



NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
INNOVATION AND KNOWLEDGE MANAGEMENT PROGRAM

The Impact of Psychological Ownership of Knowledge on
Knowledge Hiding: The Moderating Role of Positive Leadership
Styles
The Case of Public Universities in Northern Iraq

Shwana Hassan Ali

PhD THESIS

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PhD THESIS

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I, SHWANA HASSAN ALI hereby declare that this dissertation entitled 'The Impact of Psychological Ownership of Knowledge on Knowledge Hiding: The Moderating Role of Positive Leadership Styles, The Case of Public Universities in Northern Iraq' has been prepared myself under the guidance and supervision of 'Prof. Dr. MUSTAFA SAGSAN' in partial fulfillment of the Near East University, **INSTITUTE OF GRADUATE STUDIES** regulations and does not to the best of my knowledge breach and Law of Copyrights and has been tested for plagiarism and a copy of the result can be found in the Thesis.

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A handwritten signature in cursive script that reads "Shwana".

Shwana Hassan Ali

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*“A writer is as good as his
sources, teachers and muses.
I have been lucky in all the three”
Stewart (2002)*

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ABSTRACT

The Impact of Psychological Ownership of Knowledge on Knowledge Hiding:
The Moderating Role of Positive Leadership Styles
The Case of Public Universities in Northern Iraq

“In classical economies, the sources of wealth
are land, labor, and capital...
Now, another engine of wealth is at work.
It takes many forms: technology, innovation
, science, know-how, creativity, information.
In a word, it is knowledge”
(Badaracco & Badaracco, 1991)

In the age of global economy and market competition, public universities have no other choice but to go the globalization waves and protect their positions. Organizations should consider knowledge as the most valuable asset and that mentality must motivate them to manage their knowledge in the most effective way. One of the challenges that may hinder an effective knowledge management is knowledge hiding which is “an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person” (Connelly *et al.*, 2012a). There are many factors behind this organizational behavior, however the purpose of this dissertation is to investigate the relationship between psychological ownership of knowledge (POK) and Knowledge hiding (KH), and to test two positive leadership styles as moderating variables (Ethical Leadership, EL) and (Servant Leadership SL). To answer the research questions and test the hypothesis, field data were collected among four public universities in Northern of Iraq. The data were collected among universities lecturer and administrative staff, the final sample was 220 cases out of 229 distributed questionnaires. Several statistical analyses were carried out to test the hypothesis including hierarchal regression models, bootstrapping approach, reliability and validity tests, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), convergent discriminant and structural equation modeling. These tests help in understanding the direction of relationships among the variables. The research findings showed that there is a strong relationship between psychological ownership of knowledge and knowledge hiding, it was also confirmed that this relationship can be moderated negatively by inserting

each of ethical or servant leadership styles. Although, there are some other studies which had already studied this relationship but none of them were conducted in public universities of Iraq. The outcomes of this dissertation may reflect that to decrease knowledge hiding as an organizational behavior, public universities should focus on some management and leadership practices that weaken the possession feeling of knowledge, for that purpose the research findings suggest both ethical and servant leadership styles.

Keywords:

Knowledge Hiding, Psychological ownership of Knowledge, Knowledge Management, Positive Leadership Style, Ethical Leadership, Servant Leadership, Public Universities, Northern of Iraq.

Öz

Bilginin Psikolojik Sahipliğinin Bilgi Gizleme Üzerindeki Etkisi: Olumlu Liderlik Tarzlarının Düzenleyici Rolü

Kuzey Irak'taki Devlet Üniversiteleri Örneği

Küresel ekonomi ve piyasa rekabeti çağında devlet üniversitelerinin küreselleşme dalgalarına gitmekten ve konumlarını korumaktan başka seçeneği yoktur. Kuruluşlar bilgiyi en değerli varlık olarak görmeli ve bu zihniyet onları bilgilerini en etkin şekilde yönetmeye motive etmelidir. Etkili bir bilgi yönetimini engelleyebilecek zorluklardan biri, “bir kişinin başka bir kişi tarafından talep edilen bilgiyi saklamaya veya gizlemeye yönelik kasıtlı girişi” olan bilgi gizlemedir (Connely, 2012). Bu örgütsel davranışın arkasında birçok faktör vardır, ancak bu tezin amacı, bilginin psikolojik sahipliği (POK) ile Bilgi gizleme (KH) arasındaki ilişkiyi araştırmak ve iki pozitif liderlik stilini moderatör değişkenler olarak test etmektir (Etik Liderlik, EL) ve (Hizmetkar Liderliği SL). Araştırma sorularını yanıtlamak ve hipotezi test etmek için, Irak'ın kuzeyindeki dört devlet üniversitesinden saha verileri toplanmıştır. Veriler, üniversite öğretim üyeleri ve idari personel arasında toplandı, nihai örneklem 229 dağıtılmış anketten 220 vakaydı. Hipotezi test etmek için hiyerarşik regresyon modelleri, önyükleme yaklaşımı, güvenilirlik ve geçerlilik testleri, açıklayıcı faktör analizi (EFA), doğrulayıcı faktör analizi (DFA), yakınsak diskriminant ve yapısal eşitlik modellemesi gibi çeşitli istatistiksel analizler yapılmıştır. Bu testler, değişkenler arasındaki ilişkilerin yönünü anlamada yardımcı olur. Araştırma bulguları, bilginin psikolojik olarak sahiplenilmesi ile bilgiyi gizleme arasında güçlü bir ilişki olduğunu göstermiş, ayrıca bu ilişkinin etik veya hizmetkar liderlik tarzlarının her birinin eklenmesiyle olumsuz yönde yönetilebileceği de doğrulanmıştır. Her ne kadar bu ilişkiyi inceleyen başka çalışmalar olsa da hiçbiri Irak'taki devlet üniversitelerinde yapılmamıştır. Bu tezin sonuçları, örgütsel bir davranış olarak bilgi gizlemeyi azaltmak için devlet üniversitelerinin bilgiye sahip olma duygusunu zayıflatan bazı yönetim ve liderlik uygulamalarına odaklanması gerektiğini yansıtabilir, bu amaçla araştırma bulguları hem etik hem de hizmetkar liderlik stilleri önermektedir.

Anahtar Kelimeler:

Bilgi Gizleme, Bilginin Psikolojik Sahipliđi, Bilgi Yönetimi, Pozitif Liderlik Tarzı, Etik Liderlik, Hizmetkar Liderlik, Devlet Üniversiteleri, Kuzey Irak.

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LIST of ACRONYMS	
KM	Knowledge Management
KMS	Knowledge Management System
KH	Knowledge Hiding
POK	Psychological Ownership of Knowledge
EL	Ethical Leadership
SL	Servant Leadership
PC	Personal Competitiveness
KBT	Knowledge-Based Theory
IT	Information Technology
KRG	Kurdistan Regional Government
NI	Northern of Iraq
PU	Public Universities
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis

CHAPTER 1

1. Introduction

*“An investment in knowledge
pays the best interest”
(Franklin, 2014)*

Knowledge management as a concept has drawn the attention of different organizations after 1990s and that was due to the fact that knowledge has been considered as the most valuable asset (N. Demirkasimoglu, 2016). In today's competitive market organizations need to build their position and protect it, knowledge is the foundation stone for a strong structure. This notion is more fundamental for public organizations and more specifically universities. Public universities in Iraq are at the very beginning steps to restructure their knowledge management systems. All the practices of knowledge management are in the sake of “Knowledge” itself. Sağsan (2006) described the processes of knowledge management as “knowledge creation, sharing, structuring, using, and knowledge auditing”.

Organizations depend on skillful employees who own knowledge and intellectual capital and competences (Boxall, 2021). Although organizations are entitled to take advantage from their contracted employees, but they cannot force employees to reveal all their knowledge (Barling, Slater, & Kelloway, 2000). Sometimes employees behave in a counterproductive way when they are requested for transferring knowledge. One of the counterproductive behaviors is knowledge hiding when employees try to withhold or conceal the required knowledge. Knowledge Hiding (KH) is “an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person” (Connelly *et al.*, 2012b). The negative impact of knowledge hiding is remarkable and might be deconstructive for organizations. Černe *et al.* (2014a) showed in their study that knowledge hiding hinders organizational cooperation and it creates a distrust loop that when an employee is treated with knowledge hiding he will repay his co-worker with the same behavior. In addition, knowledge hiding affect

employees' creativity Černe *et al.* (2014a) and increases employees turnover intention (Serenko & Bontis, 2016).

There are some factors which have been identified by scholars to comprehend why some employees engage in knowledge hiding from other co-workers in organizations. Scholars have classified the explored factors into four classifications as (individual-related, job-relevant, organization-relevant and coworkers relevant) factors (Černe *et al.*, 2014b; N. J. I. J. o. H. E. Demirkasimoglu, 2016; Peng, 2013). Several studies on knowledge hiding have mainly investigated the impact the above influencing factors and how to mitigate these antecedents such as mistrust, complexity of knowledge, task-related factors, and climate of knowledge sharing (Connelly *et al.*, 2012b; Webster *et al.*, 2008), "organizational culture" (Connelly *et al.*, 2012b), "organizational ownership and territoriality" (Peng, 2013), personality and job environment (Connelly *et al.*, 2012b; N. J. I. J. o. H. E. Demirkasimoglu, 2016), goal interdependent (Tang *et al.*, 2015), time and competition environment (Connelly *et al.*, 2009) and in addition because of being lazy and prosaical (Connelly *et al.*, 2012b).

