

**AN EMPIRICAL STUDY ON THE EFFECT OF KNOWLEDGE SHARING IN EMPLOYEES  
INNOVATIVE BEHAVIOUR<sup>1</sup>**Osama Abu SHWIEMEH\* Assoc. Prof. Canan YILDIRAN (PhD)\*\* **ABSTRACT**

*The purpose of this research is to determine the effect of knowledge sharing on innovative behavior of employees at MS Pharma Company in Amman, Jordan. Questionnaire method was chosen to collect data and it was applied to 206 employees at MS Pharma Company. Descriptive analysis, Pearson Correlation analysis, Regression method and One Way ANOVA were used. The most important result of the research was found that the level of knowledge sharing and innovative behavior of employees in the pharmaceutical industry was above the average. The effectiveness of information sharing in innovative behavior in the pharmaceutical industry has an important role and a statistically positive effect. There is no difference between information sharing and demographic (gender) variable, and between innovative behavior and demographic (education level) variable. In line with the findings, incentives for employees to share new learned information can be increased and improved with relationship and cooperation between departments.*

**Keywords:** Knowledge Sharing, Innovative Behaviour, Management.

**Jel Codes:** M10, M12, M19.

**BİLGİ PAYLAŞIMININ ÇALIŞANLARIN YENİLİKÇİ DAVRANIŞLARINA ETKİSİ  
ÜZERİNE AMPİRİK BİR ÇALIŞMA****ÖZET**

*Arařtırmanın amacı bilgi paylaşımının çalışanların yenilikçi davranışları üzerindeki etkisinin incelenmesi oluřturmaktadır. Arařtırma Ürdün Amman'da bulunan MS Pharma Company'de çalışanları kapsamaktadır. Arařtırmada 206 çalışandan toplanan veri üzerinden analiz yapılmıřtır. Arařtırma kapsamında çalışanalardan toplanan veriler anket yöntemi ile elde edilmiřtir. Arařtırmada uygulanan anket formu üç bölümden oluřmakta olup, birinci bölümde katılımcıların demografik*

<sup>1</sup> This study was produced from Osama Abu SHWIEMEH's Master's thesis titled "The Effect of Knowledge Sharing in Employees Innovative Behaviour" under the supervision of Assist. Prof. Dr. Canan YILDIRAN.

\* Karabuk University, Karabuk/Türkiye, E-mail: osamasemo993@gmail.com

\*\* Karabuk University, Faculty of Business, Department of Finance and Banking, Karabuk/Türkiye, E-mail: cananyildiran@karabuk.edu.tr

**Makale Geçmiři/Article History**

Başvuru Tarihi / Date of Application : 11 Eylül / September 2022

Düzeltilme Tarihi / Revision Date : 7 Mayıs / May 2023

Kabul Tarihi / Acceptance Date : 10 Haziran / June 2023

134

**Arařtırma Makalesi/Research Article**

*özelliklerine ilişkin soru ifadeleri yer almaktadır. Araştırma anketinin ikinci bölümünde bilgi paylaşımı ölçeği ve üçüncü bölümünde ise yenilikçi davranış ölçeği kullanılmıştır. Katılımcıların demografik değişkenlere göre dağılımlarının tespiti için frekans analizi ve ayrıca tanımlayıcı istatistik, hipotezlerin analizi için ise pearson korelasyon, regresyon ve tek yönlü anova analizleri gerçekleştirilmiştir. Araştırmanın sonucunda ilaç sektöründe çalışanların bilgi paylaşımı ve yenilikçi davranış düzeylerinin ortalamasının üzerinde olduğu görülmektedir. Bilgi paylaşımının yenilikçi davranış üzerinde istatistiksel olarak anlamlı ve olumlu bir etkiye sahip olduğu tespit edilmiştir. Bilgi paylaşımı ile demografik değişkenlerden sadece cinsiyet değişkeni arasında; yenilikçi davranış ile demografik değişkenlerden sadece eğitim düzeyi değişkeni arasında anlamlı bir farkın bulunmadığı görülmüştür. Bulgular doğrultusunda, özellikle departmanlar arasındaki ilişki ve iş birliği ile yeni öğrenilen bilgilerin paylaşımının teşviki arttırılabilir ve desteklenebilir.*

**Anahtar Kelimeler:** *Bilgi Paylaşımı, Yenilikçi Davranış, Yönetim.*

**Jel Kodları:** *M10, M12, M19.*

## 1. INTRODUCTION

Knowledge management is an old and modern process at the same time, as philosophers have written on this topic for thousands of years. There were also many societies that practiced knowledge management in one way or another, without calling their practices this term. Currently, knowledge management is applied in most successful organizations, and academics have given it a wealth of study and research. The process of sharing knowledge is the most important process in knowledge management, and in this topic, we will try to provide a deep explanation of this process. Knowledge sharing (KS) has been recognized because the most vital think about the success of knowledge management. Knowledge sharing means the exchange of employees' knowledge, skills, and experiences. It ensures that the knowledge within a corporation is out there for workers whenever they have it, and its benefits include retaining intellectual assets and improving productivity (Nazım and Mukherjee, 2016). The idea that humans have the ability to solve complex problems has been supported by much psychological research, and that when these creative behaviors can be harnessed among a group of people with different perspectives and skills, a big achievement can be achieved.

Employee creativity in the place of work might be the bedrock of any high-performance business (Hülshager, Anderson and Salgado, 2009; Korzilius, Bücken and Beerlage, 2017; Oldham and Cummings, 1996). This is frequently obvious since the foundation of a knowledge economy is intangible assets, which are commodities that play an increasingly important role inside organizations, such as the ability to reinforce competitiveness by “doing more with less” (Carmeli and Spreitzer, 2009; Crossan and Apaydın, 2010). Business has many aspects however, there is a recurring motif that business is

involved with inventing and exploiting lucratively possibility (Shane and Venkatarman, 2000). As indicated by Schumpeter (1934), an entrepreneur is someone who is prone to splintering the balance by presenting the beginning within the framework that looks like new elements, new business sectors, or new techniques for production. Employee innovative behaviour (IB) is known as the conduct of an employee in the direction of evolving a modern component, establishing unprecedented market, or enhancing agendas in the organization in which he works (Vance, 2006).

## **2. LITERATURE REVIEW**

### **2.1. Knowledge Sharing**

Management literature has emphasized the complexity of the concept of knowledge and the lack of agreement about its definition. Knowledge is defined as a true justified belief (Akamavi and Kimble, 2005: 3) and it is information whose validity has been justified (Lin, Cheng and Wu, 2004: 319). It can also be characterized as a combination of expertise, values, information, and expert insight that serves as a theoretical framework for analyzing and developing new experiences and data (Sharman and Edward, 2007: 2).

