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The mediating effect of job satisfaction on the relationship between organizational culture and knowledge management in Jordanian banking sector

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Abstract

Purpose – The purpose of this paper is to examine the positive effect of organizational culture on knowledge management (KM) by clarifying the mediating effect of job satisfaction on the banking sector in Jordan. The study was conducted on Jordanian banks to develop the organizational culture concept to be reflected in the bank activities. The population of this study consists of junior and senior customer service and administrative employees working at Jordanian banks in Jordan.

Design/methodology/approach – The sample of this research is purposive one because the research cannot get a list containing names of customer service employees for privacy reasons. Various statistical tests were employed to test the research hypotheses. The study utilized two statistical packages – Statistical Package for Social Sciences (SPSS) and SPSS-AMOS – for analyzing the data.

Findings – The development of organizational culture at banks in Jordan is still not stable and efficient. This may be affected by the management style and teamwork spirit in Jordan and other factors related to bank culture and how it will be reflected in customer service. The creation and application of KM at banks in Jordan is still modest. Knowledge is mainly shared internally within the bank with little efforts dedicated to soliciting knowledge from the external environment including customers. The job satisfaction at banks in Jordan is still modest.

Originality/value – The purpose of this study is to investigate how the organizational culture can improve job satisfaction for efficient work knowledge. The relationship between organizational culture and KM of organizational members is developed and analyzed herein by proposing a mediating role of job satisfaction. Few research papers have focused on job satisfaction and its mechanism contributing to individual effectiveness in the Jordanian market, and many ignored the benefits of KM and value of culture in many sectors.

Keywords Research methods, Organizational performance, Financial performance, Banking, Knowledge management, Quality

Paper type Research paper

1. Introduction

Recently, many countries have activated and developed the concept of social sciences because of increasing works and new technologies, which lead to increase in demands and challenges of the external environment. Knowledge management (KM) has become a valuable asset to achieve sustainable competitive advantage which represents sharing, communicating, and creating knowledge and subsequently transferring it to the next members of the organization (Trivellas *et al.*, 2015).

KM is classified into six dimensions: creation, capture, organization, storage, dissemination, and application that need to be used and managed effectively after converting the tacit knowledge, tangible written or oral forms, into explicit knowledge, intangible nature inherent in employees' value, experience, beliefs, and know-how and how use them efficiently (Chidambaranathan and BS, 2015).

On the other hand, organizational culture has been a field of interest for many years and this culture represents an influential factor in the KM (Jans and Prasamphanich, 2003) to find out how the employees' attitudes, values, and ways of behavior influenced the work performance and company success. Numerous definitions have been suggested for the organizational culture and most of them agreed that it is the behavior related to people that combines internal and external factors together and can be transferred to another generation.

Based on Cameron and Quinn (2006), there are four culture types which depend on the relations among employees and how they relate to the effective organization: the hierarchical culture which is controlled by formal rules and policies; the market culture that aims to be highly competitive and which holds the employees and the organization together; the clan culture which refers to friendly working environment and collaboration, since employees are characterized by job and organization commitment and develop friendly relations; and the adhocracy culture, which focuses on innovation and risk taking, assured by highly creative and dynamic working environment (Belias *et al.*, 2015; Chidambaranathan and BS, 2015).

It is noted that job satisfaction is a mediating effect on the relationship between organizational culture and KM which creates a bond between organization and employees to achieve organizational goals and to minimize employees' uncertainty, which prevent the employee from leaving his/her job. In addition, job satisfaction is affected by several internal and external factors, such as the individuals values, principles, personality, opportunity, and the job's nature (Davies *et al.*, 2006). Job satisfaction helps in creating efficient and motivated workforce, and helps employees to get experience, skills, and knowledge to shape job position (Hanzdeh *et al.*, 2013).

2. Statement of the problem

The purpose of this study is to investigate how the organizational culture can improve job satisfaction for efficient work knowledge. The relationship between organizational culture and KM of organizational members is developed and analyzed herein by proposing a mediating role of job satisfaction. Few research papers have focused on job satisfaction and its mechanism contributing to individual effectiveness in the Jordanian market, and many papers ignored the benefit of KM and the value of culture in many sectors.

We focus in this paper on hierarchy (control), clan (collaborative), and adhocracy (create) types among organizational culture as the independent variables, and we focus on creation, dissemination, and application dimensions among KM as the dependent variables through mediator namely, job satisfaction; employee engagement, employee empowerment, turnovers-absenteeism, work environment, and salaries for the bank are relatively important to this main sector since the Jordanian economy depends mainly in the banking development.

In order to understand the effects of culture types on KM dimensions through job satisfaction, the following study questions are investigated:

RQ1. Does organizational culture have significant positive effect on KM in the banking sector in Jordan?

RQ2. Does job satisfaction have significant positive effect on KM in the banking sector in Jordan?

RQ3. Does job satisfaction mediate the effect of organizational culture on KM in the banking sector?

3. Objectives

This study will achieve the following objectives:

(1) to measure the positive effect of organizational culture on KM in the banking sector in Jordan;

(2) to measure the positive effect of job satisfaction on KM in the banking sector in Jordan; and

(3) to measure the mediating effect of job satisfaction of organizational culture on KM in the banking sector in Jordan.

4. Literature review

This section summarizes some of the previous studies that have reviewed topics related to the subject of this study.

4.1 Organizational culture

Organizational culture is one of the major issues in management practice (Engelhard and Angele, 2003). It brings out a more effective managerial action and reflection on organizational life (Tseng, 2010), as it is the norm that guides the behavior and attitudes of the people in any organization (Alvesson, 2002).

Many factors affect the intensity of organizational cultures, such as the organization's type, structure, and the top management's approach (Holsapple and Singh, 2001; Sorensen, 2002).

Therefore, the type of culture existing in an organization is very significant, because it has a powerful effect on success requirements, including quality, effectiveness, efficiency, product reliability, customer service, and innovation. Hence, it is very important to understand how organizational culture facilitates knowledge processes, as it is the foundation for successful KM (Egbu, 2006).

Organizations that are serious about knowledge promote an environment and a culture that support continuous learning. Creating a knowledge-friendly culture is a basic building block to KM, and must be considered when introducing a new KM program. We should mention that creating this kind of culture can be very difficult as it requires strong leadership and change of both attitudes and behaviors.

4.1.1 Hierarchical culture. According to Cameron and Quinn (2006), a firm that displays a hierarchy culture seeks stability, maintains control, and has an internal focus to maintain a smooth and efficient operation that produces deliveries on time and at a low cost. It is a formalized and a structured culture, where managers excel at organization and coordination.

Because of this formalization, tasks are managed based on certain procedures; hence, the conduct is more cautious, stable, and mature. These kinds of organizations are usually unwilling to take high risks and accept revolutions; on the other hand, they are suitable to develop knowledge through combination and implement the knowledge management plan (Tseng, 2011).

Therefore, in a hierarchy culture, explicit knowledge can be actualized through action and practice and thus hierarchical culture is only suitable in the knowledge application process.

4.1.2 Clan culture. According to Shu-Mei Tseng (2011), the clan culture is a warm and friendly workplace where leaders act as mentors or parent figures to foster high cohesion and morale, and people can share with each other like an extended family. This kind of culture is highly featured in Japanese organizations.

The clan culture is flexible, focuses on its internal environment, values teamwork, loyalty, commitment and participation between employees, encourages high employee involvement, and is concerned with the well-being and development of their employees, and views customers and suppliers as partners (Cameron and Quinn, 2006; Fong and Kwok, 2009).

Thus, we can conclude that this kind of culture works well for knowledge sharing and the dissemination process.

4.1.3 Adhocracy culture. The adhocracy culture seeks flexibility and focuses on its external environment. Cameron and Quinn (2006) state that this culture type values innovation, creativity, entrepreneurship, and risk-taking, in contrast with the hierarchical culture. Leaders in an adhocracy organization must be innovative, entrepreneurial, and visionary as they compete in dynamic and heavily competitive industries that demand the ability to respond quickly to the rapidly changing external environment (Cameron and Quinn, 2006).