In the knowledge economy era, one of the main responsibilities in knowledge management is to discourage employees not to hide knowledge and motivate them sharing their knowledge or information within their organizations (Peng, 2013). "As globalization and shifting demographics reshape competitive ground rules, companies that fail to treat knowledge management (KM) as an initiative of the highest importance will lose intellectual assets, suffer from employee turnover, exacerbate security threats, and ultimately lower valuations. It's time for enterprises to exert control over KM and treat it as an issue of the highest order." (Murphy & Verma, 2008). "The real impact of knowledge manifests itself when it is shared among different employees working in various organizations. Apparently, organizations that share knowledge among employees are more productive, innovative, collaborative, efficient, and satisfactory" (Ali *et al.*, 2021; Aparicio *et al.*, 2016; Eid *et al.*, 2016; Lin *et al.*, 2010; Mola *et al.*, 2020). However, some employees tend to hide what they know and that behavior is known as knowledge hiding which

is It is not accidental or lack of information but rather than the intention to hide the requested knowledge. Organizations do not own the intellectual capabilities of workers, and as such cannot force employees to transfer their knowledge to another co-worker in the same working environment (Barling, Slater, Kelloway, *et al.*, 2000). As a prerequisite to enable transferring knowledge in businesses, researchers and professionals need to understand why people involve in the process of hiding their knowledge and how to reduce the impact of that organizational behavior (Connelly *et al.*, 2012b; Davenport *et al.*, 1998b)

Knowledge hiding as a counterproductive behavior can have negative consequences for organizations and its co-workers (Connelly & Zweig, 2015). For example, on the employees level, Connelly and Zweig (2015) found that knowledge hiding affects the creativity of knowledge seeker. According Silvi and Cuganesan (2006) there is a negative relationship between knowledge hiding and entire performance of the organization. In addition, Offergelt *et al.* (2019) revealed that knowledge hiding has bad effects on employees' turnover. Knowledge hiding is criticized as a harming factor for the trust between buyer and supplier relationships (Butt & Ahmad, 2019). Consequently, reducing trust may affect the buyer's loyalty towards a specific brand. Furthermore, knowledge hiding is critical issue when it comes to employee's creativity and job satisfaction (Offergelt *et al.*, 2019). On the other hand, knowledge hiding has direct impact on the entire organization as an entity. For example, Connelly and Zweig (2015) reported knowledge hiding as a major challenge of organizational innovation. Also, the organizational interaction will be affected due to the fact that the knowledge seeker and knowledge hider do not engage in personal cooperation (Butt, 2019). The financial and economic implications of knowledge hiding are remarkable for organizations.). As a result of knowledge hiding the financial problem increases as it is stated by Babcock (2004) that organizational losses reach US\$31.5bn annually. Organizations struggle to create an environment where employees can transfer what they know to their fellow workers. Despite the fact that organizations try to design themselves in a way that can facilitate Knowledge transfer, but they cannot guarantee that

employees do not hide knowledge from each other. That alignment to knowledge hiding is socially and culturally influenced (Husted & Michailova, 2002). It is undeniable that employees are unwilling to share all they know, even though organizations implement effective practices (Connelly *et al.*, 2012a) “knowledge may be withheld due to individual differences in personality, perceptions of unfairness, distrust, reciprocity, or power” (Connelly *et al.*, 2006). Organizations hire people for their knowledge and skills, but that does not mean that the employer owns employees' entire competences especially the tacit knowledge. Knowledge is residing within the people and it is personal (Hislop, 2002). It has been the question for managers and practitioners how to reduce knowledge hiding and encourage employees to reveal their knowledge.

Public universities like other institutions need to find their ways to mitigate knowledge hiding. There are some studies which have already investigated the role of positive leadership styles to mitigate knowledge hiding in organizations such as (Abdillah *et al.*, 2020; Anser *et al.*, 2021; Lin *et al.*, 2020; Men *et al.*, 2020; Usman *et al.*, 2021). “Positive leadership involves experiencing, modeling, and purposefully enhancing positive emotions; a positive leader is interested in his or her employees' development as well as the bottom line, high self-awareness, optimism, and personal integrity (Avolio & Gardner, 2005). Positive leadership styles are principally identify the positive points in an organization and use the strength of these points to solve the problems, positive leaders reflect, reframe and revise the situations. The positive leaders are ethical, servant, transformational, knowledge-oriented and spiritual.

Previous investigations on the impact of (POK) are mostly conducted in private sector, for example, (Peng, 2013) among the IT industry companies in China. Also, on the role of POK on knowledge hiding in Germany (Bhattacharya & Sharma, 2019). On the knowledge base industries - Audio & Video, Machinery Manufacturing, Pharmaceutical and Telecom in India (Wang *et al.*, 2019). Furthermore, (Alnaimi *et al.*, 2019) among the Jordanian private commercial banks. However, less attention has been given to the

impact of POK and personal competitiveness on knowledge hiding in public institutions, more particularly public academic organizations. On the other hand, the moderating role of positive leadership styles are not tests to understand the impact of them on reducing knowledge hiding. On the other hand, most of academic researches are conducted in western setting; this dissertation is designed to be carried out in the Northern Iraq. Furthermore, previous researches have been conducted in private sector, but this dissertation is going to be carried out in public universes of Iraq. The purpose of this study is to investigate the relationship between POK and KH. We also, investigate the moderation role of positive Leadership styles between those relationships. It is predicted that this research will contribute in enriching the available literature as it is the first attempt in its kind in the region.

1.2 Fundamental Research Questions

Main question:

First: How does psychological ownership of knowledge affect knowledge hide?

Second: "To what extent, do the positive leadership styles moderate between individual relate factors such as psychological ownership of knowledge and knowledge hiding?"

Sub-questions:

- *Does ethical leadership play moderating role between POK and KH?*
- *Does servant leadership play the moderating role between POK and KH?*

1.3 Research Problem

Previous investigations on the impact of (POK) are mostly conducted in private sector, for example, (Peng, 2013) among the IT industry companies in China. Also, on the role of POK on knowledge hiding in Germany (Bhattacharya & Sharma, 2019). On the knowledge base industries - Audio & Video, Machinery Manufacturing, Pharmaceutical and Telecom in India (Wang *et al.*, 2019). Furthermore, (Alnaimi *et al.*, 2019) among the Jordanian private commercial banks. However, less attention has been given to the impact of POK and personal competitiveness on knowledge hiding in public institutions, more particularly public academic organizations. On the other

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1.4 Aim of this Study

The objective of this thesis is to examine the relationship between an individual related factor (POK) and (KH). It also, tests the moderation role of positive leadership styles (ethical and servant leaderships) between POK as independent variable and KH as dependent variable.

1.5 Importance of the Study (Research Contribution)

In an attempt to this embryonic yet upward knowledge hiding the effort at hand proposes a model that assimilates POK as independent variable, KH as dependent variable, ethical leadership and servant leadership as moderating variable. The underlying study aims to expand the existing literature by: First, respond the call by (Ladan *et al.*, 2017) to assume ethical leadership as a moderating variable, because empirical evidence of this variable is limited or even rare in public organizations. The performed studies in area of knowledge management are performed in firms and companies, this dissertation is planned to be empirically conducted in public organizations. It is worth of emphasis that private sector organizations are always different from public organizations with respect to ownership, authority and power, organizational hierarchy, span of control, modes of institutional communication, finance, management functions and policies (Aslam *et al.*, 2015; Aslam *et al.*, 2016). Organizations in public sector are different from organizations in private sector in several ways (Milner, 2002). First, in public sector the organizational goals are more difficult for Measuring and more

contradictory than in private sector and they are impacted in a different way by political, social and economic factors (Pandey & Wright, 2006). Second, in terms of organizational ownership, funding and control, both public organizations and private companies are very different from each other (Willem & Buelens, 2007). There are some other changes including fragmented authority and less enticement for efficiency (Wæraas, 2008). Second, researches relevant to management and organizations are mostly carried out in Western and non-Islamic countries (Yousef, 2000). Some scholars indicate that human behavior differs based on situations; that is, what functions in a society, institution, or country may lead to a destructive in a different circumstance (Ahmad & Cheng, 2018) Even with the above facts, no empirical study has been conducted in Iraqi Kurdistan to reveal the impact of ethical leadership on knowledge hiding antecedents. We assume that ethics are determined by religion, traditions and common understandings hence it is rational to test the moderation role of ethical leadership in a different context. Hence, the theoretical and empirical outputs of this dissertation are expected to have an effective contribution in extending the existing literature of knowledge management to the wider setting of Iraqi Kurdistan. Also, the paper shows the potential differences that the ethical leadership style may provide in a different context.

1.6 Limitations of the Study

This study is limited in several ways:

- It is only investigating two individual related factors of knowledge hiding in public organizations of North of Iraq.
- The study considers the moderating role of two leadership styles (Ethical leadership and servant leadership).
- The data is collected through quantitative method via questionnaire. While, the qualitative method could be applied as well.