The concept of knowledge sharing; with different perspectives, situations, and needs, researchers provided various definitions for sharing knowledge, and one of the most differences between researchers is that some of them considered the process of knowledge sharing aimed at gaining new experiences and knowledge, and thus it is a process of knowledge transfer. While others see that knowledge transfer is only a stage of knowledge sharing, as knowledge sharing also includes gaining new knowledge, through the learning process and applying this knowledge by the knowledge recipient. Knowledge sharing means creating information about tasks, knowing how to help others, cooperating with them to solve their problems, applying policies, and developing new ideas (Aliakbar, Yusoff and Mahmood, 2012: 209). Researchers also view sharing of knowledge as either a process or a behavior. The following is a presentation of some definitions according to this division; knowledge sharing is a learning process through the exchange of ideas, knowledge, experiences, and information, and it is related to the ability of the individual to transfer his apparent and implicit knowledge to others, and knowledge sharing is an appropriate mechanism for mastery (elaborate) knowledge management (Manaf and Marzuki, 2009: 7) and knowledge sharing is the process of exchanging knowledge from one individual to another, and it is one of the knowledge management processes (Chen, Chen and Kinshuk, 2009: 134). Also defines knowledge sharing as the process of bringing knowledge and transferring it from someone who is a source of it to a recipient (Jain, Sandhu and Sidhu, 2007: 23). Knowledge sharing is a communicative process in which knowledge is discussed and exchanged through direct interaction, and via the Internet, with the aim of raising the value of existing knowledge. Also, knowledge sharing is a means for absorbing knowledge through experience and regular research, managing and storing information and

knowledge for easy access, transfer, and dissemination (Yeh, Lee and Pai, 2011: 2466). Knowledge sharing is a complex process, requiring a contribution of knowledge on the part of the organization and individuals as (Shaqrah, Alqirem and Alomoush, 2011: 2) refers that the knowledge-sharing strategy means transferring the customer's current knowledge to the organization, the employee, and to the customers. On the other hand, knowledge sharing is considered a behavior in which individuals' knowledge of their acquired knowledge is disseminated to others in the organization (Aliakbar et. al., 2012: 209). Among the individual's motivations for a knowledge-sharing behavior are his desire and pleasure in helping others, his confidence that he has sufficient capabilities to present knowledge to others, and the extent of the individual's interest in the knowledge in question (Alhady vd., 2011: 138). Foss, Minbaeva, Pedersen and Reinholt (2009) believes that work design contributes to improving employee experiences and independence at work, which is considered an essential catalyst for the practice of knowledge sharing. Also, the feedback in the organization, such as recognition and performance evaluation, are considered factors motivating the behavior of sharing knowledge, moreover, instilling a sense of value in the individual within his social milieu makes him more willing for the individual to make additional efforts, such as sharing knowledge to confirm his position in the organization (Foss et. al., 2009: 875-878).

## **2.2. Employee Innovative Behaviour**

Due to conditions of the current situation, whole motives of the employees in connection with the expansion of a fresh process, fresh merchandises, a fresh market or such collections or new measures to reduce expenditures are considered innovative behaviour (Durkheim, 1984). A new business division, a new product, a new market, or new cost-cutting strategies are all examples of employee innovative behaviour. It is necessary for an idea to be novel if it is novel to the business unit in which it is introduced (Ceylan, 2013). Studies in the field of employee innovative behaviour are systematic in the individual/volunteer situation. This, in terms of notions relating to a single person (employee attributes or employee observations of the surroundings) explain (or describe) a social occurrence (employee innovative behaviour) (De Jong and Den Hartog, 2007). Stages of innovation include augmentation innovation, which consists of little changes or alterations to a product, a minimal amount of expenditure, and a very low risk (Miner, 2010). The first stage is something that happens on a regular or ongoing foundation in an organization or service manufacturing, and it is nothing more than a formal research and development activity, with the outcomes of innovation or invention being directly tied to the manufacturing process (Coccia, 2006). This also considers daily "new and improved" advancements, such as new flavors becoming all-natural components, just-in-time supply chain optimization, larger or smaller sizing, and packaging enhancements, among other things (Terwilliger, 2015). The second stage of radical innovation is considered a significant development because it goes beyond the new and enhanced. For a limited time, this type of innovation provides a considerable competitive edge

(Terwilliger, 2015). This form of innovation is ideally served by a dedicated R&D team, as it necessitates substantial market knowledge and resources. At the third stage of transformative innovation, innovations have a role in changing how people live their lives. It is regarded as the pinnacle of innovation. This innovation in the product or service was not even considered by customers, and they were unaware that they desired such a thing (Hempel, 2007).

### **2.3. The Effect of Knowledge Sharing in Employee Innovative Behaviour**

Many studies on knowledge management and organizational performance have supported the idea that knowledge sharing (often interpreted as knowledge transfer and previously known as knowledge-sharing) leads to improved organizational performance, such as innovation capacity, absorptive capacity, and innovation (Liao, Fei and Chen, 2007; Liu and Phillips, 2011; Hau, Kim, Lee and Kim, 2013; Yeşil and Dereli, 2013).

Innovation is presented as “a process through which economic or social value is extracted from knowledge-through the creation, diffusion and transformation of data to supply new or significantly improved products or processes that are put to use by society”. Thus, innovation is a key competitive strategy and an advantage for the survival of any company and maintaining its distinction. Moreover, it attracts more customers because new things are always attractive. The service industry in particular needs constant innovation to maintain its customer base. It is also clear that those employees with higher education and knowledge directly influence the organizational capacity to implement innovation (Raykov, 2014). However, modern organizations have attempted to sustain their competitive edge in the marketplace by increasing the most innovative insider human capital. Finally, research raises a concern about the need for human capital and a knowledge workforce to address organizational challenges related to productivity and innovation. Knowledge sharing has been shown to be crucial to increasing organizational performance in numerous studies (Perez-Arostegui, Benitez-Amado and Tamayo-Torres, 2012; Kuo, Kuo and Ho, 2014) as well as the knowledge sharing and innovativeness (Lin, 2007; Meng-Lei, Jeou-Shyan and Yu-Hua, 2009; Kuo et. al., 2014). Knowledge, in addition to other aspects, is the most essential organizational resource, allowing for original organizational outcomes that include innovation (Kamaşak and Bulutlar, 2010). Furthermore, knowledge sharing has been shown to assist people in rapidly expanding their individual knowledge range, problem-solving skills, and productivity (Meng-Lei et. al., 2009). Knowledge is regarded as the most important component of the innovation process. However, aside from a few studies on knowledge and innovation, the driving elements that motivate individuals to engage in innovative work behavior are still being researched in the literature. Studies, on the other hand, show a correlation between information sharing and creativity (Alhady et. al., 2011). It is worth noting that a company that encourages its people to exchange knowledge (inside groups and organizations) is expected to generate new and better ideas and foster new business prospects, hence enabling organizational innovation.

Choi, Lee and Yoo (2010) discovered knowledge sharing among team members to be a crucial component in maintaining high levels of team and organizational productivity in another study (Mura vd., 2013). He only referred to knowledge sharing as “best practices sharing” and innovative work behavior as “idea generating”. Their initial mission was to promote knowledge sharing as a positive contributor to innovative workplace behavior. Knowledge sharing, on the other hand, allows employees to not only pass on their knowledge to other employees, but also for others to obtain useful knowledge (Kuo et. al., 2014). Lu, Lin and Leung (2012) evaluated the influence of learning goal orientation on individual inventive work performance with knowledge sharing as a mediator and found that learning goal orientation had a significant beneficial effect, and that data sharing played a major mediating function.