Hence, this kind of culture works very well in the knowledge creation process.

4.2 Job satisfaction

Job satisfaction is defined as "how people feel about their jobs and their different aspects" (Spector, 1997), whereas Mcnabb (2009) conceptualized it as a combination of job characteristics, work environment, and personal traits and attitudes. It can also be described as an emotional reaction to the job, which occurs when the employees assess how much they have achieved the targeted outcomes (Cranny *et al.*, 1992; Hirschfeld, 2000; Locke, 1976), and this is a result of the fact that employees seek to achieve and maintain correspondence with their environment (Weiss *et al.*, 1967).

This means that employees will be satisfied with their jobs if they feel that their capacities, experiences, and values can be organized in their work environment and that the work environment offers them opportunities to grow and rewards them (Dawis, 1992; Roberts and Roseanne, 1998).

There are many competing theories about what variables influence job satisfaction, each using different measurement instruments. The following is an explanation of some of the different views of what job satisfaction encompasses and the varying ways of measuring this concept.

Job satisfaction can be influenced and measured by many variables such as: the overall life satisfaction (Quinn and Mangione, 1973; Spector, 1997), self-esteem (Quinn and Mangione, 1973), stress (Lester *et al.*, 1981), physical and mental illness (Quinn and Mangione, 1973; French and Caplan, 1972; Spector, 1997), productivity and performance (Hackman and Oldham, 1975; Dantzker, 1993; Spector, 1997); absenteeism and turnover (Hackman and Oldham, 1975; Dantzker, 1993; Spector, 1997), and even counterproductive behavior (Mangione and Quinn, 1973), such as theft.

Therefore, job satisfaction plays an important role in defining one's identity and position within our society, hence, should be paid a great attention.

4.2.1 Employee engagement. Employee engagement can be defined as the commitment and involvement level employees have toward their organization. Kahn (1990) conceptualized employee engagement as the "harnessing of organizational members' selves to their work roles."

When employees are engaged, they are aware of their responsibilities in the organization and their role in achieving their organization's mission, as well as motivating each other in order to attain their mutual objectives (Anitha, 2014). Anitha further proposes that an engaged employee shows a positive attitude in the workplace, and has a positive emotional connection with his/her organization that takes them beyond the call of duty to perform their role in excellence.

Kahn (1990) proposed three psychological engagement conditions necessary for an employee to be rightly engaged: meaningfulness (work elements), safety (social elements, including management style, process, and organizational norms), and availability (individual distractions). Employee engagement is a very helpful tool for organizations to gain a competitive advantage, survive in today's heavily competitive market, and a very powerful factor to measure a company's vigor (Baumruk, 2004).

4.2.2 Employee empowerment. Empowerment is considered to be the giving or delegation of power of individuals to make decisions and solve problems by themselves (the act of managing something). Participation in decision making has been defined as the endowing of power and decision-making authority to lower level members of an organization. By adapting participation practices, organizations let employees presume several roles and responsibilities; therefore, they can spend greater influence at work through increased autonomy (Appelbaum *et al.*, 2000; Paré and Tremblay, 2007).

Spreitzer (1995) continued the work by Thomas and Velthouse (1990), dividing psychological empowerment into four dimensions, namely meaning, impact, competence, and self-determination. According to Spreitzer (1995), meaning indicates the degree of value an employee places on his or her ordinary work; impact refers to the extent to which employees' serving behavior is seen to make a difference in a task being completed successfully; competence indicates a kind of self-efficacy during work time or the extent to which a person can perform his or her service tasks skillfully when he or she tries; and self-determination refers to whether an employee's behavior is perceived to be determined by the employee him or herself.

Empowered employees will feel more satisfied and will more readily fulfill their job requirements which lead to job satisfaction and thus lower levels of turnover.

4.2.3 Turnover-absenteeism. Turnover has been used as an organizational performance indicator since the early work of March and Simon (1958). These social scientists defined employee turnover intention as a "reflection of an employee's decision to participate and work in the organization," while Denver and McMahon (1992, p. 143) define labor turnover as "the movement of people into and out of employment within an organization."

Turnover can be voluntary or involuntary. Voluntary turnover is treated as a managerial problem that requires attention. Thus, the relevant theory presents a premise that people usually leave their company if they are unsatisfied with their jobs, while other job alternatives that provide them more satisfaction are available.

Excessive employee turnover rate is fatal to organizations. It is related to direct and indirect costs; it affects morale, productivity, reputation, and survival of the organizations (Hinkin and Tracey, 2000). In fact, both researchers and practitioners devote a considerable amount of time and resources trying to understand and find solutions to the employee turnover phenomenon.

Absenteeism can be defined as an unplanned, unscheduled, or unauthorized absence from work (Van der Merwe and Miller, 1988; Abraham Pizam and Steven Thornburg, 2000), whereas Milkovich and Boudreau (1994) define absenteeism as "the frequency and/or duration of work time lost when employees do not come to work."

To understand the nature of this phenomenon, Van der Merwe and Miller (1988) classified absenteeism into three broad categories: sickness absence, authorized absence (with permission), and unexcused absence. However, absenteeism is a general phenomenon as it is not restricted to a certain race, religion, or sex.

In the world of business, absenteeism is considered as one of the stubborn issues for which "there is no clear culprit and no easy cure" (Rhodes and Steers, 1990), and it should be effectively managed; as non-attendance at work can be very costly to organizations and enormous savings can be realized by controlling this phenomenon.

Besides the cost implications, absenteeism is influenced by a lot of correlated factors, which makes it even more difficult to "quantify, qualify, or rectify" (Tylczak, 1990). One of these factors is an employee's job satisfaction, according to McShane (1984) and Steers *et al.* (1996) being dissatisfied with one's own job is the main cause of employee absenteeism. Rhodes and Steers (1990) argued that attendance to work depends on two things: the employees' motivation to attend and their ability to attend, which supports the previous argument about the relationship between employee's job satisfaction and absenteeism.

4.2.4 Working environment. Employees are the main components that are responsible for achieving an organization's mission and vision. And in order to perform effectively toward achieving these objectives, they need a working environment that allows them to work freely and reach their full potential (Raziq and Maulabakhsh, 2015).

The working environment consists of two broader dimensions: work and context. Work includes all the different characteristics of the job like how the job is carried out and completed, task activities, on-the-job training, control on one's own job-related activities, the feeling of achievement from goal attainment, the variety of tasks that changes the daily routine the employee encounters doing their daily tasks, and most importantly, the intrinsic value for a task (Raziq and Maulabakhsh, 2015).

The second dimension of the working environment known as context includes the physical working conditions and the social working conditions (Sousa-Poza and Sousa-Poza, 2000; Gazioglu and Tansel, 2006; Skalli *et al.*, 2008). According to Spector (1997), the working environment consists of safety to employees, job security, good relations with co-workers, recognition for good performance, motivation for performing well, and participation in the decision-making a process of the firm. He also observed that most organizations ignore the working environment and do not give it the attention it deserves, resulting in the poor performance of their employees.

Other factors within the working environment that affect employees' job satisfaction and are highlighted by Lane *et al.* (2010) include: wages, working hours, autonomy given to the employees, organizational structure and communication between employees and top management.

Spector (1997) stated that once employees realize how they affect the attainment of the organization's mission and vision and how important that the organization considers its employees, they will have a high level of commitment and a sense of ownership for their organization. Therefore, it is crucial that organizations realize the importance of good working environment, and the effects it have on employee job satisfaction (Raziq and Maulabakhsh, 2015).

4.2.5 Salary. Salary is a form of episodic compensation that a firm pays to its employee, which is stated in an employment contract (Chaudhry *et al.*, 2011); it is a key reward that predicts a person's level of job satisfaction, as Agho *et al.* (1993), Gunter and Furnham (1996) and Witt and Wilson (1990) suggested that a higher salary is associated with greater job satisfaction. Wage, salary, or pay is considered a significant reward and a tool to motivate employees toward achieving the goals of the organization (Oshagbemi, 2000).