Chapter Two

Literature Review and Theoretical Framework

“Our knowledge can only be finite,
While our ignorance
must necessarily be infinite”
(Popper, 2014)

2.1 Knowledge

In the broad literature on knowledge and its origins, sometimes the words of data, information and knowledge are being used interchangeably. However, their operational meanings are different and even in the well-known knowledge taxonomies, their positions are different. For example Ackoff has initiated a hierarchy in 1989 in which sometimes mentioned as knowledge pyramid or DIKW pyramid which is the abbreviation of (Data, Information, Knowledge, Wisdom). The hierarchy is presented in figure 1.

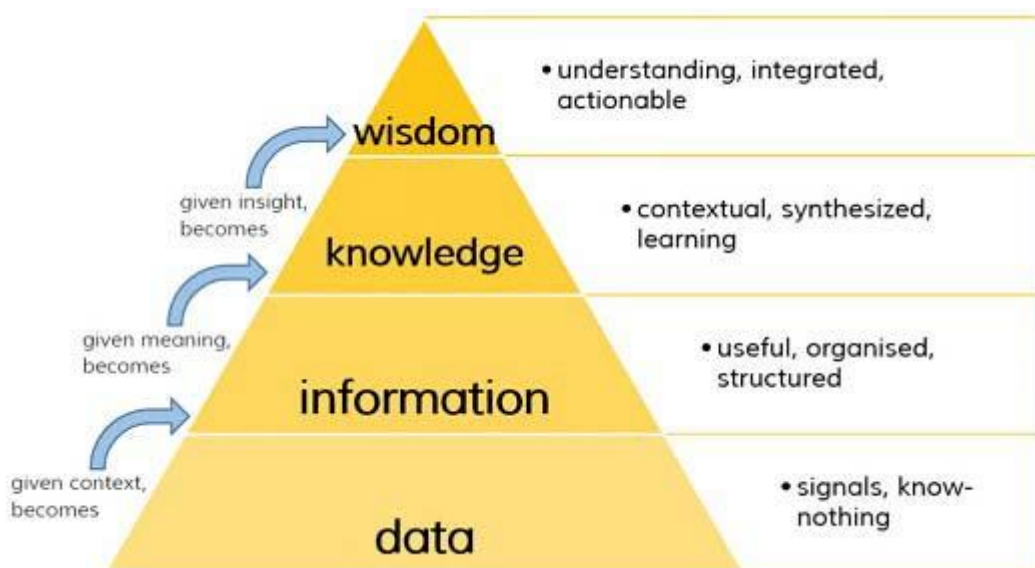


Figure 1 DIKW hierarchy developed by (Ackoff, 1974).

Knowledge is a superior format which is built on data and information. “Data is referred to raw facts without processing, organizing or analysis, and therefore they have little meaning and few advantages to [professional and decision-makers. Data are un-interpreted materials on which a decision is to be based and depend on facts which may include anything known to be true or exist” (Mohajan, 2017). “Information refers data that is accumulated to allow comparison, grouping, and categorizing which have been processed to be useful” (Mohajan, 2017). “Knowledge is derived from information but it is

more meaningful than information” (Sağsan *et al.*, 2016). “Knowledge is a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information” (Davenport *et al.*, 1998b). Knowledge is the most useful form of contents for problem solving and decision making since it has more meaning than data and information (Davenport *et al.*, 1998a). This confusion may perhaps lead to disordered thinking on the theme of knowledge, but It is argued that data is located in the world and knowledge is located in agents, while information is taking place between them (Alosaimi, 2016). Data is informative and as a result it may change the expectation of an agent. On the other hand, (Bateson, 1972) ,defined information as a difference that makes a difference in someone. That is to say, information is one step ahead of data. In organizations, knowledge is divided into two types: tacit knowledge and explicit knowledge (Nonaka & Takeuchi, 1996). The attributes of data, information and knowledge is presented in figure 2.

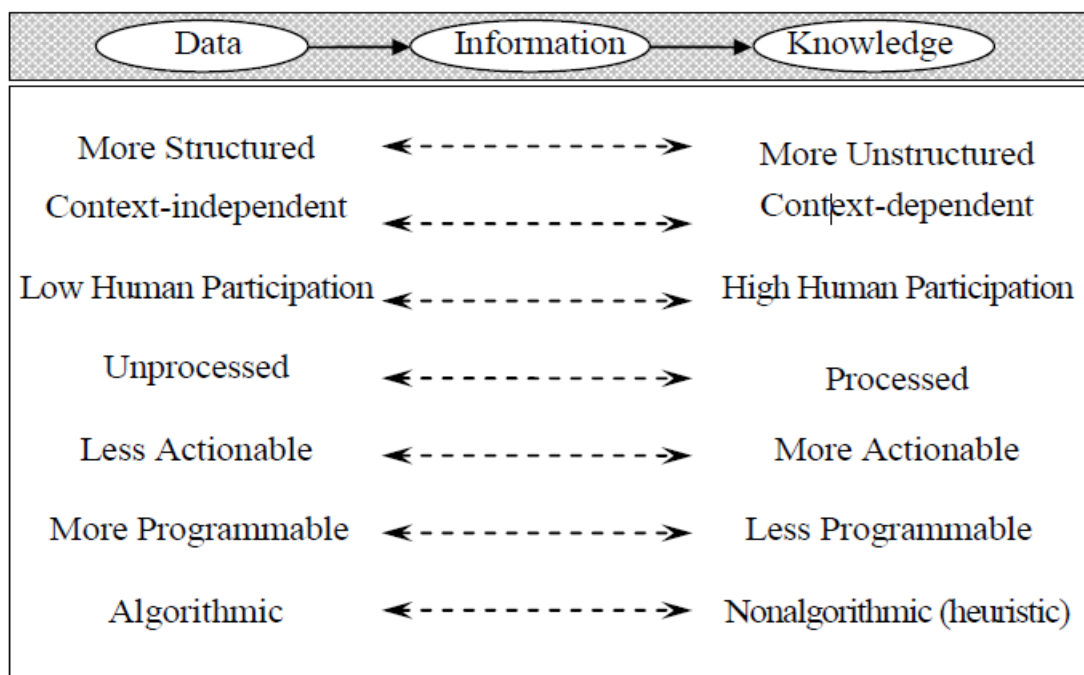


Figure 2 Data, Information and Knowledge Attributes (Davenport *et al.*, 1998a; Robert *et al.*, 2000)

2.1.1 Definitions of Knowledge by different authors

Ismail and Yusof (2010) "Knowledge is devoted to be as a someone's level of understanding by experiencing and learning that provoke an individual's capacity to decide and act"

Bennet and Bennet (2004) defined knowledge as “the potential to act in difficult and unclear situations”.

Davenport and Dörnyei (2001) state knowledge “as an asset of experience, value, and learning that provides a structure to analyze and implement new experience and sequence. Knowledge is not recorded in formal documents alone but it can manifest itself in practices, values and norms.

Mohajan (2017) claims that “Knowledge is a form of information with a total understanding and reasoning. It can be obtained through collection experiences and skills.

McInerney (2002) said “Knowledge is dynamic in nature since it changes the concentration of someone through involvements, and acts as a learning component in an institution by division of skills amongst the staffs to advance performance”.

Nonaka and Takeuchi (1996) view knowledge as “a confidence that improves the competence of an individual to act; it can be named as a valued advantage for a group for moving future transactions”.

O'Dell *et al.* (1998) observed knowledge as a part of information by which the association must pay attention to customers, properties, processes, mistakes, and achievements.

Girard and Girard (2015) defined knowledge as an “accretion of skills, such as recognizing, allocation, distinguishing, exploring, pro-activeness and accepting, increased through education, and erudition”.

(Lin & Tseng, 2005) says “Knowledge is the linked portion of information available in the right arrangement, at the appropriate time, and at the suitable place for captivating a decision”. table

(Al-Hawari, 2004) defines knowledge as “An object that can be accepted, communal, implicit, and applied to achieve a set of objects and goals.

2.1.2 Classification of Knowledge

Scholars have proposed several procedures to categorize knowledge, and this field has been paid considerable attention. There are two main forms of knowledge which are tacit and explicit knowledge. In this study, The importance of tacit and explicit knowledge has been concentrated to identify the availability of each knowledge format in the Kurdistan Public organizations. There is a model to create knowledge which is called SECI socialization, externalization, combination and internalization. In these processes the explicit knowledge converts to tacit knowledge and vice-versa. The widening procedures between explicit and tacit knowledge will create knowledge (Nonaka & Takeuchi, 1996). The model of Nonaka knowledge creation is shown in figure 3.