In addition to, Lu et. al. (2012), they tested the effects of learning goal orientation on individual inventive performance in China, as well as the mediating processes that were incorporated during this process. They discovered that learning goal orientation is positively associated to innovative employee performance, and that knowledge sharing mediates this association. Kamaşak and Bulutlar (2010) investigate the effects of data sharing on innovation while considering knowledge donation and knowledge sharing. They discovered a favorable and significant influence of data collecting on all types of innovation using multiple correlation analysis. Donating knowledge, on the other hand, had no effect on exploratory innovation. Akhavan, Hosseini, Abbasi and Manteghi (2015) investigate the impact of social, psychological, technological, and cultural enablers on knowledge-sharing behaviors and their increasing impact on innovative work behavior. Knowledge sharing, on the other hand, is defined as “knowledge sharing intention” rather than “knowledge donation” or “knowledge collection”. While knowledge sharing is defined as a system by which knowledge is transferred between individuals and, as a result, individuals obtain new advantages to facilitate new actions, it is also defined as a mechanism by which knowledge is shared between individuals. Hence, Knowledge sharing increases the value of existing knowledge inside a corporation and promotes creativity. Finally, the literature revealed that more empirical research on the topic of innovation and skills is required (Raykov, 2014). This research focuses on these two critical aspects of knowledge sharing in relation to innovative work behavior, which have previously received less attention from scholars. Knowledge-oriented employment, rather than focusing just on repetitive tasks and activities, necessitates the effective sharing and use of knowledge (Kuo et. al., 2014). Innovation may be the result of such knowledge exchange that takes place among the employees. Knowledge sharing generates key information that facilitates and ultimately predicts organizational innovation (O’Cass, Song and Yuan, 2013; Kuo et. al., 2014). In the same way, when an individual collects knowledge from others, he improves his ability to innovate (Radaelli, Lettieri, Mura and Spiller, 2014).

### **3. METHODOLOGY**

### **3.1. Importance and Method of the Research**

The interest of organizations in the past decades has increased in topics such as knowledge management, knowledge assets, information society, knowledge capital, thinking organizations, learning organizations, organizational innovation, which form part of these important and contemporary variables in management literature, and we believe that research will contribute to enhancing their role in knowledge organizations. Also, knowing the dimensions of knowledge management and the extent of its impact on creativity, which constitutes a wide field for improving knowledge in the researched organization in a way that enhances the possibility of improving performance in this organization when applying the final research results. In order to test the research hypotheses, and achieve the research objectives, the study should follow many steps, data collection, data analysis (that contains arithmetic means analysis, correlation analysis, and regression analysis), and finally test of hypotheses. The main subject of the research is to measure the degree of knowledge sharing employee's innovative behaviour at studied population (MS pharma Jordan Company). In addition to determine, the strength and the nature of the relationship between knowledge sharing and employee's innovative behaviour at studied population.

### **3.2. Questions and Hypotheses of the Research**

In today's competitive business world, an organization's ability to utilize knowledge is critical to success. Existing and new knowledge is utilized to generate competitive capabilities that aid in the development of new products, services, and strategies to outperform competitors and, in general, to increase the organization's competitive advantage. Teams are formed in an organizational context for a variety of reasons. The efficiency of a team is determined by the availability of knowledge and the efficient application of that knowledge, which is frequently in the form of skills, competencies, and experience. International knowledge sharing is becoming increasingly important as firms expand their operations and supply chains through abroad subsidiaries and partnerships. Because management is concerned with creating value through knowledge sharing and innovation. According to Sveiby and Simons, the greater readiness to share expertise is responsible for the more than doubling of innovation in new Buckman Labs Company goods from 14 percent of sales to 34 percent (Sveiby and Simons, 2002). The study seeks to understand the way the community context can change and mitigate the influence of factors that facilitate knowledge sharing on the extent of knowledge sharing and innovation opportunities. To do this, we need to look at the effectiveness of knowledge exchange in the innovative behavior of employees; a holistic view of how these variables interact and affect each other is offered in this study. The above problem requires answers to questions through empirical research. For this, the main research question was developed: What is the impact of knowledge sharing in employee's innovative behaviour? Based on the objectives of the study the main hypothesis is:

*H*<sub>1</sub>: Knowledge sharing has an impact on innovative behaviour.

*H*<sub>2</sub>: Knowledge sharing differs according to demographic characteristics.

*H*<sub>2a</sub>: Knowledge sharing differs according to gender.

*H*<sub>2b</sub>: Knowledge sharing differs according to level of education.

*H*<sub>2c</sub>: Knowledge sharing differs according to age.

*H*<sub>2d</sub>: Knowledge sharing differs according to work experiences.

*H*<sub>3</sub>: Innovative behaviour differs according to demographic characteristics.

*H*<sub>3a</sub>: Innovative behaviour differs according to gender.

*H*<sub>3b</sub>: Innovative behaviour differs according to level of education.

*H*<sub>3c</sub>: Innovative behaviour differs according to age.

*H*<sub>3d</sub>: Innovative behaviour differs according to work experiences.

### **3.3. Sample of the Research and Data Collection Method**

MS Pharma company is a healthcare solutions provider and leading pharmaceutical and preferred partner that manufactures and markets generic drugs through its leading subsidiaries in several strategic markets in the Middle East and North Africa region. MS Pharma is headquartered in Jordan and brings together EL KENDI in Algeria, UPM in Jordan, MS Pharma Injectables and MS Pharma Turkey. The company is also one of the pioneers in the next generation of biotechnology and biosimilars, in which the company has gained significant experience and know-how across the region. The company is committed to offering high quality value-added generic drugs, building on new technologies and state-of-the-art equipment deployed throughout the Middle East and North Africa region. MS Pharma aims to become the leading generic pharmaceutical and healthcare company in the MENA region, focusing on strategic therapeutic classes and formulations with higher entry barriers. Today, they employ 2140 employee and are present in 20 countries, while in Jordan has about 241 employees. In preparing our study, we relied on the questionnaire, one of the frequently tools used to collect data, and what confirms the importance of this tool is that most data collection tools (personal interviews, observation) are usually used as complementary tools to the questionnaire process in practical application. Therefore, we used in our study is a questionnaire. The questionnaire aims to measuring workers' opinions about the knowledge sharing. Knowing the extent of innovative behavior with the pharmaceutical sector. The questionnaire was designed for the purpose of collecting data from employees in pharmaceutical firms with different career grades for them, as they are useful scientific research tools to survey the opinions of the respondents about the impact of the various variables upon which we study. Where 230 questionnaire was distributed to employees, and 206 valid forms for statistical analysis were retrieved

at a rate of. Considering the minimum sample size that should be at the 95% certainty level, it is seen that the number of 206 surveys is valid when compared to the population volume (Sekaran, 2003; Coşkun, Altunışık and Yıldırım, 2020).