Research studies propose that dissatisfaction with pay can lead to decreased job satisfaction, decreased interest in working, decreased learning level of employees, and decreased motivation and performance, as well as increased absenteeism and turnover behaviors (Chaudhry *et al.,* 2011; Judge *et al.*, 2000).

4.3 KM

There are a lot of definitions of knowledge and KM that can be found in the literature. Nonaka and Takeuchi (1995) adopted a traditional definition of knowledge as "justified personal belief." O'Leary (1998) defines organizational KM as a formal process of managing knowledge resources to facilitate the access, retrieval, and reuse of knowledge. That is made possible by the advances in information technology. Alavi and Leider (1999) define KM as the "systemic and organizationally specified process for acquiring, organizing, and communicating both tacit and explicit knowledge". Lots of other terms can be used when referring to organizational knowledge, such as "intellectual capital," "organizational memory," "institutional memory," "knowledge assets," and "intangible assets" (Tan, 2000).

Japanese researchers focus on tacit knowledge and view it as something that cannot be easily seen or expressed. On the other hand, western researchers focus strongly on explicit knowledge that can be expressed in words and numbers, and can be communicated more easily than tacit knowledge. These differences in the perception of knowledge are basically because of the differences between both cultures. In the western culture, there has been a long history of separating knowledge from the knower, whereas this is not the situation in Japanese traditions.

Firms have invested heavily in KM, but why all this interest in KM? Chihab BenMoussa (2009) outlined some explanations provided by researchers such as Du Plessis (2005) and Ndlela and du Toit (2001) for the amount of attention being paid to KM: by implementing KM, an organization can achieve and maintain competitive advantage as it enables the organization to solve problems and exploit opportunities; increase responsiveness and innovation levels; reduces costs; essential to the decision-making process; facilitates collaboration; increases employees' productivity; and reduces the negative impact associated with the loss of knowledge that happens when employees leave the company (knowledge attrition). Thus, managing knowledge becomes a requirement for organizations wishing to survive in competitive marketplaces (Matusik and Hill, 1998).

The successes of organizations in the twenty-first century in an increasingly competitive market place depend heavily on the quality of applied knowledge in their business processes (Ndlela and Toit, 2001). Examples of organizational knowledge may include items such as: trademarks, copyright, and trade secrets, best practices, know-how, and heuristic rules, architectures, technology, and business frameworks, project management documents (e.g. proposals, work plans, reports, meeting agendas, presentations, designs, instructional material, and process maps) (Kuan-Tsae Huang, 1997).

4.3.1 Knowledge creation. Generating new knowledge is known as knowledge creation (Argote *et al.*, 2003). Knowledge creation is not a systematic process; it is rather a continuous and an evolving process (Lynn *et al.*, 1996; Mayo, 1959, p. 59). Knowledge can be classified into two types: tacit and explicit knowledge (Nonaka, 1994; Nonaka and Takeuchi, 1995; Nonaka and Toyama, 2003; Nonaka *et al.*, 2000). Tacit knowledge, also called embedded and sticky knowledge, is subjective and experience-based knowledge, which cannot be expressed in works, sentences, number or formulas as it includes cognitive skills such as beliefs, intuition, mental models, the technical skills, and know-hows (Polanyi, 1966).

Explicit knowledge, also known as leaky knowledge, is objective and rational, which can be documented and distributed to others; it includes guidelines, procedures, reports, strategies, and others (Kakabadse *et al.*, 2001; Nonaka and Konno, 1998). Knowledge may continuously shift between tacit and explicit over time (Nonaka *et al.*, 2000), but some knowledge will always remain tacit (Nahapiet and Ghoshal, 1998).

Knowledge is created through a process in which different contradictions are combined through the interactions among individuals, the organization, and the environment (Nonaka *et al.*, 2000; Nonaka and Toyama, 2003).

Nonaka and Takeuchi (1995) identified four distinct processes for knowledge creation through the conversion between tacit and explicit knowledge, which are socialization, externalization, combination, and internalization.

4.3.2 Knowledge dissemination. Knowledge dissemination is defined as the process of exchanging knowledge through one entity to another (Day, 1994; Kohli *et al.*, 1993). This exchange of information can occur either horizontally (knowledge sharing in the paper) or vertically (knowledge transfer) within the group or organization.

Li *et al.* (2015) stated that knowledge dissemination is considered as the sharing and transfer of a combination of information, concept, and experience between both sides of dissemination. Knowledge dissemination can be proven through changes in the knowledge

or performance of the recipient units, which means that it can be measured by the changes in knowledge or performance.

Hendrik (1999) views knowledge sharing as a communication process that includes two objects: knowledge possessors and recipients. Wijnhoven (1998) defines knowledge sharing as the process of transferring knowledge by information media and interpreting newly received knowledge, whereas Easterby-Smith *et al.* (2008) consider knowledge transfer as one organization learning from other organizations.

Previous studies have suggested that knowledge sharing can be defined in two ways: one is knowledge exchange between receivers, and the other is knowledge flow among individuals, organizations, and knowledge supply chains.

Krone *et al.* (1987) argued that the theoretical basis of knowledge transfer is the communication theory, which identifies the basic factors of communication as source, receiver, knowledge, channel, encoding, and decoding, and points out that knowledge transfer is the exchange of information from the source to the receivers.

4.3.3 Application. Knowledge application processes include the orientation of using knowledge in decision-making processes, making business strategies, task implementations, service delivery and organizational performance and effectiveness, toward the actual use of knowledge (Gold *et al.*, 2001). Davenport and Klahr (1998) argued that the effective application of knowledge has helped companies improve their efficiency and reduce costs.

The value of knowledge assets can be recognized when these assets are used to create products or deliver services, or when they are sold or traded for value (Wiig, 1999). Thus, the previous stages of knowledge creation, acquisition, storage/retrieval, disseminations, and transfer will not necessarily lead to enhanced organizational performance without the effective application of knowledge created, stored, and transferred (Alavi and Leidner, 2001). Accordingly, "organizational performance often depends more on an ability to turn knowledge into effective action and less on knowledge itself" (Kim and Lee, 2010).

According to Davenport and Prusak (1998), the gap that exists between what organizational members know and what they actually do is due to several reasons: distrusting the source of knowledge, lack of time or opportunity to apply knowledge, or risk aversion (particularly in organizations that punish mistakes).

Thus, implementing KM plan successfully depends on the following requirements: top management supports and beliefs in KM effects, information technology, human resources management, and the organization's culture. These variables reflect the implementation and practices of KM in the banking management (Bieber *et al.*, 2002).

5. Framework model

After reading and examining previous studies related to the study's subject, the most important characteristics that distinguish this study from the other previous studies were found and stated as follows.

The other previous studies measured the impact of job satisfaction of organizational culture or KM alone and its changes, but this study's goal is measuring the effect of job satisfaction on the relationship between organizational culture and KM in the banking sector in Jordan. Thus, the research consists of three variables:

(1) independent variable: organizational culture (hierarchy, clan, and adhocracy);

(2) mediating variable: job satisfaction (employee engagement, employee empowerment, turnovers-absenteeism, work environment, and salary); and

(3) dependent variable: KM (creation, dissemination, and application).

This research stated a theoretical framework model that shows the relationship between organizational culture and KM by job satisfaction and it is illustrated in Figure 1.
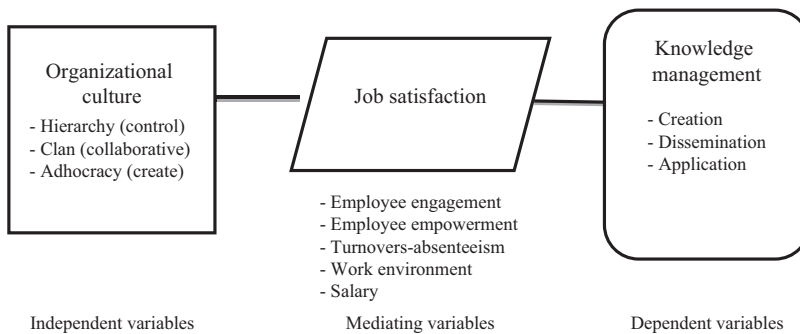
Figure 1.
Framework model

6. Operational definition and measurement

The area of research is based on employees in banking institutions at different ages and work levels; thus, determined variables placed in Table I shows variables, dimensions and their elements and how they are measured in this study.