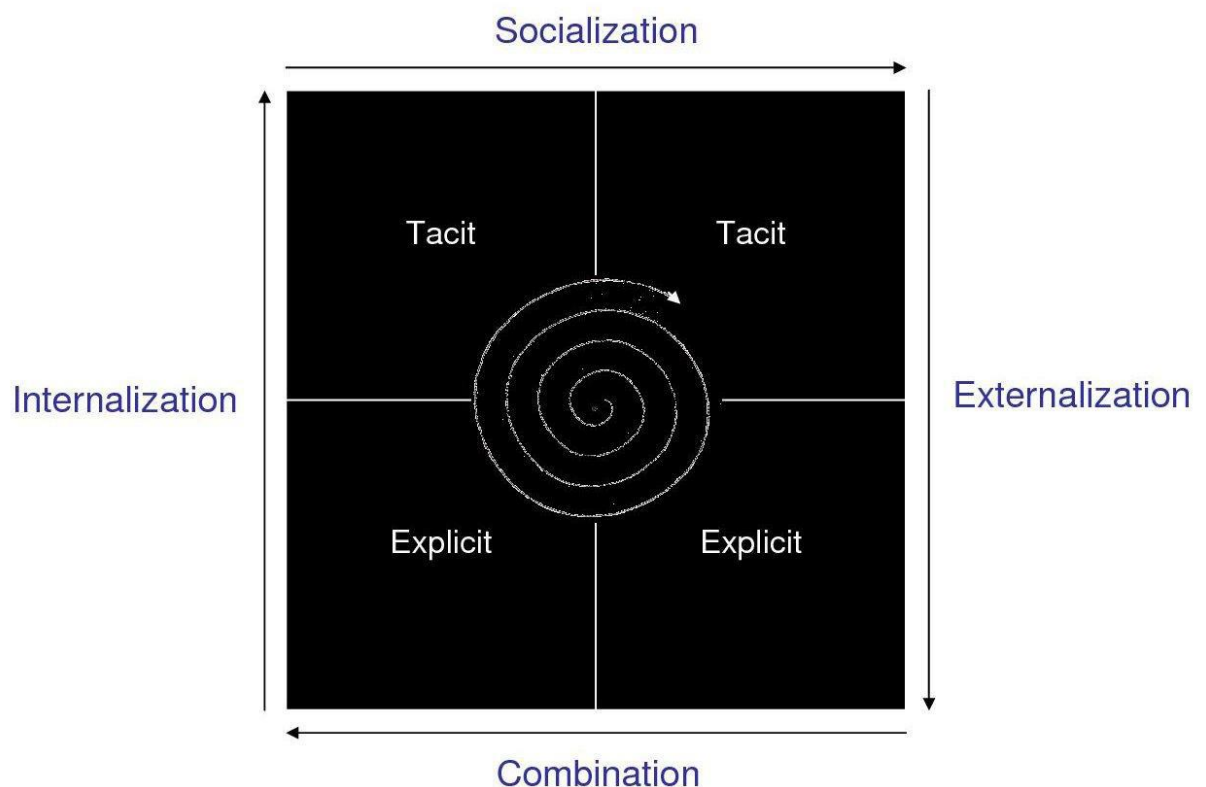


Figure 3 SECI Model Knowledge Creation Spiral, Source: (Al-Hawari, 2004).

2.1.2.1 Tacit knowledge

According to Mitchell (2006); Sağsan (2003) tacit knowledge includes best practices of the hands-on skills, special know-how, heuristic, intuitions, and so on. This type of knowledge cannot be documented and articulated, it is

more hidden and cognitive knowledge such as mental models, inner images and beliefs. This kind of knowledge is difficult to be transferred because it is intangible data, it can only be transferred by action. For example, we cannot teach someone to ride a bicycle by articulating the riding skills unless we practically show our theory and put in practice. It is worth to mention that tacit knowledge is personal hence it is highly hard to formalize it. The significant point about tacit knowledge is known as procedural knowledge and “knowledge how”. This knowledge is easier to show rather than do in action. This type of knowledge is personal and more related to the individuals.

It is difficult to manage tacit knowledge because it is laid in the minds of each organizational member, as a result of that, there are some developed information systems to encode and capture the tacit knowledge but the real question is that: are the information systems capable to capture all tacit knowledge? The answer is no! On the other hand, human interactions can be used to accumulate and capture the organizational tacit knowledge.

2.1.2.2 Explicit knowledge

Explicit knowledge is documented and codified knowledge. “It is easily coded, transferred and shared within an organization” (Nonaka & Takeuchi, 1996). Data and information encoded, stored and disseminated is known as content component of the explicit knowledge (Mahmood, 2011). This form of knowledge can be transferred as it is objective and tangible. Forms of explicit knowledge are manuals, databases, theoretical practices and problem-solving methods. Explicit knowledge is called declarative and systematic knowledge as well (Carrillo *et al.*, 2004). This form of knowledge can be clarified in clear terms and it is flexible to be theorized for later reviewing and reviewing.

2.2 Knowledge based Theory

In today’s global competition organizations need to think on preserving their resources. Prior to industry revolution, land was considered as the main resource, with industry revolution the capital and human resource took the dominant seat. Now, knowledge is considered as the most important resource for organizations. Abraham and Adiratna (2014); Cavusoglu and

Sagsan (2016); Drucker (1990) claim that Knowledge is the source, not a source. The importance of knowledge in a knowledge economy is more felt than classic economies (Cavusoglu, 2016). Organizations in knowledge economy adapt Knowledge based theory (KBT) which is a theory of the firm that focuses attention on the resources and organizational capabilities as the principal sources of sustainable competitive advantage and the foundation for strategy formulation. The main purpose of KBT is to maximize the organizational performance and productivity through building a unique competitive advantage against rivalries and this will consequently create organizational value.

According to Grant (1997) the knowledge-based view is originated on a set of basic expectations:

- a. Knowledge is a crucial foundation for value to be added to organization products and services that helps to gain competitive advantage.
- b. Knowledge changes on its transferable capacity, which also relies capability of receiver to acquire knowledge.
- c. Tacit knowledge resides within individuals who have a specific learning capacity.
- d. For reasons of economies of scale, most knowledge, and in particular explicit knowledge, should be made available for additional applications when created for a certain application.

Due to the fact that higher education institutions are knowledge-based industries, it is debated that the processes knowledge management should be existing (Sallis & Jones, 2013). In the knowledge-based theory, the university mainly focus on the dynamics of the knowledge within the organizational atmosphere (Tsoukas, 1996).

According to (Grant, 1997), “the theory explains the rationale for the firm, the delineation of its boundaries, the nature of organizational capability, the distribution of decision-making authority and the determinants of strategic alliances”. (Grant, 1997) .

2.3 Knowledge Management

What is knowledge management? This question can be answered with different perceptions and understandings. Km has different meanings in

several ways for organizations and the people who work in these organizations. To have a common understanding on the term of KM there should be a common definition for each of "Knowledge" and "Management". It is hence crucial to find appropriate descriptions and stating it straight to obviously figure out the notion. The concept of knowledge management is dimensional and it is also difficult to theorize (Keller & Kastrup, 2009; Sagsan & Zorlu, 2010). The purpose of any knowledge management system is to generate knowledge from the available data and information in the sake of building competitive advantage for the organization.

Knowledge management as new discipline has manifested itself to increase the organizational performance, effectiveness, efficiency and productivity. Gamble and Blackwell (2001) stated that KM is an organized management of knowledge properties of an organization with the intention of building value for it. The pulling out process of novel patterns from the managed knowledge is an innovative activity. Based on this perspective, knowledge management includes a set of strategies, systems, initiatives and processes. In addition, Sagsan (2009); Wiig (1997) claimed that KM is defined as a systematic, explicit and intentional construction, renewal and application of knowledge to capitalize on the productivity of the enterprise linked to information and returns from its knowledge resources. For this process, the organizations need imaginations and organized thoughts. Leonard-Barton and Swap (2005) described KM is "crucial for enterprises to regulate where they are going and for managerial persistence in the long term, creating knowledge is the main competency of organizations. The whole goal behind knowledge management process is to enhance the organizational efficiency. Consequently, the processes of knowledge management are leveraging knowledge as a tool of organizational innovation and decision making. This will change from one organization to another one but that difference does not reduce from the significance of knowledge management. Knowledge management practices consist of knowledge generation, acquisition, storing and disseminating. These practices can be applied in public organizations as well. Knowledge generation involves knowledge creation in the organizations, and that is through a four route of knowledge creation which were developed by (Nonaka & Takeuchi, 1996). Knowledge acquisition is the process of

accumulating knowledge from different sources however this process is more difficult especially the accumulation of tacit knowledge as it resides in the heads of knowledge holders. Knowledge storage is the domain to protect the acquired knowledge, and that is to keep it the knowledge and can be retrieved whenever is required. Knowledge dissemination is the last KM practice which allows the knowledge to be flown among the relevant organizational stakeholders. To take a wider view about the whole process of knowledge management it can be said that “If knowledge is the sum of experiences and information from an individual or group, than KM is a program for increasing that sum” (Asgari *et al.*, 2012; Sağsan, 2007).

There is a simple question regarding knowledge management that should be answered “what are the benefits of knowledge management?” (Jarrar, 2002) has summarized some most known benefits of knowledge management that can be stated as following:

- KM improves the process of decision making and avoids wasting of time.
- Enhancing the responsiveness of customers.
- Encourages the organizational members to share knowledge and not to hoard it,
- Improving the culture of support among the organizational members because they appreciate receiving knowledge.
- Increasing the efficiency of both employees and operations.