### 3.4. Research Scales

The scale, which was prepared to collect the data to be used in the research, consists of three parts. The first part of the scale was prepared with the aim of determining the descriptive characteristics of the participants, and there are questions about 4 demographic variables. In the second part of the scale, the knowledge sharing scale developed by Hooff and Ridder (2004) was used. Knowledge sharing scale consists of 10 questions. In the third part of the scale, the innovative behaviour scale developed by Chien, Tsai-Fang and Chin-Cheh (2013) was used. Innovative behavior scale consists of 9 questions. The scales used in the research are 5-point Likert type. Questionnaire forms were delivered to the relevant participants via Google Drive and the entire data collection process was completed online. Survey data were collected in June 2021. A total of 206 survey data were obtained. After the preparation of the questionnaire to be used in the research, the necessary application was made to Karabük University Social and Human Sciences Research Ethics Committee to obtain the necessary permission for the applicability of the questionnaire, and it was decided that the questionnaire was applicable with the decision numbered 29399.

## 4. FINDINGS

### 4.1. Findings Regarding Demographic Variables

Distribution of sample items according to demographic variables, the frequencies, and percentages of the demographic variables in the survey form were calculated in terms of gender, educational qualification, age, experience.

**Table 1. Distribution of Participants Regarding the Gender Variable**

	Categories	N	%
Gender	Male	139	67
	Female	67	33
Total		206	100

Table 1. shows that, the number of males in the sample reached (139) while the number of females reached (67), thus the male ratio to the total number of the total sample (67%) and the female percentage (33%). It is noticeable that the proportions between males and females in the studied sample with a slight preference for males in pharmaceutical sectors are attributed to the nature of the society that gives better opportunities for males compared to females, which are inconsistent with the global trends where females monopolize the activities of the pharmaceutical sector.

**Table 2. Distribution of Participants Regarding the Education Level Variable**

	Categories	N	%
Education Level	Primary/Secondary School	8	4
	Diploma	20	10
	Bachelor	135	66
	Master	28	14
	PHD or equivalent degree	15	7
Total		206	100

Table 2. shows that, the number of respondents with secondary and less (8) by (4%) and those with a diploma (20) by (10%) of the total sample. And the number of respondents with a university degree was (135) at (66%) of the total the sample, and the number of respondents from the graduate studies campaign (28) master by 14% and (15) PhD by 7%. It is clear from the comparison of the previous percentages that those obtaining a university degree occupied the first rank when classifying individuals according to the educational qualification, given that the university academic qualification represents the minimum required to work in the pharmaceutical sector, which was positively reflected on the absorption of many university graduates and for those who have on the secondary and lower levels and those holding an institute, their percentage was very low, due to the relatively strict conditions of employment in the pharmaceutical sector compared to the other sector. While the percentage of graduate students is relatively low.

**Table 3. Distribution of Participants Regarding the Age Variable**

	Categories	N	%
Age	25 and under	49	24
	26-32	98	48
	33-40	39	19
	41-49	12	6
	50 and over	8	4
Total		206	100

Table 3. shows that, the number of respondents under the age of 25 years reached (49) respondents from both genders at a rate of (24%), and the number of respondents who were aged from 25 to less than 32 years (98) was (48%) of the total sample, and the number was the respondents who were aged from 33 to less than 40 years (39) were (19%) from the total sample, and the number of respondents aged 41 to 49 years (12) made up (6%) of the total sample, and the number of respondents aged 50 and older (8) made up (4%) the total sample. We believe that the third age group (from 41 to less than 49) constitutes a bad percentage within the sample. And this group has experience and skill in work but is considered not suitable for the enthusiastic work required in pharmaceutical service work. While the largest percentage in the was for the age group (from 25 to less than 32) and this category is the most vital for pharmaceutical work, and the lowest percentage was for the group (more than 50) this is due to the

modernity of the pharmaceutical sector in Jordan and therefore the desire of the departments to contain young employees to train them and prepare them to continue working within the favor.

**Table 4. Distribution of Participants Regarding the Experience Variable**

	Categories	N	%
Experience	1 and less	40	19
	2-5	94	46
	6-10	49	24
	11-20	14	7
	20 and more	9	4
Total		206	100

Table 4. shows that, the number of those who have experience less than 1 years (40) of the total number of the total sample by (19%) while the number of those who have experience ranging from 2 to 5 years (94) by (46%) and from 6 to 10 years (49) by (24%) and 11 years to 20 years (14) by (7%), while the number of those who have experience more than 20 years (9) by (4%).

#### 4.2. Reliability Analysis

In Table 5. below shows that these values are considered acceptable because they are higher than the minimum admission levels, and accordingly we can say that all the measures used in the questionnaire have validity, and therefore all these statements can be adopted. Where he does not delete any of them because they are all characterized by the internal stability of their phrases. For the scales to be reliable, the Cronbach's Alpha coefficient is expected to be at least 0,70 (Coşkun et. al., 2020: 149). In addition, Cronbach's Alpha coefficient values between 0,60 and 0,70 are reliable (Şahin and Danişman, 2017: 756). In this case, it is seen that the data of both scales used in the research are reliable.

**Table 5. Cronbach's Alpha Oefficients for the Study Variables**

	Cronbach's Alpha Coefficient	Number of Phrases
Knowledge Sharing	0.883	10
Innovative Behaviour	0.893	9

#### 4.3. Descriptive Statistics

In Table 6. shows descriptive statistics (averages, deviations) related to the terms related to employee knowledge sharing policy as one of the organizational excellence policies, which are (10) phrases that represent the first axis of the second section of the questionnaire.

**Table 6. Descriptive Statistics Related to the Knowledge Sharing**

	Mean	Std. Deviation	Variance
Knowledge Sharing	3.4704	0.67024	0.449

From the above Table 6., we can conclude the following: the above statements (10 phrases) measure the knowledge sharing dimension as a policy of organizational excellence in the firm. It is noted that the scale phrases are above average, which means that workers feel that the performance of their work contributes to achieving the goals of the company and they can deal with themselves with problems in an average way. From the above table, the total arithmetic mean of knowledge sharing was (3.470) with a standard deviation (0.670). It is noted that the degree of availability of knowledge sharing at the company is good, which means that workers share the information skills and new things with their colleagues inside and outside their departments. However, the sharing is better inside department rather than outside the department.

**Table 7. Descriptive Statistics Related to the Innovative Behaviour**

	Mean	Std. Deviation	Variance
Innovative Behaviour	3.6030	0.70317	0.494

From the above Table 7., the total arithmetic mean of innovative behavior was (3.603) with a standard deviation (0.703). It is noted that the degree of availability of innovative behavior at the company is good, which means that workers have ability and willingness to innovate new working methods, techniques, or instruments.

#### **4.4. Test of Hypotheses**

After statistical analysis, simple regression analysis was used to test the hypotheses created to examine the effect of knowledge sharing on the innovative behavior of employees, independent samples T-test and one-way ANOVA test were applied to determine whether it differs according to the variables. Levene's test was used for the variance distribution of demographic group variables.  $H_1$ : Knowledge sharing has an impact on innovative behaviour. From Table 8. we can access the validity of the model used in testing the influence relationship, where the value of F (247.693) reached a significant level (0.000) which is less than (.050) at the studied sample. Which means this model with its independent variables is valid for predicting the values of the dependent variable.