7. Research hypotheses

The following main hypotheses are formulated for testing:

H1. There is no significant positive effect of organizational culture on KM in the banking sector.

H1.1. There is no significant positive effect of hierarchical culture on KM.

H1.2. There is no significant positive effect of clan culture on KM.

H1.3. There is no significant positive effect of adhocracy culture on KM.

H2. There is no significant positive effect of job satisfaction on KM in the banking sector.

H2.1. There is no significant positive effect of employee engagement on KM.

H2.2. There is no significant positive effect of employee empowerment on KM.

H2.3. There is no significant positive effect of turnover-absenteeism on KM.

H2.4. There is no significant positive effect of working environment on KM.

H2.5. There is no significant positive effect of salary on KM.

H3. Job satisfaction does not mediate the effect of organizational culture on KM in the banking sector.

H3.1. Employee engagement does not mediate the effect of organizational culture on KM.

H3.2. Employee empowerment does not mediate the effect of organizational culture on KM.

H3.3. Turnover-absenteeism does not mediate the effect of organizational culture on KM.

H3.4. Work environment does not mediate the effect of organizational culture organizational culture on KM.

H3.5. Salary does not mediate the effect of organizational culture on KM.

8. Data and methodology

It is important to choose the sample that represents the population under investigation to increase credibility. The population of the study represents all of the junior and senior

Organizational culture (OC): Hierarchy (Control): Maintaining convenient-running and place work for the Bank	Cameron *et al.* (1999), Campbell *et al.* (1974), Fekete and Keith (2001),
Policies and procedures are what hold the group together and govern behavior	Gregor (1983), Louis (1983), Martin and Siehl (1983), Quinn *et al.* (1983)
Stability, performance, and efficient operations are the long-term goals	The Impact of Employee Engagement on Performance, Harvard business
Strength security and predictability for management	review analytic services report
Clan (Collaborate): an open and friendly place to work where people share a lot of themselves	www.achievers.com Spreitzer (1995)
Family teamwork	
Strong group loyalty and sense of responsibility	
The bank places a rating on teamwork, participation, and consensus	
Adhocracy (Create): a dynamic, entrepreneurial, and creative place to work	
Innovation and risk-taking by employees and managers	
Success means gaining unique and new products or services	
Encouraging employees' initiative and freedom	
Job satisfaction (JS): employee engagement	Mayhew, General Dynamic of Employee
Recognition is given for high performers.	www.smallbusiness.chron.com
Communicates strategy and leadership updates.	Rhodes and Steers (1990)
Training and development organized around corporate goals	Managing employee absenteeism
Level of motivation and rewards	Addison
Employee empowerment: Meaning: how important and meaningful this work to the employee	Abdul and Maulabakhsh (2015), Vermandere (2013)
Impact: influence of employee on what happens in his/her department	
Self-determination: independence and freedom of employees in how they do their job	
The Bank's applicability: authorizing employee's decision-making rules	
Turnover-absenteeism: career opportunity	
Communicating area	
Leaving for a bigger paycheck	
Job situation	
Values and expectations	
Personal characteristics	
Proportionality of holidays with the working hours and days	
Working environment: working hours	
Job safety and security	
Relationships of co-workers	
Salary: paying matches the workload	
Higher wages to get a higher retirement payout	
KM (KM): knowledge creation	Goh and Richards (1997), Calantone
Clarity of purpose and mission, leadership commitment and empowerment, experimentation and rewards, transfer of knowledge, teamwork and group problem-solving	*et al.* (2002), Prieto and Revilla (2004), Mariano García-Fernández (2015), Garvin (1993), Terziovski *et al.* (2000)
Commitment to learning, shared vision, open-mindedness, intra-organizational knowledge sharing	
Flows of learning and learning climate	
Knowledge Dissemination	
The systems enable employees to learn from others, from past failures and from other banks	
Socialization, externalization, combination, and internalization	
The sharing of formal and informal information within the Bank Application	
Solving problems systematically, experimentation, learning from past experience, learning from others, and transfer of knowledge	
Mental models, personal mastery, team learning, systems idea, and shared vision	

Table I.
Operational definitions and measurement

customer service and administrative employees that are working in the Jordanian
local banks (Housing Bank for Trade and Finance, Bank of Jordan, and Jordan Ahli Bank).
After distributing 150 questionnaires of the study sample for the motioned banks, a total of
150 answered questionnaires were retrieved, of which five were invalid. Therefore,
145 answered questionnaires were considered valid for study.

8.1 Study tools and data collection

The current study contains two types: theoretical and practical. The theoretical aspect is
based on recent papers that are related to the current study, whereas the practical aspect
is based on descriptive and analytical methods using the practical manner to collect and
analyze data, and test the hypotheses.

Data collection, manners analysis, and programs used in the study are based on two
sources: secondary sources: books and papers that are used to write the theoretical
framework of the study, and a primary source: a questionnaire that was designed to reflect
the study objectives and questions. In this study, both primary data were used through
formulated and designed questionnaire compatible to the framework model.

The questionnaire instrumental sections are as follows: first section consists of
demographic variables, which represent demographic information were collected with
closed-ended questions and measured through four factors: age, gender, education level, job
level, and work experience. Second section consists of organizational culture, which was
measured through three types (hierarchy, clan, and adhocracy) and each type was measured
by five-point Likert type scale (strongly agree, agree, neutral, disagree and strongly
disagree). Third section consists of job satisfaction, which was measured through five
factors (employee engagement, employee empowerment, turnover-absenteeism, work
environment, and salary) and each factor measured by a five-point Likert-type scale.
Fourth section consists of KM, which was measured through three dimensions (creation,
dissemination and application dimensions) and each dimension was measured by five-point
Likert-type scale.

8.2 Statistics treatment

The collected data from the responses of the study questionnaire are managed
through Statistical Package for Social Sciences (SPSS), which is used to apply the suitable
statistical tools.

To answer the research questions; the research paper utilized means, frequencies, and
standard deviations as descriptive statistics. The Cronbach's α test was also used to test the
reliability and consistency of the data collection tool (questionnaire) in this study.

To test the research hypotheses, the research paper utilized simple regression, multiple
regression, stepwise multiple regression, path and factor analyses.

9. Analysis and results

9.1 Descriptive statistics

The population of this study includes all junior and senior customer service and
administrative staff in the banking sector in Jordan. The sample of this research consists of
a random sample which represents 5 percent of research population. A questionnaire
reflecting the study objectives and questions was developed. The questionnaire was
distributed to 150 junior and senior customer service and administrative employees that are
working in the banking sector (Housing Bank for Trade and Finance, Bank of Jordan and
Jordan Ahli Bank). All 150 responded to this questionnaire, and out of the returned
questionnaires, five responses were excluded due to significant missing values, multiple
answers to questions, and invalidity. Accordingly, only 145 responses were considered valid

for data analysis. Table II represents the descriptive analysis of the sample based on their demographics, and shows the descriptive analysis in terms of frequencies and percentages for the study sample on the basis of their age.

Table II also shows that age range of most of the study sample (i.e. 93) is 20-30 and this age range represents 64.1 percent of the sample size. This is followed by the age range 31-40 with 37 subjects who represent 25.5 percent of the sample size. Next comes the age range 41 and above with (15) subjects who represent 10.3 percent of the sample size.

Table III shows the descriptive analysis in terms of frequencies and percentages for the study sample on the basis of their gender.

Table III also shows that 74 subjects are male and represent 51 percent of the sample size, whilst only 71 subjects out of the sample are female who represent 49 percent of the sample size.

