supported
H4	0.236	5.30	0.002	Supported
H5	0.259	6.70	0.001	Supported
H6	0.399	10.12	<0.001	Supported

Knowledge oriented leadership factor is in positive association with knowledge storage, knowledge acquisition, and knowledge sharing because P-value is less than 0.05, accordingly the hypotheses H1b, H1c, and H1d are supported. In the contrary, the hypotheses H1a and H1e, knowledge oriented leadership association with knowledge creation and knowledge application, are not supported, because P-value is greater than 0.05 (Table 4).

Cronbach alpha is used to measure internal consistency and when Cronbach alpha possesses a value greater than or equal to 0.9, then the internal consistency is excellent and items within each factor are closely related and are well combined as a group. When Cronbach alpha possesses a value, which is greater than or equal 0.8 and less than 0.9, then the internal consistency is very good and when Cronbach alpha value is less than 0.8 then the internal consistency is average.

Table 5. Cronbach Alpha for the indicators (created by the authors)

Indicators	Cronbach Alpha
Knowledge creation	0.8282
Knowledge acquisition	0.8844
Knowledge storage	0.7387
Knowledge sharing	0.8625
Knowledge application	0.8495
Knowledge oriented leadership	0.9084

The indicators under knowledge oriented leadership factor are in excellent correlation with each other and thus predicting the variables perfectly with an internal consistency coefficient greater than 0.9 (Table 5). The indicators under knowledge creation, acquisition, sharing and application show very good correlation with each other whereas the indicators under knowledge storage shows an average internal consistency.

Conclusions

Considering the important role of knowledge oriented leadership and its influence on employees' motivation to achieve goals, develop and improve organizational performance, this research studied the influence of knowledge oriented leadership on knowledge management processes which consist of knowledge creation, acquisition, storage, sharing, and application as well as the influence of these processes on the organizational performance in the Middle Eastern audit and consulting companies. In this study knowledge oriented leadership is described as supportive and oriented to employee's competence development, focused on providing vision, mentoring, consulting, delegating, facilitating, recognizing, stimulating and rewarding knowledge management practices in order to encourage employees to implement a knowledge strategy and to achieve organizational performance outcomes more efficiently.

A structural equation modelling and expert evaluation (structured questionnaire) were used to collect the data needed for analysis, and based on the results of this study, knowledge oriented leadership has been proved as an organizational factor that influences positively the knowledge acquisition, storage, and sharing processes in the Middle Eastern audit and consulting companies. The research results show that all five processes affect positively the organizational performance: knowledge strategy effectiveness (the relation between knowledge strategy and performance), resources' efficiency (the relation between organization resources and performance), and leadership (the relation between organization's leadership in the market and performance).

However, knowledge oriented leadership does not have positive influence on knowledge creation and knowledge application in the Middle Eastern audit and consulting companies. The main problematic areas why knowledge oriented leadership practice does not have the same influence on the knowledge creation are related to lack of generation of best practices from previous projects in order to improve future projects and provision of new services depending on the market demands. The main gaps related to knowledge oriented leadership influence on knowledge application process are lack of processes and procedure for converting knowledge into action plans.

Accordingly, the organizations especially the Middle Eastern audit and consulting companies are recommended to apply knowledge oriented leadership practice in order to improve procedure for converting knowledge into action plans, enhance project management, and develop new services that will lead to increase organizational performance (knowledge strategy effectiveness, resources' efficiency, and leadership in the market).

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