**Table 8. Analysis of Variance for Independent and Dependent Variables**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	55.584	1	55.584	247.693	.000
Residual	45.779	204	.224		
Total	101.363	205			

**Table 9. Residuals Statistics**

	Min.	Max.	Mean	Std. Deviation
Predicted Value	1.6838	4.7914	3.6030	.52071
Residual	-1.46066	.77415	.00000	.47256
Std. Predicted Value	-3.686	2.282	.000	1.000
Std. Residual	-3.083	1.634	.000	.998

**Table 10. Determination Parameters**

R	R Square	Adjusted R Square	Std. Error of the Estimate
<b>.741a</b>	.548	.546	.47371

**Table 11. Regression Analysis Result**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	.907	.174		5.198	.000
KS	.777	.049	.741	15.738	.000

From the previous Table 10. the explanatory power of this model shows that the percentage of change in the dependent variable explained by the independent variables. As shown in the previous tables, it was found that the values of the T-test for independent variables amounted to (15.738) for innovative behaviour with the knowledge sharing and (5.198) the value of the coefficient of determination.  $R^2 = 0.548$  indicates that the independent variables explain 54.8% of the change in the value of innovative behaviour and the remaining 45.6% are explained by other factors that were not the subject of the study. It was found in the company that there is a statistically significant effect of knowledge sharing with the pharmaceutical sector on innovative behaviour as a dependent variable and we can interpret these results as the greater the worker interest in sharing their ideas, information and knowledge with their colleagues within their department and outside department, the greater the possibility of creating new ideas, working methods, techniques, or instruments by the worker which could help in improving the company performance. In this case, the first hypothesis was accepted.  $H_2$ : Knowledge sharing differs according to demographic characteristics.  $H_{2a}$ : Knowledge sharing differs according to gender.

**Table 12. Knowledge Sharing According to Gender**

Gender	Mean	N	Std. Deviation
Male	3.3914	139	.72266
Female	3.6343	67	.51273
Total	3.4704	206	.67024

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to gender, an independent T-Test must be conducted to find out the significance.

**Table 13. Independent T-Test Table of Knowledge Sharing According to Gender**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.389	.124	-2.055	204	.041	-.20409	.09930	-.39987	-.00831
Equal variances not assumed			-2.319	173.322	.022	-.20409	.08799	-.37776	-.03042

According to the Independent T-Test Table 13. it showed that sig = 0.124 which is bigger than 0.05. which means there aren't differences between the categories of gender in perceiving the variables of knowledge sharing. In this case,  $H_{2a}$  hypothesis was rejected.  $H_{2b}$ : Knowledge sharing differs according to level of education.

**Table 14. Knowledge Sharing According to Level of Education**

Education	Mean	N	Std. Deviation
Primary/Secondary School	2.8750	8	.76485
Bachelor	3.4889	135	.63700
Diploma	3.2700	20	.63171
Master	3.6286	28	.64570
PhD or Equivalent Degree	3.5933	15	.85228
Total	3.4704	206	.67024

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 15. ANOVA Table of Knowledge Sharing According to Level of Education**

		Sum of Squares	df	Mean Square	F	Sig.
KS*Education	Between Groups (Combined)	4.613	4	1.153	2.650	.034
	Within Groups	87.477	201	.435		
	Total	92.089	205			

According to the ANOVA Table 15. it showed that sig = 0.034 which is less than 0.05, which means there are differences between the categories of level of education in perceiving the variables of

knowledge sharing. In this case,  $H_{2b}$  hypothesis was accepted.  $H_{2c}$ : Knowledge sharing differs according to age.

**Table 16. Knowledge Sharing According to Age**

Age	Mean	N	Std. Deviation
25 and under	3.3633	49	.75019
26-32	3.4500	98	.63688
33-40	3.4308	39	.65259
41-49	3.9167	12	.62207
50 and above	3.900	8	.32950
Total	3.4704	206	.67024

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 17. ANOVA Table of Knowledge Sharing According to Age**

		Sum of Squares	df	Mean Square	F	Sig.
KS*Age	Between Groups (Combined)	4.531	4	1.133	2.600	.037
	Within Groups	87.559	201	.436		
	Total	92.089	205			

According to the ANOVA Table 17. it showed that sig = 0.037 which is less than 0.05, which means there are differences between the categories of age in perceiving the variables of knowledge sharing. In this case,  $H_{2c}$  hypothesis was accepted.  $H_{2d}$ : Knowledge sharing differs according to work experiences.

**Table 18. Knowledge Sharing According to Work Experiences**

Work Experiences	Mean	N	Std. Deviation
Less than 1 year and 1 year	3.5750	40	.44477
2-5	3.3989	94	.68729
6-10	3.3367	49	.76830
11-20	3.8143	14	.47370
More than 21 years	3.9444	9	.68211
Total	3.4704	206	.67024

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 19. ANOVA Table of Knowledge Sharing According to Work Experiences**

		Sum of Squares	df	Mean Square	F	Sig.
KS*Age	Between Groups (Combined)	5.471	4	1.368	3.174	.015
	Within Groups					

KS*Work	Within Groups	86.618	201	.431
Experiences	Total	92.089	205	

According to the ANOVA Table 19. it showed that sig = 0.015 which is less than 0.05, which means there are differences between the categories of work experiences in perceiving the variables of knowledge sharing. In this case,  $H_{2d}$  hypothesis was accepted.  $H_3$ : Innovative behaviour differs according to demographic characteristics.  $H_{3a}$ : Innovative behaviour differs according to gender.

**Table 20. Innovative Behaviour According to Gender**

Gender	Mean	N	Std. Deviation
Male	3.4772	139	.75814
Female	3.8640	67	.48115
Total	3.6030	206	.70317

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the gender, an independent T-Test must be conducted to find out the significance.

**Table 21. Independent Samples Test Table of Innovative Behaviour According to Gender**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	9.151	.003	-3.458	204	.001	-.35375	.10229	-.55544	-.15206
Equal variances not assumed			-4.044	187.244	.000	-.35375	.08748	-.52632	-.18118

According to the Independent Samples Test Table 21. It showed that sig = 0.003 which is less than 0.05, which means there are differences between the categories gender in perceiving the variables of innovative behaviour. In this case,  $H_{3a}$  hypothesis was accepted.  $H_{3b}$ : Innovative behaviour differs according to level of education.

**Table 22. Innovative Behaviour According to Level of Education**

Education	Mean	N	Std. Deviation
Primary/Secondary School	2.9167	8	1.24119
Bachelor	3.6444	135	.66816
Diploma	3.4944	20	.66907
Master	3.6468	28	.57620
PhD or Equivalent Degree	3.6593	15	.79954
Total	3.6030	206	.70317

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 23. ANOVA Table of Innovative Behaviour According to Level of Education**

		Sum of Squares	df	Mean Square	F	Sig.
IB*Education	Between Groups (Combined)	4.337	4	1.084	2.246	.065
	Within Groups	97.026	201	.483		
	Total	101.363	205			

According to the ANOVA Table 23. it showed that sig = 0.065 which is higher than 0.05, which means there are no differences between the categories of level of education in perceiving the variables of Innovative behaviour. In this case,  $H_{3b}$  hypothesis was rejected.  $H_{3c}$ : Innovative behaviour differs according to age.