Table IV shows the descriptive analysis in terms of frequencies and percentages for the study sample on the basis of their qualifications.

Table IV also shows that only six subjects who represent 4.1 percent of the study sample hold high school degree, whilst five subjects who represent 3.4 percent of the study sample hold a diploma degree. The number of subjects who hold bachelor degree is the largest (i.e. 116) and represents 80 percent of the study sample, whilst the number of subjects with other degrees (Master or PhD) is seven and represents 12.4 percent of the study sample.

Table V shows the descriptive analysis in terms of frequencies and percentages for the study sample based on their experience.

Table V also shows that the number of years of experience for 16 subjects of the sample is less than one year and this represents about 11 percent of the sample size. This is followed

	Frequency	Percent	Valid percent	Cumulative percent
Valid				
20-30	93	64.1	64.1	64.1
31-40	37	25.5	25.5	89.7
41 and above	15	10.3	10.3	100.0
Total	145	100.0	100.0	

Table II. Descriptive statistics of the study sample according to age

	Frequency	Percent	Valid percent	Cumulative percent
Valid				
Male	74	51.0	51.0	51.0
Female	71	49.0	49.0	100.0
Total	145	100.0	100.0	

Table III. Descriptive statistics of the study sample according to gender

	Frequency	Percent	Valid percent	Cumulative percent
Valid				
High school	6	4.1	4.1	4.1
2-year college	5	3.4	3.4	7.6
4-year bachelor	116	80.0	80.0	87.6
Other	18	12.4	12.4	100.0
Total	145	100.0	100.0	

Table IV. Descriptive statistics of the study sample according to qualification

by 67 subjects with one to five years of experience, which represents 46.2 percent of the sample size. Next is the 35 subjects with years of experience ranging between 6 and 10 which represents about 24.1 percent of the study sample. Then is the 13 subjects with years of experience ranging between 11 and 15 which represents about 9 percent of the sample size. Finally, 14 subjects with years of experience above or equal 16 years representing 9.7 percent of the sample size.

Table VI shows that the job level for 58 subjects of the sample is customer service/entry level and this represents about 40 percent of the sample size. This is followed by 34 subjects with job level customer service/senior level, which represents 23.4 percent of the sample size. Next is 46 subjects with administrative job level, which represents about 31.7 percent of the study sample. Finally, seven subjects are with job level other jobs, which represents about (4.8 percent) of the sample size.

9.2 Data collection instrument: validity and reliability

9.2.1 Validity of the questionnaire. To test the questionnaire for clarity and provide a coherent research questionnaire, a macro review that covers all the research constructs was accurately performed by the reviewers from the University of Jordan at the Faculty of Business. Some items were added based on their valuable recommendations. Some others were reformulated in order to become more accurate and that is expected therefore to enhance the research instrument.

9.2.2 Reliability. In order to measure the internal consistency and reliability of the study's constructs, Cronbach's α measure is used. The scales' reliabilities were measured and the Cronbach's αs of all scales are 0.90, indicating good reliabilities of the scales (Hair *et al.*, 2006) (Table VII).

	Frequency	Percent	Valid percent	Cumulative percent
Valid				
0 -1 years	16	11.0	11.0	11.0
1-5	67	46.2	46.2	57.2
6-10	35	24.1	24.1	81.4
11-15	13	9.0	9.0	90.3
16 and above	14	9.7	9.7	100.0
Total	145	100.0	100.0	

Table V.
Descriptive statistics of the study sample according to experience

	Frequency	Percent	Valid percent	Cumulative percent
Valid				
Customer service/entry level	58	40.0	40.0	40.0
Customer service/senior level	34	23.4	23.4	63.4
Administrative	46	31.7	31.7	95.2
Other	7	4.8	4.8	100.0
Total	145	100.0	100.0	

Table VI.
Descriptive statistics of the study sample according to job level

Cronbach's α	Number of items
0.900	14

Table VII.
The Cronbach's α test (reliability test)

9.3 Descriptive statistics: constructs

In this section, we rely mainly on the descriptive analysis to get the means and the standard deviations for the study constructs along with their items. The items were measured using a Likert-type scale as follows:

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
5	4	3	2	1

Based on the aforementioned details, the means of the study's constructs will be dealt with according to the following formula.

$$\text{Interval length} = (\text{Highest value–Lowest value})/\text{Number of levels}$$

$$\text{Interval length} = (5-1)/3 = 4/3 = 1.33 \text{ and thus;}$$

low level = 1 + 1.33 = 2.33 and less; medium level = 2.34 + 1.33 = 3.67, so this level range is from 2.34 to 3.67; high level = 3.68 and above.

We calculated the means and the standard deviations for the study constructs along with the items based on the responses and it is collected from the study's sample in the banking sector in Jordan. Next, we present the means and the standard deviation for each of the study's constructs along with its items.

9.3.1 Culture. This construct can be decomposed into three sub-constructs as follows: hierarchy, clan, and adhocracy. Hierarchy questions are: bank's policies and procedures help the employee to provide the service to customer that want and need; employee, teams, and functional areas have inconsistent goals; management style is very controlled area; and bank focuses on the stability of the working environment.

But clan questions are: everyone strongly believes how employees should work together to solve common problems and reach mutual objectives; bank is working on increasing loyalty and mutual trust between employees and their manager; people value and use of one another's unique strengths and different abilities; and bank's employees act as one family.

Adhocracy questions explain when clients have problems with the service they receive, those problems are almost always resolved and satisfied; the management in the bank is characterized by individual risk-taking; the bank is always looking for new and better ways to serve customers; and bank works on initiating new products and facilities with low cost.

Table VIII summarizes the means and standard deviations of the types of the organizational culture in a descending order on the basis of mean values. Table VIII indicates that the hierarchy culture is the highest in banks in Jordan, whilst the adhocracy culture is the lowest one in the context of organizational culture.

9.3.2 Job satisfaction. Three dimensions are encapsulated within this construct. These factors are as follows: employee engagement, employee empowerment, turnover-absenteeism, work environment, and salary.

Items	Mean	SD	Rank	Level
Hierarchy culture	3.760	0.863	1	High
Clan culture	3.627	0.986	2	High
Adhocracy culture	3.575	0.934	3	Medium
Overall mean	3.654	0.927		Medium

Table VIII.
Descriptive analysis for the types of organizational culture

Employee engagement questions are: when I do a good job, I receive the recognition for it that I should receive; work assignments are explained (clear job description); and the degree of bank's interest in my career path.

Employee empowerment questions are: I have the authority to make decisions; the work I do is very important to me; and I have significant influence over what happens in my department.

Turnover-absenteeism questions are: I have to work in the position of others; I am looking for other job opportunities, bank's rules for working hours and days with holidays are proportional; and I have to do overtime work to complete my tasks.

Work environment are: there is bickering and fighting at work; my supervisor shows interest in the feelings of subordinates; and communications within this organization.

Salary questions are: I feel I am being paid a fair amount for the work I do; and my salary is in the range with other competing organizations' salaries.

Table IX summarizes the means and standard deviations for the factors of job satisfaction. Table IX also indicates that the turnover-absenteeism is the highest in banks in Jordan, whilst the salary is the lowest one in the context of job satisfaction.

9.3.3 KM. This construct can be decomposed into three sub-constructs which are as follows: creation, dissemination, and application.

Creation questions are: bank concerns with developing abilities and skills of staff; bank cares for motivating and rewarding creative employee; bank cares for motivating and rewarding creative employee; the bank has a strong commitment to new ideas because of its important role in achieving innovation; the bank's information system facilitates ideas sharing between or among employees to achieve innovation; I do not understand how the mission of the bank is to be achieved; and the bank's mission statement identifies that all employees must conform.