2.3.1 Knowledge Management system

Alavi and Leidner (1999); Sagsan and Zorlu (2010) characterize Knowledge Management Systems (KMS) as “a specific technology-based portal which is used for effective knowledge management. It refers to any type of IT portal that stores, retrieves captures and uses knowledge, improves collaboration, finds sources of knowledge, mines repositories for hidden knowledge, or somehow enhances the KM process”. Figure 4 shows a typical knowledge management system.

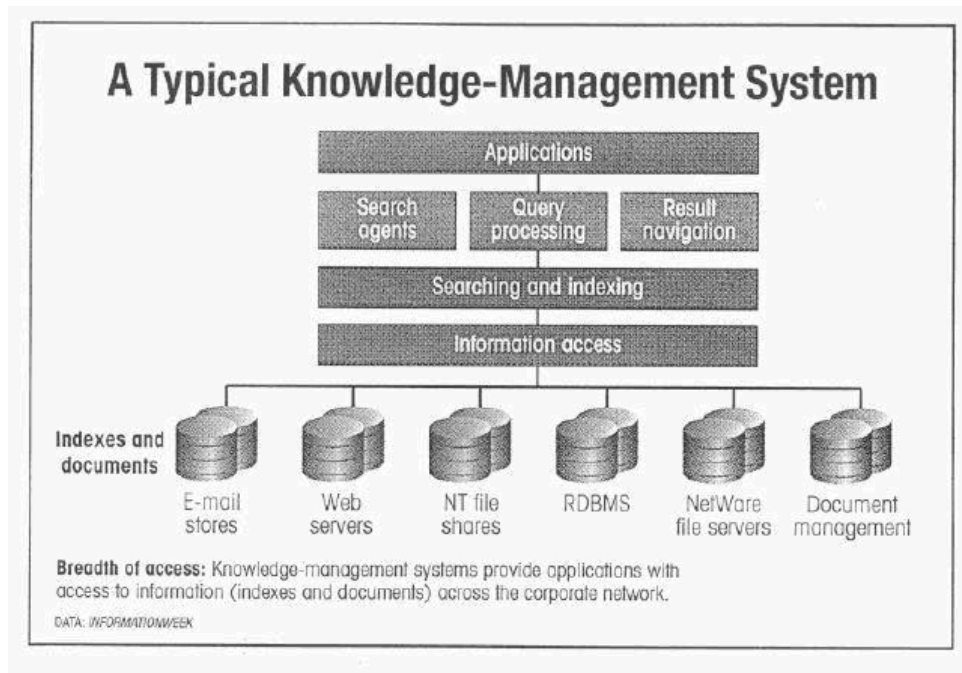


Figure 4 shows a typical knowledge management system.

2.3.2 Knowledge Management Models

There are several knowledge managements models, but the most common models are the following:

1- Model of Von Krogh and Roos

This model is design to differentiate between social knowledge in one hand and individual knowledge on the other hand. Based on this K model knowledge is normally taking place in the minds of organizational members and between the organizational members. This model deals with the questions on knowledge. Figure 5 shows the KM model of Von Krogh and Roos.

Figure 5 shows KM model of (Venzin *et al.*, 1998)

2- The Nonaka and Takeuchi KM model of knowledge management:

This Km model concentrates on the four processes of knowledge creation as Socialization (tacit to tacit), Externalization (tacit to explicit), Combination (explicit to explicit) and Internalization (explicit to tacit). figure 6 shows the SECI Model Knowledge Creation Spiral.

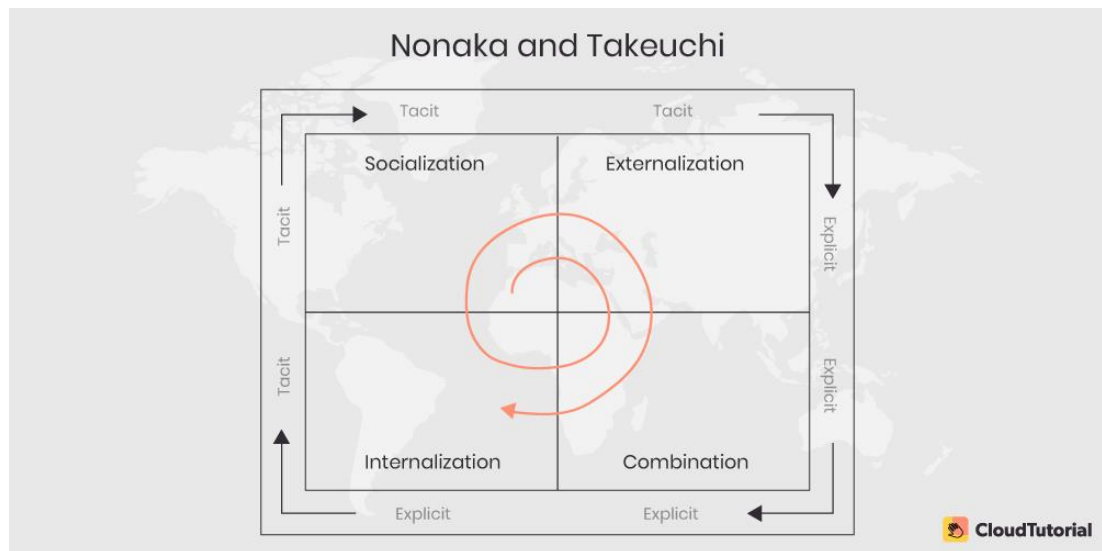


Figure 6 SECI Model Knowledge Creation Spiral, Source: (Nonaka & Takeuchi, 1996)

3- Choo Sense-Making KM model:

This KM model emphasizes three main components which are Sense-



Making, Knowledge Creation and Decision-making skills. Figure 7 shows Choo Sense-Making KM model.

Figure 7 shows Choo Sense-Making KM model

4- WIIGS KM Model:

It is designed to build knowledge and it depicts that the process of knowledge management should be reasonable in a way that can generate valuable knowledge. Figure 8 shows the WIIGS KM Model.

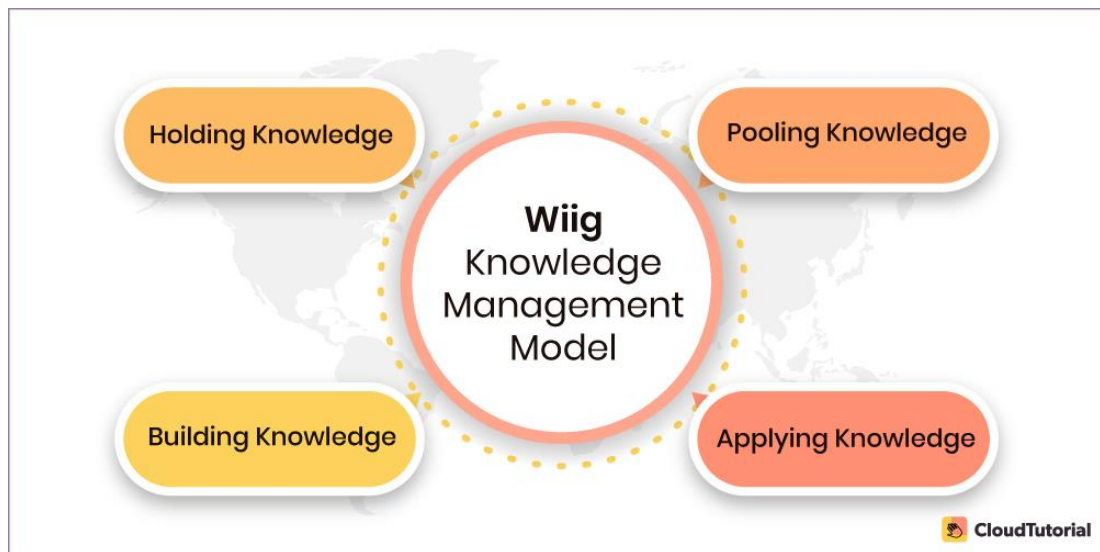


Figure 8 shows the WIIGS KM Model

5- Boisot I-Space model:

This KM model is considered as perfect of decision-making process. The model differentiates new knowledge from data, it highlights all the information that is fundamentally significant. He models follows three dimensions as: From uncoded to coded, from concrete to abstract and from undiffused to diffused. Figure (9) shows Boisot I-Space model

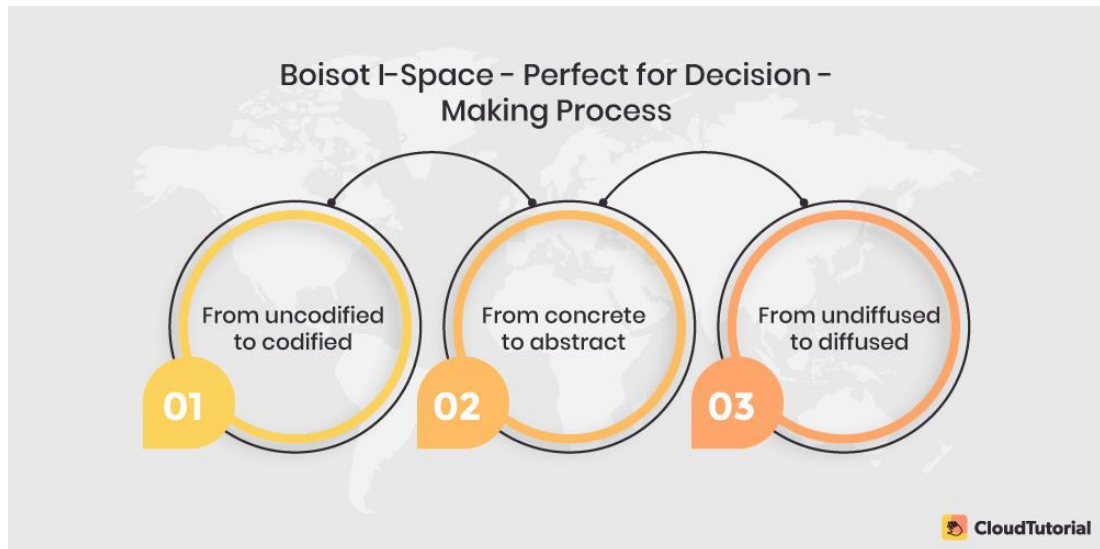


Figure 9 Boisot I-Space model

6. The ZACK KM Model:

It includes the following steps: Data and information acquisition, refinement, Storage and Retrieval and Distribution and presentation. The model is stated in figure (10).