**Table 24. Innovative Behaviour According to Age**

Age	Mean	N	Std. Deviation
25 and under	3.3764	49	.73627
26-32	3.5771	98	.73455
33-40	3.7664	39	.57611
41-49	4.1296	12	.51864
50 and above	3.7222	8	.23002
Total	3.6030	206	.70317

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 25. ANOVA Table of Innovative Behaviour According to Age**

		Sum of Squares	df	Mean Square	F	Sig.
IB*Age	Between Groups (Combined)	7.064	4	1.766	3.764	.006
	Within Groups	94.299	201	.469		
	Total	101.363	205			

According to the ANOVA Table 25. it showed that sig = 0.006 which is less than 0.05, which means there are differences between the categories of age in perceiving the variables of innovative behaviour. In this case,  $H_{3c}$  hypothesis was accepted.  $H_{3d}$ : Innovative behaviour differs according to work experiences.

**Table 26. Innovative Behaviour According to Work Experiences**

Work Experiences	Mean	N	Std. Deviation
Less than 1 year and 1 year	3.6611	40	.49303
2-5	3.4752	94	.74105

6-10	3.5760	49	.77601
11-20	4.0000	14	.45081
More than 21 years	4.2099	9	.50444
Total	3.6030	206	.70317

There are some simple differences between the averages, and to find out whether these differences between the averages are essential or not, according to the academic qualification, a one-way ANOVA must be conducted to find out the significance.

**Table 27. ANOVA Table of Innovative Behaviour According to Work Experiences**

		Sum of Squares	df	Mean Square	F	Sig.
IB*Work Experiences	Between Groups (Combined)	7.228	4	1.807	3.858	.005
	Within Groups	94.135	201	.468		
	Total	101.363	205			

According to the ANOVA Table 27. it showed that sig = 0.005 which is less than 0.05, which means there are differences between the categories of work experiences in perceiving the variables of innovative behaviour. In this case,  $H_{3d}$  hypothesis was accepted.

## 5. DISCUSSION

All Alpha Cronbach values for all study variables are higher than (0.70), which means that all study measures are characterized by the internal stability of their terms. All correlation coefficients for the study variables are statistically significant at the level of significance (0.05) and indicate the correlation of the expressions with the variable that you measure, which means that they are internally consistent with it and essential in its measurement. The metrics used to measure the dimensions of the independent variable represented by the knowledge sharing and the dependent variable represented by innovative behaviour all have aggregate validity. The proportion of males at the company is greater than that of females, and the university qualification category exceeds three quarters of the sample size. The third age group (from 25 to 32 years) in the company constitutes the largest proportion over a half of the sample size and it is noted that the third and fourth and fifth age groups represent a small percentage (20%) of the sample size. The 2-5 years of experience category represents the largest proportion of employees, followed by 6-10 years and less than 1 year, finally more than 20 years' experience category. The study showed that all the variables of the independent study (knowledge sharing) and the dependent variable (innovative behaviour) achieved scores above the intermediate degree, so that the trends of the subjects' vocabulary were positive towards all the variables and dimensions of the study. The degree of workers exercising knowledge sharing in the pharmaceutical sector is greater than the average level. The level of the innovative behaviour of workers in for the research sample exceeds the intermediate level. There is a relatively strong positive correlation with statistical significance between the knowledge sharing and innovative behaviour. There is positive impact with a statistically significant role of

knowledge sharing in innovative behaviour as a dependent variable in the pharmaceutical sector. In the study conducted by Işık (2018), it was determined that the knowledge gathering dimension of the knowledge sharing process had a significant effect on innovative behavior, but the knowledge sharing dimension didn't influence innovative behavior. In the study conducted by Yiğit and Yiğit (2019), it was determined that knowledge sharing has a significant effect on innovative behavior. In the research conducted by Kayapalı Yıldırım (2020), it was determined that knowledge sharing influences innovative behavior. In the study conducted by Erdem (2021: 125), it was determined that knowledge sharing has a positive effect on innovative behavior. There are no differences between the categories of gender in perceiving the variables of knowledge sharing. In the research conducted by Öneren, Çiftçi and Harman (2016: 143), significant differences were found between the gender of the participants and knowledge sharing. There are differences between the categories of level of education in perceiving the variables of knowledge sharing. It can be said that the education factor is an important factor. There are differences between the categories of work experiences in perceiving the variables of knowledge sharing. There are differences between the categories of age in perceiving the variables of knowledge sharing. It can be said that the experience and age variables of individuals and the importance of knowledge sharing vary. As it is known, age and experience are important factors in business life. There are differences between the categories gender in perceiving the variables of innovative behaviour. In the study conducted by Özpulat and Karakuzu (2018), it was determined that there was an effective factor in the development of innovative behaviors according to the gender variable of the participants. There are no differences between the categories of level of education in perceiving the variables of innovative behaviour. It can be stated that innovative behavior is related to the personality traits of individuals. There are differences between the categories of age in perceiving the variables of innovative behaviour. There are differences between the categories of work experiences in perceiving the variables of innovative behaviour. Age and work experience appear to be important in innovative behavior. It can be said that both age and work experience affect the attitude and approach towards the work done.

## **5. CONCLUSIONS AND SUGGESTIONS**

In conclusion, this study offers an integrative model that combines knowledge models and social capital models to explore the relationship between innovative potential and knowledge sharing. The main objectives of the study are that the impact of knowledge sharing mechanisms in the context of communities of practice can be limited by the level of social capital of these communities of practice. Management's decision to support knowledge sharing can be modified to reflect the characteristics of

the social capital of the organizations. Thus, the results confirm the moderate role of the social capital in knowledge-based Jordanian companies. We recommend the managers at pharmaceutical sector to:

- Try to increase the employees' knowledge sharing and innovative behaviour in the pharmaceutical sector through.
- Encourage worker when they have learned something new to share it with their colleagues in their department.
- Try to enhance the relationship and the collaboration between different departments at the company. In order to achieve their goals and objective effectively.
- The need for workers in the pharmaceutical sector to maintain the information they obtain and share this information and skills with all workers in order to benefit from them while performing their work.
- Relying on the teamwork method as a method for performing the tasks inside and outside the organization to ensure the benefit from the individual expertise and knowledge of all team members.
- Working to attract creative people when recruiting new employees due to their effective influence on the effectiveness of performance.
- The necessity of sharing knowledge among employees through brainstorming sessions, which ensure that workers in the organization obtain knowledge from their colleagues.
- Motivating workers to accomplish their work in new, creative ways that ensure effectiveness and ensure that employees do not feel bored of repeating the same routine procedures.
- Encouraging workers to help each other when facing any problem that may arise during work, which may generate creative solutions that contribute to solving these problems.