Dissemination questions are: managers in this bank can accept criticism without becoming overly defensive; managers in this bank often provide useful feedback that helps to identify potential problems and opportunities; managers in this bank frequently involve employees in important decisions; bank database includes a list of names and addresses of experts to call up for consultancy when needed; I have an internal communication network which enables me to share and exchange knowledge with others; I have enough time to interact and work with my colleagues to discuss work related issues; and I encourage team work as it enables me to share and exchange knowledge with others.

Application questions are: the bank periodically produces reports which are handed out to its employees, informing them about any advances made by the bank; we have a system that allows us to learn successful practices from other organizations; when new methods to improve work emerged, I adopt them instantly; I treat all information I receive from any source (internal or external) and benefit from it; typically, I do not face difficulty in applying work methods that I have been trained on; current organizational practices encourage employees to solve problems together before discussing them with a manager; and most problem-solving groups in this bank feature include employees from a variety of functional areas.

Dimensions	Mean	SD	Rank	Level	
Turnover-absenteeism	3.538	1.065	1	Medium	
Employee empowerment	3.440	0.94	2	Medium	
Employee engagement	3.420	0.99	3	Medium	
Work environment	3.370	1.075	4	Medium	
Salary	3.105	1.169	5	Medium	Table IX.
Overall mean	3.375	1.045		Medium	Descriptive analysis for the factors of job satisfaction

Table X summarizes the means and standard deviations for the dimensions of KM. Table X also indicates that the knowledge dissemination is the highest in banks in Jordan, whilst the knowledge creation is the lowest one in the context of KM.

10. The readiness and validity of data for regression analyses
To answer the research questions and test the study hypotheses, regression analyses need to be run. However, there are three main prerequisites that should be satisfactorily met so as to ensure that the use of regression analyses is valid. Otherwise, non-parametric tests should be employed:

(1) the data should be normally distributed;

(2) multicollinearity amongst constructs should not be available so as to ensure independence of constructs; and

(3) the correlation of constructs with themselves should be higher than their correlations with any other construct to ensure that each construct is independent and not part of any other construct.

10.1 Test of normality
Both Shapiro-Wilk and Kolmogorov-Smirnov tests were utilized to test the normality of collected data. For data to be normally distributed, the values of Shapiro-Wilk should be between ± 2.54. Using Kolmogorov-Smirnov tests, data need to be significant so as to ensure their validity (Hair *et al.*, 2006) (Tables XI-XII).

Items	Mean	SD	Rank	Level
Knowledge dissemination	3.616	0.959	1	Medium
Knowledge application	3.613	0.955	2	Medium
Knowledge creation	3.314	0.962	3	Medium
Overall mean	3.514	0.959		Medium

Table X. Descriptive analysis for the dimensions of knowledge management

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
O/C	0.086	145	0.010	0.977	145	0.014
H	0.143	145	0.000	0.977	145	0.016
C	0.147	145	0.000	0.955	145	0.000
Ad	0.134	145	0.000	0.961	145	0.000
J/S	0.081	145	0.021	0.958	145	0.000
EM.Eng	0.126	145	0.000	0.957	145	0.000
Em.Emp	0.141	145	0.000	0.957	145	0.000
Tur.Abs	0.108	145	0.000	0.966	145	0.001
W.En	0.165	145	0.000	0.937	145	0.000
Salary	0.148	145	0.000	0.942	145	0.000
K/M	0.049	145	0.200*	0.993	145	0.651
Creation	0.068	145	0.097	0.984	145	0.089
Diss	0.121	145	0.000	0.969	145	0.002
App	0.080	145	0.023	0.980	145	0.031

Table XI. Test of normality: Kolmogorov-Smirnov Shapiro-Wilk

Notes: O/C, organizational culture; H, hierarchy; C, clan; Ad, adhocracy; J/S, job satisfaction; Em.Eng, employment engagement; Em.Emp, employment empowerment; Tur.Abs, turnover-absenteeism; W.En, work environment; K/M, knowledge management; Diss: dissemination; App, application

Table XI indicates that data are normally distributed as Shapiro-Wilk values are all within the range $\pm$ 2.54.

Table XI also indicates and confirms that the data are normally distributed given that all constructs are significant at $p \leqslant 0.05$. Therefore, normality of data as one of the prerequisites for regression analyses is assured in this study.

10.2 Test of multicollinearity
Both tolerance and variance inflation rate (VIF) values are utilized to make sure that constructs are independent and multicollinearity is not a likely threat. The tolerance values should be more than 0.20, and VIF values should be less than 5 for constructs to be independent and for assuring that multicollinearity is not available amongst constructs. Table IX confirms the independency of constructs given that the measured values meet the conditions of tolerance and VIF. Hence, the study constructs are independent and thus the second prerequisite for regression analyses is assured (Table XIII).

10.3 Bivariate Pearson correlation
Bivariate Pearson correlation test was conducted to assure the independence of data. The rule is that each and every construct should correlate with itself in a way that is much greater to its correlations with other constructs. If this rule is true, then constructs are independent and that data are ready and valid to be used with regression analyses. Based on the values in Table XIV, the constructs are independent as they correlate with themselves in a way that is stronger in comparison to their correlations with other constructs.

Based on the results of the above three tests, the research utilized regression analyses to test the research hypotheses.

Kaiser-Meyer-Olkin measure of sampling adequacy	0.733
Bartlett's test of sphericity	
Approx. χ^2	202.318
df	3
Sig.	0.000

Table XII. KMO and Bartlett's test

	Coefficients'	
		Collinearity statistics
Model 1	Tolerance	VIF
a. Dependent variable: O/C		
H	0.853	1.172
C	0.797	1.254
Ad	0.693	1.443
a. Dependent variable: J/S		
EM.Eng	0.613	1.633
Em.Emp	0.728	1.373
Tur.Abs	0.921	1.086
W.En	0.849	1.178
Salary	0.831	1.203
a. Dependent variable: K/M		
Creation	0.548	1.824
Diss	0.504	1.983
App	0.460	2.174

Table XIII. Multicollinearity test

10.4 Hypotheses testing

H1. There is no significant positive effect of organizational culture on KM in the banking sector in Jordan at a level ($\alpha \leqslant 0.05$).

For testing the first hypothesis, simple regression analysis was utilized in order to test the effect of organizational culture on KM of banks in Jordan as shown in Table XV.

Table XV also shows that *t*-value is equal to 12.113 at a significance level of $p \leqslant 0.05$. This indicates that there is a relationship between organizational culture and KM and thus null hypothesis is rejected. The β-value indicates that the effect of organizational culture on KM is positive and equals to 71.2 percent. Based on the value of adjusted R^2, organizational culture explains about 50.3 percent of the difference in the KM.

Further, this study tests the effect of the dimensions of organizational culture altogether on KM using multiple regression analysis. Table XVI shows the results. Table XVI also indicates that types of organizational culture (hierarchy, clan, and adhocracy) altogether

	OC	JS	KM
OC	*1.00*	0.638	0.712
JS	0.589	*1.00*	0.534
KM	0.702	0.716	*1.00*

Table XIV. Bivariate Pearson correlation

Coefficients[a]
a. Dependent variable: K/M
Model 1

	Unstandardized coefficients		Standardized coefficients		
	B	SE	β	t	Sig.
(Constant)	0.508	0.246		2.068	0.040*
O/C	0.810	0.067	0.712	12.113	0.000*

Model summary
a. Predictors: (Constant), O/C

R	R^2	Adjusted R^2	SE of the estimate
0.712[a]	0.506	0.503	0.3842736

Table XV. Simple regression analysis for *H1*

Note: *Significant at $p \leqslant 0.05$

Coefficients[a]
Model 1

	Unstandardized coefficients		Standardized coefficients		
a. Dependent variable: K/M					
	B	SE	β	t	Sig.
(Constant)	0.852	0.233		3.654	0.000
H	0.044	0.055	0.047	0.809	0.420
C	0.423	0.042	0.609	10.191	0.000
Ad	0.243	0.060	0.259	4.041	0.000

Model summary
a. Predictors: (Constant), Ad, H, C

R	R^2	Adjusted R^2	SE of the estimate
0.773[a]	0.598	0.589	0.3492457

Table XVI. Multiple regression analysis of organizational culture types on knowledge management

explain about 58.9 percent of the difference in KM on the basis of the adjusted R^2 value. The t-values were equal to 0.809, 10.191 and 4.041 which are significant at $p \leqslant 0.05$, and this assures that there is a relationship between the types of organizational culture and KM. Moreover and on the basis of t-values, one can tell that only clan and adhocracy have a positive effect on KM at $p \leqslant 0.05$.