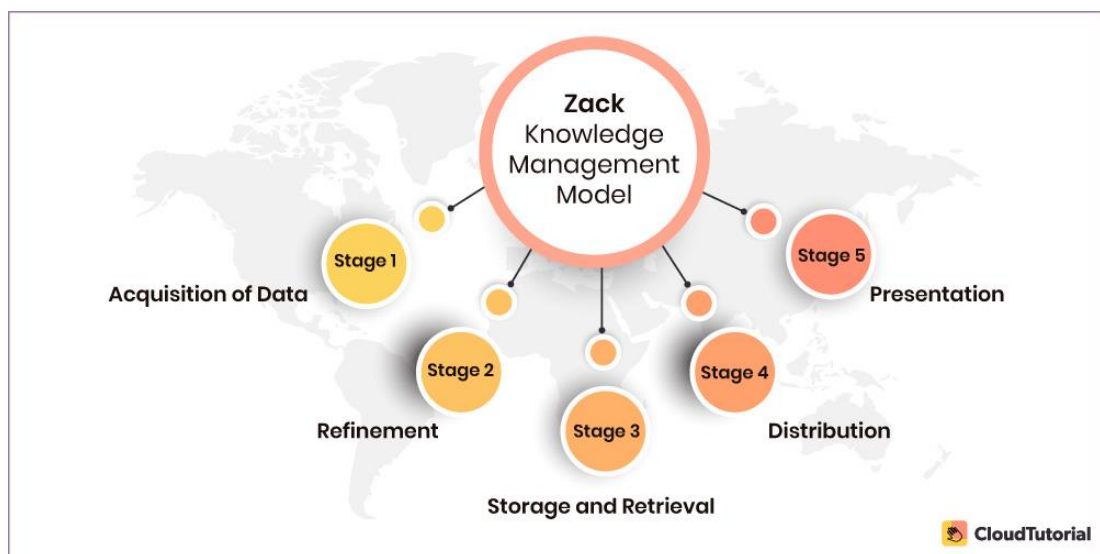


Figure 10 shows The ZACK KM model

2.3.3 Knowledge management vs Information management

Information management is a minor part of KM process (Al-Hawamdeh, 2003). In addition, explicit knowledge which is basically can be classified as (information), but KM includes 'know-how', which is definitely capturing and documenting in the form of information. The tacit knowledge can only be shared through the processes of socialization and interaction among the knowledge holders and knowledge seekers. Grey (1998) distinguishes KM management and information management by affirming that: "dealing with objects (data and information) is called IM and dealing with people as human capital is called Knowledge Management". He clarifies more by saying that KM identifies value in novelty, invention, liveliness, flexibility, cleverness and learning process. Consequently, IM is a subdivision of KM. that can be more specified as KM is larger than information management since KM does not only work on data and information and systems. It incorporates similarly the human characteristic of an institution, administrative learning and modernization.

2.3.4 Knowledge Management in public higher education

Knowledge management has stronger roots in private sector rather than public sector. This is correct for universities as well. That is probably due to the fact that the competition among private universities is more severe than public universities. Despite the late implementation, but public universities have tried to follow what private universities have implemented in that regard. Two factors can be identified that pushed public universities to implement knowledge management strategies. First, public universities need the same potentials and competitive advantages as private ones do, therefore they need knowledge management systems to develop and manage their skills, competences and experiences through the KM functions such as creation, sharing, storage and auditing (Sagsan & Medeni, 2012). The second factor can be concluded in the fact that private universities have taken effective steps in terms of world reputation for example, world university rankings, research development and financial benefits through attracting perspective students. These achievements are mostly coming through effective

knowledge management systems. Public universities have no other choice but to implement knowledge management systems. Kurdistan universities are at their very beginning steps of KM establishment. Yet, they university leaderships need to have a strong belief in the necessity of KM systems (Sağsan & Ertugan). Then, the KM infrastructure needs to be developed in terms of human capital and infrastructure. The focus is on human capital in higher education because the main asset in universities is employee either administrative employees or lecturers. They are the knowledge holders and that knowledge can be the strongest competitive advantage.

2.3.3 Definitions of Knowledge Management by different scholars

Serban and Luan (2002) stated that KM “is connected straightforward to designed and deliberate requirements built on the use of knowledge resources to help the firm to deal with these difficulties”.

Davenport *et al.* (1998a) explains that KM “is the technique of transfer, establishment, sharing, and the active application of knowledge”.

Harris (1998) state that it focuses “the employment and growth of the knowledge possessions of an organization with a viewpoint to accomplish the organization’s objectives”.

Grey (1998) describes KM in a business perception as “a joint and complete viewpoint to the foundation, capture, connotation, way in and use of a rational resource”.

Malhotra (1997) defines that “KM is a synergistic combination of details and figures, and with its privilege in terms of the capability of information technologies, it combines the creative and the recent capability of humans”.

Kim (2002); (Sagsan, 2011) described KM as “a strategy that goes an organization’s reasonable properties - both documented data and the competences of its employees- into greater efficacy, value and preserved keenness; it directs the business from a great level to the workers, how to make and enhance proficiencies as a joint article”

Rubenstein-Montano *et al.* (2001) shows that KM “is the group of courses that oversee the outset, delivery, and using of knowledge”.

Carrillo *et al.* (2004) assumed “KM relates to solving dissimilar types of knowledge so as it develops available as a structural source. Including KM benefits society to education from its occupational commemoration, share knowledge and distinguish skills to become an active and learning institution”.

Tat and Hase (2007) outline KM in varied relationships in four models, which include knowledge of customers, properties, associations, and assets.

Heisig (2009) describes knowledge management as the “establishment and consequential managing of a neighboring which provides sureness for

knowledge to be formed, conveyed, cultured, progressive, planned and used for the well-being of the organization and its customers”.

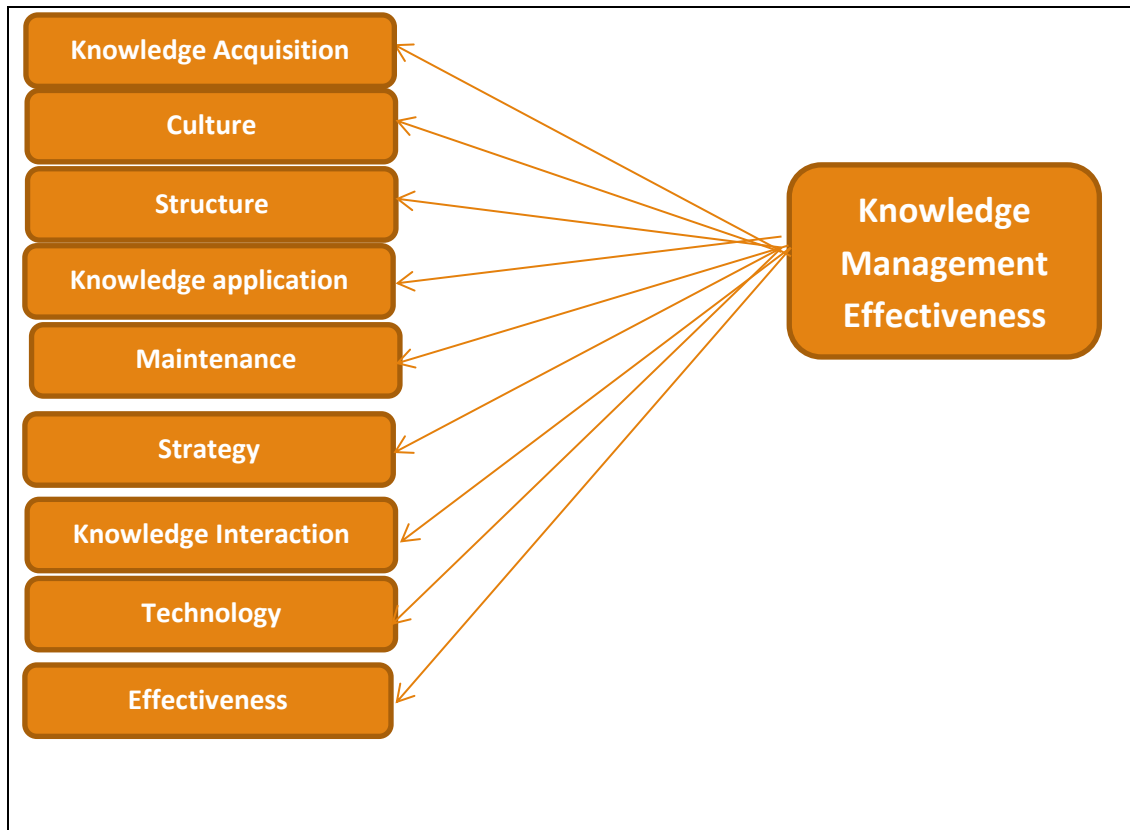


Figure 11 Elements of Knowledge Management Resources Source: (Alkatheeri, 2018)