This study attempts to investigate only some of the important organizational factors that facilitate knowledge sharing from an organizational point of view. Jordanian knowledge-based companies need to consider other variables and test the regulatory role of social capital within this particular culture.

## **REFERENCES**

Akamavi, N. and Kimble, C. (2005) "Knowledge Sharing and Computer Supported Collaborative Work: The Role of Organizational Culture and Trust", UK: The University of York Publishing.

- Akhavan, P., Hosseini, M., Abbasi, M. and Manteghi, M. (2015) “Knowledge Sharing Determinants, Behaviours and Innovative Work Behaviours: An Integrated Theoretical View and Empirical Examination”, *Aslib Journal of Information Management*, 67(5): 562-591.
- Alhady, S. M., Idris, A. S. A., Sawal, M. Z. H. M., Azmi, N. A. and Zakaria, Z. (2011) “Knowledge Sharing Behavior and Individual Factors: A Relationship Study in the i-Class, Environment”, *Proceeding of the International Conference on Management Artificial Intelligence, Indonesia*.
- Aliakbar, E., Yusoff, R. B. and Mahmood, N. H. N. (2012) “Determinants of Knowledge Sharing Behavior”, In A paper presented at the International Conference on Economics, Business and Marketing Management, Singapore, 208-215.
- Carmeli, A. and Spreitzer, G. M. (2009) “Trust, Connectivity and Thriving: Implications for Innovative Behaviors at Work”, *The Journal of Creative Behavior*, (43): 169-191.
- Ceylan, C. (2013) “Commitment-Based HR Practices, Different Types of Innovation Activities and Firm Innovation Performance”, *The International Journal of Human Resource Management*, 24(1): 208-226.
- Chen, I. Y. L., Chen, N. S. and Kinshuk (2009) “Examining the Factors Influencing Participants’ Knowledge Sharing Behavior in Virtual Learning Communities”, *Educational Technology & Society*, 12(1): 134-148.
- Chien, Y., Tsai-Fang, Y. and Chin-Cheh, Y. (2013) “Knowledge Sharing, Organizational Climate, and Innovative Behavior: A Cross-Level Analysis of Effects”, *Social Behavior and Personality: An International Journal*, 41(1): 143-156.
- Choi, S. Y., Lee, H. and Yoo, Y. (2010) “The Impact of Information Technology and Transactive Memory Systems on Knowledge Sharing, Application and Team Performance: A Field Study”, *MIS Quarterly*, 34(4): 855-870.
- Coccia, M. (2006) “Classifications of Innovations Survey and Future Directions”, *National Research Council of Italy*, (2): 7-19.
- Coşkun, R., Altunışık, R. and Yıldırım, E. (2020) “Sosyal Bilimlerde Araştırma Yöntemleri: SPSS Uygulamalı”, Sakarya: Sakarya Yayıncılık.
- Crossan, M. M. and Apaydın, M. (2010) “A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature”, *Journal of Management Studies*, 47(6): 1154-1191.
- De Jong, J. and Den Hartog, D. (2007) “How Leaders Influence Employees’ Innovative Behaviour”, *European Journal of Innovation Management*, 10: 41-64.

- Durkheim, É. (1984) “The Division of Labor in Society”, New York: Free Press.
- Erdem, A. T. (2021) “Güçlendirici Liderliğin Yenilikçi İş Davranışına Etkisinde Bilgi Paylaşımının Aracılık Rolü: Bilişim Sektöründe Bir Araştırma”, Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 30(1): 119-131.
- Foss, N. J., Minbaeva, D. B., Pedersen, T. and Reinholt, M. (2009) “Encouraging Knowledge Sharing Among Employees: How Job Design Matters”, Human Resource Management, 48(6): 871-893.
- Hau, Y. S., Kim, B., Lee, H. and Kim, Y. G. (2013) “The Effects of Individual Motivations and Social Capital on Employees’ Tacit and Explicit Knowledge Sharing Intentions”, International Journal of Information Management, 33(2): 356-366.
- Hempel, M. (2007) “An Innovative Fully Distributed Automatic Object Classification Algorithm with a New Content-Based Video Indexing Research Platform (Unpublished PhD thesis)”, ETD Collection for University of Nebraska-Lincoln.
- Hooff, B. van den and Ridder, J. A. de (2004) “Knowledge Sharing in Context: The Influence of Organizational Commitment, Communication Climate and CMC Use on Knowledge Sharing”, Journal of Knowledge Management, 8(6): 117-130.
- Hülshager, U. R., Anderson, N. and Salgado, J. F. (2009) “Team-Level Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research”, Journal of Applied Psychology, 94(5): 1128-1145.
- Işık, M. (2018) “Bilgi Paylaşımını Etkileyen Faktörler ve Bilgi Paylaşım Sürecinin Yenilikçi İş Davranışına Etkisi”, Uluslararası İktisadi ve İdari İncelemeler Dergisi, 641-656.
- Jain, K. K., Sandhu, M. S. and Sidhu, G. K. (2007) “Knowledge Sharing Among Academic Staff: A Case Study of Business Schools in Klang Valley, Malaysia”, Journal for the Advancement of Science & Arts, (2): 23-29.
- Kamaşak, R. and Bulutlar, F. (2010) “The Influence of Knowledge Sharing on Innovation”, Journal of European Business Review, 22(3): 306-317.
- Kayapalı Yıldırım, S. (2020) “Otel İşletmelerinde Bilgi Paylaşımının Yenilikçi İş Davranışına Etkisinde Dönüştürücü Liderliğin Aracılık Rolü”, Journal of Tourism and Gastronomy Studies, 8(1): 137-157.
- Korzilius, H., Bücker, J. J. L. E. and Beerlage, S. (2017) “Multiculturalism and Innovative Work Behavior: The Mediating Role of Cultural Intelligence”, International Journal of Intercultural Relations, 56: 13-24.