This research also utilized the stepwise multiple regression to determine the weight of importance of each type of organizational culture in the regression model in explaining KM. As shown in Table XVI, clan came first and explains 21.8 percent of the difference in KM. Adhocracy was second in rank, and together with clan and hierarchy they explain about 55 percent of the difference in KM. Another type of organizational culture (i.e. adhocracy) was excluded from the regression analysis as it was not found to be significant in the former multiple regression analysis as shown in Table XVII:

H2. There is no significant positive effect of job satisfaction on KM in the banking sector in Jordan at the level of $\alpha \leqslant 0.05$.

For testing the second hypothesis, simple regression analysis was utilized in order to test the job satisfaction on KM of banks in Jordan as shown in Table XVIII. Table XVIII also shows that t-value is equal to 10.881 at a significance level of $p \leqslant 0.05$. This indicates that there is a relationship between job satisfaction and KM and thus null hypothesis is rejected. The β value indicates that the effect of job satisfaction on KM is positive and equals to 67.3 percent. Based on the value of adjusted R^2, organizational culture explains about 44.9 percent of the difference in the KM.

Further, the research paper here tests the effect of job satisfaction factors altogether on KM using multiple regression analysis. Table XIX shows the results. Table XIX also indicates that the factors of job satisfaction (i.e. employee engagement, employee empowerment, turnover-absenteeism, work environment, and salaries) altogether explain about 54.2 percent

Coefficients

Model 1

	Unstandardized coefficients		Standardized coefficients		
	B	SE	β	t	Sig.
(Constant)	2.720	0.280		9.706	0.000
H	0.207	0.077	0.218	2.677	0.008
Model 2					
(Constant)	1.211	0.227		5.333	0.000
H	0.126	0.054	0.132	2.336	0.021
C	0.496	0.039	0.715	12.629	0.000
Model 3					
(Constant)	0.852	0.233		3.654	0.000
H	0.044	0.055	0.047	0.809	0.420
C	0.423	0.042	0.609	10.191	0.000
Ad	0.243	0.060	0.259	4.041	0.000

a. Dependent variable: K/M

Model summary

Model	R	R^2	Adjusted R^2	SE of the estimate
1	0.218[a]	0.048	0.041	0.5337625
2	0.743[b]	0.551	0.545	0.3676100
3	0.773[c]	0.598	0.589	0.3492457

a. Predictors: (Constant), H
b. Predictors: (Constant), H, C
c. Predictors: (Constant), H, C, Ad

Note: *Significant at $p \leqslant 0.05$

Table XVII.
Stepwise multiple regression analysis of organizational culture types on knowledge management

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Table XVIII.
Simple regression
analysis for *H2*

Coefficients
Model 1

	Unstandardized coefficients		Standardized coefficients		
	B	SE	*β*	*t*	Sig.
(Constant)	0.616	0.264		2.336	0.021
J/S	0.837	0.077	0.673	10.881	0.000

a. Dependent variable: K/M

Model summary

Model	*R*	*R²*	Adjusted *R²*	SE of the estimate
1	0.673ᵃ	0.453	0.449	0.4045668

a. Predictors: (Constant), J/S

Note: *Significant at $p \leqslant 0.05$

Table XIX.
Multiple regression
analysis of job
satisfaction factors on
knowledge
management

Coefficients
Model 1

	Unstandardized coefficients		Standardized coefficients		
	B	SE	*β*	*t*	Sig.
(Constant)	1.032	0.272		3.802	0.000
EM.Eng	0.362	0.051	0.511	7.087	0.000
Em.Emp	0.216	0.053	0.271	4.094	0.000
Tur.Abs	0.120	0.064	0.111	1.884	0.062
W.En	−0.048	0.053	−0.056	−0.908	0.366
Salary	0.056	0.034	0.103	1.666	0.098

a. Dependent variable: K/M

Model summary

R	*R²*	Adjusted *R²*	SE of the estimate
0.747ᵃ	0.558	0.542	0.3689710

a. Predictors: (Constant), Salary, Tur.Abs, W.En, Em.Emp, EM.Eng

Note: *Significant at $p \leqslant 0.05$

of the difference in KM on the basis of the adjusted R^2 value. The *t*-values were equal to 7.087, 4.094, 1.884, −0.908, and 1.666) which are significant at $p \leqslant 0.05$, and this assures that there is a relationship between the factors of job satisfaction and KM. Moreover and on the basis of *t*-values, one can tell that only employee engagement and employee empowerment have a positive effect on job satisfaction at $p \leqslant 0.05$.

The research also utilized the stepwise multiple regression to determine the weight of importance of each factor of job satisfaction in the regression model in explaining KM. As shown in Table XIX, employee engagement came first and explains 47 percent of the difference in KM. Employee empowerment was second in rank, and together with employee engagement they explain about 53.5 percent of the difference in KM. Another factors of job satisfaction (i.e. turnover-absenteeism, work environment, and salary) were excluded from the regression analysis as they were not found to be significant in the former multiple regression analysis as shown in Table XX:

H3. Job satisfactions do not mediate the effect of organizational culture on knowledge management in the banking sector in Jordan at the level of $\alpha \leqslant 0.05$.

For testing the third hypothesis so as to know whether job satisfaction mediates the relationship between organizational culture and KM or not, the approach of Baron and Kenny (1986) was followed. This approach is based on a series of regression analyses for

Coefficients
Model 1

	Unstandardized coefficients		Standardized coefficients		
	B	SE	β	t	Sig.
(Constant)	1.791	0.151		11.881	0.000
EM.Eng	0.488	0.043	0.688	11.350	0.000
Model 2					
(Constant)	1.344	0.176		7.637	0.000
EM.Eng	0.384	0.047	0.541	8.117	0.000
Em.Emp	0.230	0.053	0.288	4.315	0.000

a. Dependent variable: K/M

Model summary

Model	R	R^2	Adjusted R^2	SE of the estimate
1	0.688[a]	0.474	0.470	0.3967347
2	0.731[b]	0.535	0.528	0.3743385

a. Predictors: (Constant), EM.Eng
b. Predictors: (Constant), EM.Eng, Em.Emp

Note: *Significant at $p \leqslant 0.05$

Table XX.
Stepwise multiple
regression analysis of
job satisfaction factors
on knowledge
management

testing the significance of path coefficients. The following three steps are included within
this approach (Table XXI).

The first step was conducted in the prior hypotheses, and Table XXII shows the
summary of their results along with the result of the third step.

Minimum was achieved

$\chi^2 = 40.614$.

Degrees of freedom $= 1$.

Probability level $= 0.000$.

Based on the results of the first two steps and given that all of the aforementioned steps
were found to be significant at $p \leqslant 0.05$, then mediating effect is possible and step 3 should
be carried out.

This research investigated a multiple regression analysis where both organizational
culture and job satisfaction are included within the regression model as an independent
variable, and KM is included as a dependent variable. If the results show that job satisfaction
is the only significant variable at $p \leqslant 0.05$, then a full mediation is there, but if the results show
that both variables (i.e. organizational culture and job satisfaction) are significant at $p \leqslant 0.05$,
then a partial mediation is present. Table XXIII shows the results of the third step.

Table XXII also indicates that job satisfaction fully mediates the relationship between
organizational culture and KM. This is because when both organizational culture and job
satisfaction were both regressed on KM in the fourth step, only job satisfaction was found to
be significant on KM at $p \leqslant 0.05$.

10.5 Factor analysis

Table XXIII also shows an important measure for factor analysis known as the
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity.