2.4 Knowledge management in public organizations

The university setting, by its design, is conducive for applying the principles of knowledge management Approaches (Mikulecký & Mikulecka, 1999). The factors of such claim are: (1) universities always ahead other institutions for having modern IT infrastructure. (2) Lecturers and academicians are keener to exchange knowledge. (3) The dream and desire of university community is more oriented to knowledge acquisition rather than other organizations. These reasons are despite the fact that universities are on the stage of global competition. They need to meet the international and local expectations by adopting the modern KM systems. The rise of knowledge management as a professional unit was the response to private sector competition, especially the firms which are functioning in competitive context. That does not mean that public organizations are excluded from this wave of knowledge management. They are in front of globalization movement which is eventually force them to cope with the developments, the higher education

establishments (HEIs), just like private sector, realize the urgent need to gain competitive power due to inflexible competition and burden to deal globalization. (This claim is more accurate for public universities in the world and in North of Iraq (NI) is no exception from that. Universities are knowledge factories, and that is the most convincing argument that the higher education institutions are in urgent need of knowledge management system.

There are several different definitions on knowledge management processes. Liyanage *et al.* (2009) claim KM as a process of knowledge creation, acquisition, incorporation, allocation, and (Alosaimi, 2016). application to advance the operation efficiency and competitive advantage of an organization. Taking KM process in the context of higher education, we can make several observations in that context. Generally, KM is known as the process of involving the creating knowledge, using knowledge, sharing knowledge and auditing it. An in-depth evaluation of these processes allows us to classify six shared processes of KM and to describe them in higher education context, HEI setting as efficient processes of knowledge creating, capturing, organizing, storing, disseminating, and applying by the academics of several faculties sharing alike parts of interest in preceding theirs as well as the endeavors of the HEIs. An operational review of each of these KM processes will be provided in Table 1. in this view KM processes in HEI enable the employees not only achieving the information but to share and audit what is hidden as tacit knowledge

(Riege & Lindsay, 2006). articulates on the aims for KM initiatives in the public sector as:

- Increasing organizational efficiency within the entire organization by relating different parts of information that the organization owns. That is to boost the overall organizational performance and optimize in a wider range and period or time to access the available knowledge.
- Refine the accountability and lessen risks by creating knowledgeable decisions and resolution issues quicker, maintained by admission to combined, translucent information crosswise all organizational borders.

- To deliver improved and more cost-effective services by developing cooperation and responsiveness to the public

In Middle Eastern countries and Iraq in particular, knowledge management has not been cultivated in the organizations. Kurdistan public universities as the extension of public organization structures have not designed a proper knowledge management system. Knowledge management process have been defined differently by different scholar which we have presented in table (1).

Table 1 Definitions of KM processes in the HEI setting Source: (Ramachandran *et al.*, 2013)

Definitions Knowledge Management Processes	
Knowledge creation	“Knowledge is created via finding, that is, academics progress new methods of performing things or it is taken in through outside foundations. Research and development action are one such creating knowledge.”
Knowledge capturing	“Knowledge capture happens when new knowledge is identified as relevant and valuable to current and future needs. Methods of knowledge capture that comes from external sources include: benchmarking best practices from other HEIs; attending conferences; hiring consultants; monitoring economics, social, and technological trends; collecting data from staff, students, competitors, and resources; hiring new staff; collaborating with other HEIs; building alliances; forming joint ventures; and establishing knowledge links with collaborators”
Knowledge organization	“Knowledge organization happens when new knowledge is refined and then organized. This is done through filtering to identify and cross list the useful dimensions of the knowledge for different products and services of the HEIs. The knowledge is placed in context so that it is actionable and it can be reviewed and kept current and relevant”
Knowledge Storage	“Knowledge storage is a process where knowledge is codified and stored in a reasonable format so that others in the HEIs can access to it. Database management and data warehousing technologies can help in this process. Besides, databases, directories of expertise, procedural handbooks, and email messages are examples of codifying knowledge”

Knowledge dissemination	“Knowledge dissemination involves personalizing knowledge and distributing it in a useful format to meet the specific needs of the academics. The knowledge is articulated in a common language using tools that are understood by all users. Publications, presentations, websites, white papers, teaching and learning activities, policies, and reports are examples of mechanisms used by HEIs to disseminate and/or transfer knowledge”
Knowledge Application	“Knowledge application happens when knowledge is applied to new situations where academics can learn and generate new knowledge. In the learning process, there should be analysis and critical evaluation to generate new patterns for future use. Decision making at the organizational level, innovation, and customer/student relationship management are examples of direct knowledge application. The application of knowledge may generate new knowledge or update current knowledge that has to be stored in the databases of the HEIs”

2.5 Knowledge Hiding

“Information and knowledge are strategically important resources because these many types of organizational capabilities are a direct result of sharing, integrating and applying them. The effective maintenance, communication, transfer and sharing of information and knowledge is the ubiquitous supportive framework that is needed for the creation and maintenance of strategic-organizational outcomes and, if it is not already in place, requires a culture that encourages, supports and values the efforts of the members of the organization in achieving them.” (Hart & Warne, 2008).

In the age of globalized competition, each organization tries to have manage its knowledge effectively. Quoted from (Watson *et al.*, 2003) "knowledge includes experiences, formalized knowledge, patents, procedures, laws and programs" These are put in a management system which is called knowledge management. It is a set of activities such as acquiring, creating, disseminating, storage, sharing, disposing and controlling the use of knowledge(Watson *et al.*, 2003). Even with making huge efforts, organizations are unable to force a system which can prevent knowledge hiding. "knowledge hiding is still prevalent in work settings" (Peng, 2013). Knowledge hiding (KH) has been operationally defined by as “an intentional

attempt of an individual to withhold or hide knowledge that has been requested by another person”. This behavior is not accidental or lack of information but rather than an intention by the knowledge hider to conceal what he/she knows from other people. To operationalize knowledge hiding as a concept, there should be some comparison and distinction between KH and other human behaviors. First of all, KH is not opposite to knowledge sharing, because of the motivation behind each behavior is different (Connelly *et al.*, 2012a). When someone does not share knowledge, he may even does not have or know the knowledge.in addition, knowledge hoarding is confused with hiding, it has been interchangeably used by researchers for example (Goswami & Agrawal, 2018). “Knowledge hoarding represents the act of accumulating knowledge that may or may not be shared at a later date” (Hislop, 2002). Both behaviors are holding knowledge but the main distinction manifests in the fact that knowledge hording is not requested by another co-worker (Webster *et al.*, 2008).