- Kuo, Y. K., Kuo, T. H. and Ho, L. A. (2014) “Enabling Innovative Ability: Knowledge Sharing as A Mediator”, *Industrial Management & Data Systems*, 114(5): 696-710.
- Liao, S., Fei, W. C. and Chen, C. C. (2007) “Knowledge Sharing, Absorptive Capacity, and Innovation Capability: An Empirical Study of Taiwan’s Knowledge-Intensive Industries”, *Journal of Information Science*, 33(3): 340-359.
- Lin, H. F. (2007) “Knowledge Sharing and Firm Innovation Capability: An Empirical Study”, *International Journal of Manpower*, 28 (3/4): 315-332.
- Lin, T-C., Cheng, H. K. and Wu, S. (2004) “To Share Knowledge or Not to Share: A Social Exchange Theory Perspective of Virtual Team Members’ Behavior”, *Proceeding of The Second Workshop on Knowledge Economy and Electronic Commerce*, 317-329.
- Liu, Y. and Phillips, J. S. (2011) “Examining the Antecedents of Knowledge Sharing in Facilitating Team Innovativeness from a Multilevel Perspective”, *International Journal of Information Management*, 31(1): 44-52.
- Lu, L., Lin, X. and Leung, K. (2012) “Goal Orientation and Innovative Performance: The Mediating Roles of Knowledge Sharing and Perceived Autonomy”, *Journal of Applied Social Psychology*, 42(1): 180-197.
- Manaf, H. A. and Marzuki, N. A. (2009) “The Success of Malaysian Local Authorities: The Roles of Personality and Sharing Tacit Knowledge”, In *International Conference on Administrative Development: Towards Excellence in Public Sector Performance*, King Faisal Hall, Riyadh, Kingdom of Saudi Arabia.
- Meng-Lei, M., Jeou-Shyan, H. and Yu-Hua, C. (2009) “Hospitality Teams: Knowledge Sharing and Service Innovation Performance”, *Tourism Management*, 30(1): 41-50.
- Miner, K. (2010) “The Four Levels of Innovation: Assess the Time, Effort, and Resources Necessary to Join the Ranks of Innovation”, *Graziadio Business Review*, 13(4).
- Mura, M., Lettieri, E., Radaelli, G. and Spiller, N. (2013) “Promoting Professionals’ Innovative Behavior Through Knowledge Sharing: The Moderating Role of Social Capital”, *Journal of Knowledge Management*, 17(4): 527-544.
- Nazım, M. and Mukherjee, B. (2016) “Knowledge Management in Libraries”, India: Chandos Publishing.
- O’Cass, A., Song, M. and Yuan, L. (2013) “Anatomy of Service Innovation: Introduction to the Special Issue”, *Journal of Business Research*, 66(8), 1060-1062.

- Oldham, G. R. and Cummings, A. (1996) “Employee Creativity: Personal and Contextual Factors at Work”, *Academy of Management Journal*, 39(3): 607-634.
- Öneren, M., Çiftçi, G. E. and Harman, A. (2016) “Bilgi Paylaşımının Yenilikçi Davranışa ve Örgütsel Güvene Etkisi Üzerine Bir Araştırma”, *Akademik Bakış Dergisi*, 58: 127-157.
- Özpulat, F. and Karakuzu, S. (2018) “Yenilikçi Davranışları Etkileyen Faktörler: Devlet Hastanesi Örneği”, *Journal of Anatolian Cultural Research*, 2(3): 46-58.
- Perez-Arostegui, M. N., Benitez-Amado, J. and Tamayo-Torres, J. (2012) “Information Technology Enabled Quality Performance: An Exploratory Study”, *Journal of Industrial Management & Data Systems*, 112(3): 502-518.
- Radaelli, G., Lettieri, E., Mura, M. and Spiller, N. (2014) “Knowledge Sharing and Innovative Work Behavior in Healthcare: A Micro-Level Investigation of Direct and Indirect Effects”, *Creativity and Innovation Management*, 23(4): 400-414.
- Raykov, M. (2014) “Employer Support for Innovative Work and Employees’ Job Satisfaction and Job-Related Stress”, *Journal of Occupational Health*, 56(4): 244-251.
- Schumpeter, J. (1934) “Theory of Economic Development: An Inquiry into Profits, Capital, Credits, Interest and Business Cycle”, Harvard University: Cambridge.
- Sekaran, U. (2003) “Research Methods for Business: A Skill Building Approach”, New York: John Wiley.
- Shane, S. and Venkatarman, S. (2000) “The Promise of Entrepreneurship as A Field of Research”, *Academy of Management Review*, 25(1): 217-226.
- Sharman, L. and Edward, B. M. (2007) “Understanding The Impact of Organizational Downsizing on Knowledge Sharing”, Australia: Deakin University Press.
- Shaqrah, A., Alqirem, R. and Alomoush, K. (2011) “Affecting Factors of Knowledge Sharing On CRM: An Empirical Investigation Using Structural Equation Modeling”, *World Journal of Social Sciences*, 1(1): 1-16.
- Sveiby, K. E. and Simons, R. (2002) “Collaborative Climate and Effectiveness of Knowledge Work- An Empirical Study”, *Journal of Knowledge Management*, 6(5): 420-433.
- Şahin, F. and Danışman, Ş. (2017) “Yaratıcılık Kişilik Özellikleri Ölçeği: Güvenilirlik ve Geçerlik Çalışması”, *Karabük Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(2): 747-760.
- Terwilliger, J. (2015) “Creative Realities”, <https://www.creativerealities.com/innovationist-blog/bid/49954/The-Three-Levels-of-Innovation> (Date of access: 06/2021).

- Vance, R. J. (2006) ‘‘Employee Engagement and Commitment’’, SHRM Foundation, 1: 1-53.
- Yeh, C. H., Lee, G. G. and Pai, J. C. (2011) ‘‘Influence of CIO’s Knowledge Sharing Behavior on The Quality of the IS/IT Strategic Planning (ISSP) Process in Taiwan’’, African Journal of Business Management, 5(6): 2465-2474.
- Yeşil, S. and Dereli, S. F. (2013) ‘‘An Empirical Investigation of the Organizational Justice, Knowledge Sharing, and Innovative Capability’’, Procedia-Social and Behavioural Sciences, 75(3): 199-208.
- Yiğit, S. and Yiğit, A. M. (2019) ‘‘Örgüt İklimi Algısı ve Yenilikçi İş Davranışı İlişkisinde Bilgi Paylaşımının Aracılık Rolü Üzerine Ampirik Bir Çalışma’’, International Journal of Society Researches, 14(20): 182-206.

<b>KATKI ORANI / CONTRIBUTION RATE</b>	<b>AÇIKLAMA / EXPLANATION</b>	<b>KATKIDA BULUNANLAR / CONTRIBUTORS</b>
Fikir veya Kavram / <i>Idea or Notion</i>	Araştırma hipotezini veya fikrini oluşturmak / <i>Form the research hypothesis or idea</i>	Osama Abu SHWIEMEH Assoc. Prof. Canan YILDIRAN (PhD)
Tasarım / <i>Design</i>	Yöntemi, ölçeği ve deseni tasarlamak / <i>Designing method, scale and pattern</i>	Osama Abu SHWIEMEH Assoc. Prof. Canan YILDIRAN (PhD)
Veri Toplama ve İşleme / <i>Data Collecting and Processing</i>	Verileri toplamak, düzenlenmek ve raporlamak / <i>Collecting, organizing and reporting data</i>	Osama Abu SHWIEMEH Assoc. Prof. Canan YILDIRAN (PhD)
Tartışma ve Yorum / <i>Discussion and Interpretation</i>	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / <i>Taking responsibility in evaluating and finalizing the findings</i>	Osama Abu SHWIEMEH Assoc. Prof. Canan YILDIRAN (PhD)
Literatür Taraması / <i>Literature Review</i>	Çalışma için gerekli literatürü taramak / <i>Review the literature required for the study</i>	Osama Abu SHWIEMEH Assoc. Prof. Canan YILDIRAN (PhD)

**Hakem Değerlendirmesi:** Dış bağımsız.

**Çıkar Çatışması:** Yazar çıkar çatışması bildirmemiştir.

**Teşekkür:** -

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** The author has no conflict of interest to declare.

**Acknowledgement:** -

---