Step 1 Show that the causal variable is correlated with the mediator
Step 2 Show that the mediator affects the outcome variable
Step 3 Full mediation: Show that mediator affects outcome variable in the existence of the casual variable in
the regression model
Partial mediation: Show that both the mediator and the causal variable affects the outcome variable
when they are both included in the regression model

Table XXI.
Analysis steps

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			Estimate	SE	CR	P	Label
KM	←	JS	0.837	0.077	10.919	***	

Standardized regression weights: (group number 1 - default model)

			Estimate
KM	←	JS	0.673

Covariances: (group number 1 - default model)

			Estimate	SE	CR	P	Label
JS	←	OC	0.133	0.021	6.453	***	

Correlations: (group number 1 - default model)

			Estimate
JS	←→	OC	0.638

Variances: (group number 1 - default model)

	Estimate	SE	CR	P	Label
JS	0.191	0.023	8.485	***	
OC	0.228	0.027	8.485	***	
e1	0.161	0.019	8.485	***	

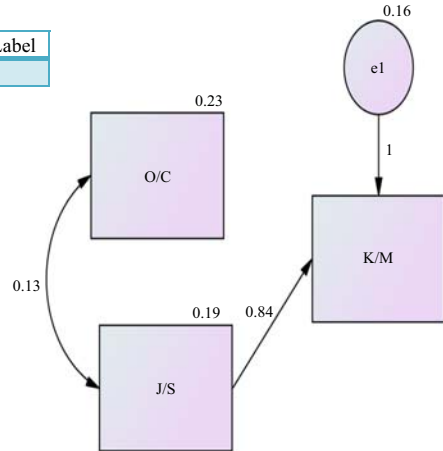**Table XXII.**
Regression weights:
(group number
1 – default model)

Kaiser-Meyer-Olkin measure of sampling adequacy		0.733
Bartlett's test of sphericity	Approx. χ^2	202.318
	df	3
	Sig.	0.000

Communalities

	Initial	Extraction
J/S	1.000	0.759
O/C	1.000	0.789
K/M	1.000	0.808

Note: Extraction method: principal component analysis

Table XXIII.
KMO and
Bartlett's test/
Communalities

The KMO value of 0.733 indicates that patterns of correlations are relatively compact and thus factor analysis yield distinct and reliable factors, and the factor analysis is appropriate for these data.

Bartlett's test of sphericity tests the null hypothesis that the original correlation matrix is an identity matrix and then all correlation coefficient would be zero. For these data, Bartlett's test is highly significant ($p > 0.001$), and therefore, the factor analysis is appropriate.

11. Conclusions and recommendations
This research aimed to study the effect of organizational culture on KM by taking job satisfaction as a mediating factor. Nowadays, the culture has become the main issue for the

success of the banks. This is because work environment and place can contribute by optimizing business processes, maximizing profits, and strength KM.

To achieve the objectives of this study, the research paper has developed a model to measure the effect of organizational culture on KM by taking job satisfaction as a mediating factor. An extensive review of relevant literature was essential in developing this model. The model contains three main constructs: organizational culture, job satisfaction, and KM. The construct of organizational culture includes three main types: hierarchy, clan, and adhocracy, whilst the construct of job satisfaction includes five main factors: employee engagement, employee empowerment, turnover-absenteeism, work environment, and salary.

The developed model was applied and tested in the context of the banks operating in Jordan, and the sample was determined to include business junior and senior customer service and administrative employees. For hypotheses testing, a questionnaire instrument was designed based on the constructed model. Prior to data collection, the questionnaire instrument was validated by a number of professors and experts in the domain of this study working at both public and private universities in Jordan. The questionnaire instrument was validated in terms of clearance, meaning, format, and its ability to measure the constructs included within the research model. The questionnaire instrument was then revised to reflect the comments and suggestions those received by the referees.

Thereafter, the questionnaire was distributed to the sample of this study and 145 responses those considered valid for data analysis were collected. The analysis was conducted using both; SPSS and SPSS-AMOS. Following data analysis, the results were obtained and reported in the analysis section.

11.1 The main results of the study
The study explored a number of important and significant results that the researchers hope that they would lead to novel contributions to the theory and relevant literature. The researchers also hope that such results would trigger a number of critical decisions by the private sector in Jordan and more specifically determined banks. They also hoped that such decisions would be reflected positively on their businesses. The researchers here summarize the main results generated from this piece of research:

- the hierarchy culture at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- the clan culture at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- the adhocracy culture at banks in Jordan is considered high in terms of level from the perspective of the study's sample;

- employee engagement culture at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- employee empowerment at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- turnover-absenteeism at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- the work environment at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- salary at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- knowledge creation at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- knowledge dissemination at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- knowledge application at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- organizational culture in general at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- job satisfaction in general at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- KM in general at banks in Jordan is considered medium in terms of level from the perspective of the study's sample;

- the level of hierarchy culture is the highest in banks in Jordan, whilst the adhocracy culture is the lowest one in the context of organizational culture;

- organizational culture explains about 50.3 percent of the difference in the KM;

- out of organizational culture types, only clan and adhocracy a have a positive impact on KM at ($p \leqslant 0.05$);

- out of organizational culture types, only employee engagement and employee empowerment have a positive impact on KM at ($p \leqslant 0.05$);

- the factors of job satisfaction (i.e. employee engagement, employee empowerment, turnover-absenteeism, work environment, and salary) altogether explain about 44.9 percent of the difference in KM;

- out of job satisfaction, only employee engagement and employee empowerment have a positive effect on job satisfaction at $p \leqslant 0.05$);

- job satisfaction fully mediates the relationship between organizational culture and KM; and

- the factor analysis of all variables is yields distinct and reliable factors, and is appropriate.

11.2 Study conclusions
On the basis of the results of this study, the researchers conclude the following points:

- The development of organizational culture at banks in Jordan is still not stable and efficient. This may be affected by the management style and teamwork spirit in Jordan and other factors related to bank culture and how will be reflected in the customer service.

- The creation and application of KM at banks in Jordan is still modest. Knowledge is mainly shared internally within the bank with little effort dedicated to soliciting knowledge from the external environment including customers.

- The job satisfaction at banks in Jordan is still modest; mainly refer to not pay a good attention to employee engagement and empowerment, and how that will be reflected on type and quality of employee performance.

- For effective knowledge managing, banks in Jordan need not only to develop their cultures, but they also need to enhance their needed job satisfaction.

- Knowledge is mainly shared internally within the bank with little effort dedicated to soliciting knowledge from the external environment including customers.

- Aiming at KM, banks in Jordan need to improve clan and adhocracy as essential dimensions of organizational culture.

- The culture of organization is essential for success the job satisfaction rules at banks in Jordan.

- For the success of applying job satisfaction, there is an essential need to improve clan and adhocracy types of organizational culture.

- Amongst the factors of job satisfaction, employee empowerment is the most influential factor in KM.

- Banks in Jordan are more effective in disseminating knowledge than applying or creating knowledge.

11.3 Study recommendations

According to the results and the conclusions drawn from the study, the researchers here offer some recommendations that would enhance the practices of banks in Jordan in regards to organizational culture, job satisfaction, and KM. The researchers hope that such recommendations would be taken seriously into consideration so as to enhance the business operations of banks in Jordan. Some of the recommendations are directed toward the scientific and research community aiming to enhance the existing body of satisfaction in large and that specifically related to the domain of this study. The researchers present through the following points the most important recommendations based on the results and conclusions of this study:

- banks in Jordan need to utilize the employee training and development to improve delivering good customer services;

- new approaches and mechanisms are needed to be adopted by banks in Jordan so as to motivate employees to share and acquire knowledge within their units;

- more emphasized should be allocated to create a culture that believes in employee empowerment and engagement through concentrating on the process of recognition and ability to have a decision making among his/her department;

- there is a related need at banks in Jordan to encourage teamwork spirit, loyalty, and innovation to support business process so as to enhance banks' KM; and

- new processes and procedures are needed to motivate employees to share knowledge within departments.

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