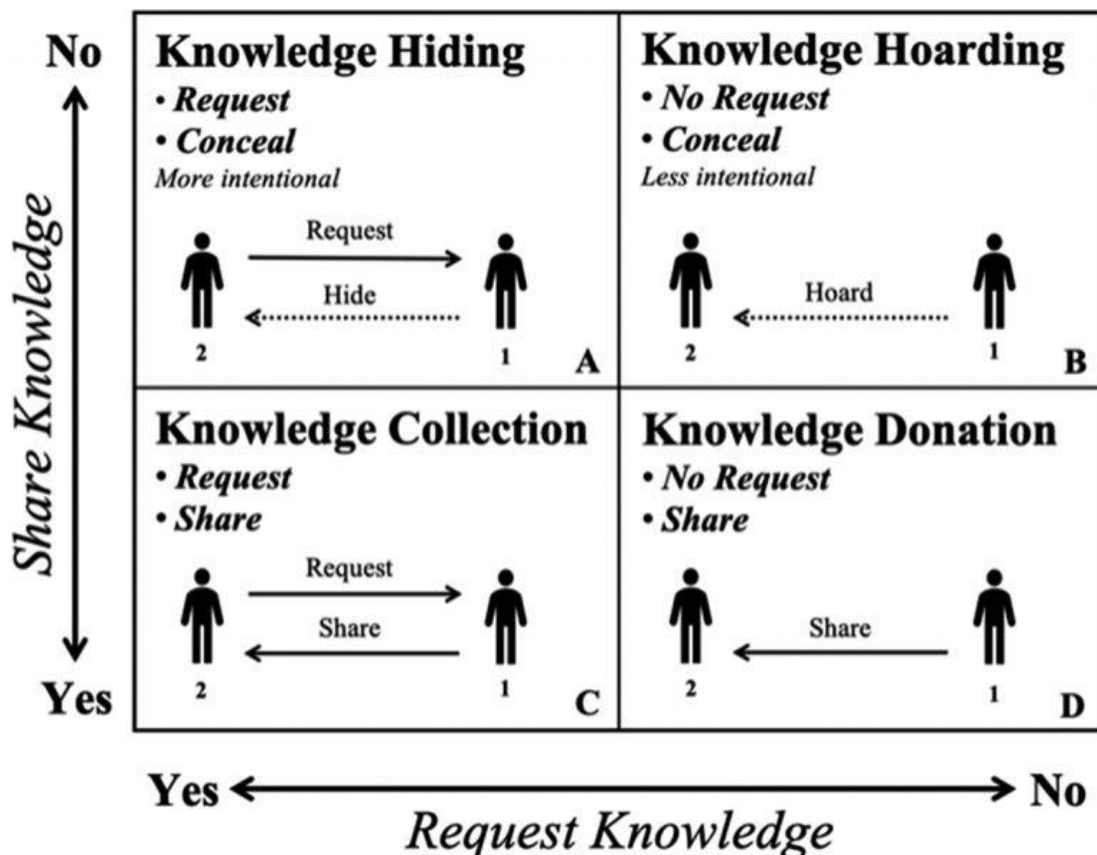


Figure 12 Shows the differences among Knowledge hiding, hoarding, collection, and donation framework (Silva de Garcia *et al.*, 2020).

Conversely, in some cases, protecting knowledge can be optimistic, such as the protection of private law associations. Organizational concerns account for circumstances that influence the role of staff in shielding knowledge, such as organizational theory, organizational law, corporate strategy and corporate faith (Peng, 2013). In comparison, it is not considered that hiding knowledge is opposed to expressing understanding, but that it is related and separate processes (Connelly *et al.*, 2012a). Furthermore, in regard to the conduct of covering knowledge, awareness-raising is not necessarily intentional to the applicant (Webster *et al.*, 2008). Context knowledge was grouped into four major categories: psychological, operational, job and environmental influences (Connelly *et al.*, 2009). Relevant factors include personality traits, attributes (age, gender, marital status), attitudes and values that influence worker knowledge (Tang *et al.*, 2015). Variables that lead to employee happiness, work stability, task meaning and workplace intensity are referred to as variables (BAVIK, 2015). Similarly, the complexity of knowledge, which describes the significance of the information demanded and the work-related awareness of the employee, the sense of wrongdoing inside or amongst employees seeking knowledge, of contribute to the purpose of withholding knowledge, sharing knowledge and spiritual belongings.

Knowledge hiding as a behavior has been divided into three facets.

2.5.1 Evasive hiding:

This dimension of knowledge hiding is labeled as deception. Connelly *et al.* (2012a) defined evasive hiding as “the knowledge hider conveys incorrect information or a misleading promise of a further answer in the future”. Sometimes the knowledge hidiers promise that they will get back to the knowledge seeker but they never do. In other times, they claim that the questioned knowledge is very simple you just need to do these little things but the knowledge is way more complicated. There is clearly lack of significant information.

2.5.2 Rationalized hiding

In rationalized hiding, the hider provides the clarification for why he/she fails to present the required knowledge, ether by saying that he is unable or by

putting the blame on other party (Connelly & Zweig, 2015). The knowledge hider gives clarifications why the knowledge requested by a peer cannot be shared and the responsibility transferred over to a third party; for instance, knowledge is confidential and not available to a third party. Previous studies also concluded that whilst there might be justification for failing to disclose the necessary information, fraudulent confidentiality may be obvious and can also constitute a fraudulent act (N. Demirkasimoglu, 2016). Conversely, in some cases, protecting knowledge can be optimistic, such as the protection of private law associations. Organizational concerns account for circumstances that influence the role of staff in shielding knowledge, such as organizational theory, organizational law, corporate strategy and corporate faith (Peng, 2013).

2.5.3 Playing dump

In this type, the knowledge hider obtains the intention of knowledge hiding by acting that he/she does not understand what the requesters asking about (Connelly *et al.*, 2012a). The hider pretends to be ignorant and does not have clue about the requested knowledge. In this strategy the knowledge hider pretends not understanding what they knowledge seeker is asking of.

2.6 Knowledge hiding in higher education

Studies on knowledge management which have been conducted in higher education institutions are very limited. One of the first attempts in this regard was a study conducted by Shukor *et al.* (2009) it was found that KM as a process covers knowledge creating, organizing, refining and knowledge transferring among the academic community. On the other hand, a study which was carried out on the knowledge transfer of university students showed that there was a stronger role of knowledge sharing rather than knowledge hiding (Connelly *et al.*, 2009). In addition, Hughes *et al.* (2008) studies the nature of knowledge exchange between the academicians and marketing practitioners, they found that there is a remarkable resistance between marketing professionals and academics to exchange knowledge. Furthermore, a study on knowledge hoarding as a risk or strategy among the academic people showed evidence of knowledge hording (Muhenda & Lwanga, 2014). Besides, in an attempt to study knowledge hiding in

academia, N. Demirkasimoglu (2016) investigated knowledge hiding in the context of academia. The findings showed that academicians use “rationalized hiding” as their most-repeated mechanism of knowledge hiding, followed by evasive hiding and playing dumb. Despite the above attempt in knowledge management functions, there are few attempts on investigating knowledge hiding in academia, and this may be due to the fact that the concept is new and novel. This gap in knowledge hiding research justifies our investigation on knowledge hiding in public universities of North of Iraq.

2.7 Leadership

Leadership plays a pivotal role in enhancing or reducing organizational effectiveness. Leaders are the frontrunners who should help the organization adapt to its environment, in order to improve relationships with its stakeholders (Yukl & Yukl, 2002). Moreover, empirical evidence suggests that leadership is one of the most important factors for reaching an internal productivity through an effective organizational design, which refers to a strong organizational culture and structure (Daft, 1999; Yukl & Yukl, 2002). Some studies evaluated the consequences of leaders' behavior and characteristics from different perspectives (Abel, 2000; Pfeffer, 1977). To have a deeper understanding about the concept of leadership, the following definitions have been stated as the most well-known expressions that may give a clearer view on the term.

(Bass & Stogdill, 1990) demarcated leadership as "Leadership may be broadly defined as the relation between an individual and a group built around some common interest and behaving in a manner directed or determined by him"

"Leadership is the art of dealing with human nature. It is the art of influencing a body of people by persuasion or example to follow a line of action. It must never be confused with driver ship— to coin a word—which is the art of compelling a body of people by intimidation or force to follow a line of action"

Redl (1942) described leadership as "that relationship which is characterized by love of the members for the central person, leading to incorporation of the personality of the central person in the ego ideal of the followers, i.e., they wish to become the kind of person he is"

(Rost, 1991) discovered a view of leadership and defined as "There is nothing novel in our conception of leadership. We thought of it as a man's ability to take the initiative in social situations, to plan and organize action, and in so doing to evoke cooperation"

(Andert, 2011) expressed that "Leadership is the principal dynamic force that stimulates, motivates, and coordinates the organization in the accomplishment of its objectives"

Hemphill and Coons (1957) defined leadership as "Leadership may be said to be the behavior of an individual while he is involved in directing group activities"

Shartle (1956) defined leadership as "Leadership act as one which results in others acting or responding to a shared direction"

Hemphill and Coons (1957) defined leadership as "the behavior of an individual when he is directing the activities of a group toward a shared goal"

Pepinsky *et al.* (1958) was even going further by saying: "To lead is to engage in an act that initiates a structure-in-interaction as part of the process of solving a mutual problem. Leadership acts do not include various acts of influence that occur outside mutual problem solving"

Bellows (1959) defined leadership as "the process of arranging a situation so that various members of a group, including the leader, can achieve common goals with maximum economy and a minimum of time and work"

Haiman (1951) defined leadership as "Leadership refers to that process whereby an individual directs, guides, influences, or controls the thoughts, feelings or behaviors of other human beings"

Browne and Cohn (1958) defined leadership as "Leadership behaviors are any behaviors the experimenter wishes to designate or, more generally, any behaviors which experts in this area wish to consider as leader behaviors"

Stogdill (1950) defined leadership as "Leadership may be considered as the process (act) of influencing the activities of an organized group in its efforts towards goal setting and goal achievement"

Cattell (1951) defined leadership as "the magnitude of the syntality change produced by that person"

Campbell (1956) defined leadership as "Leadership may be defined as the contribution of a given individual to group effectiveness, mediated through the direct efforts of others rather than him"

Gordon (1955) defined leadership as "Leadership can be conceptualized as an interaction between a person and the members of a group. . . . One person, the leader, influences, while the other person responds"

Seeman (1960) defined leadership as "acts by persons which influence other persons in a shared direction"

Beal *et al.* (1962) defined leadership precisely as "Leadership is the process of influencing people by ideas"

Lowry (1962) defined leadership as "Leadership is the ability (and potential) to influence the decisions and actions of others (followers) and therefore to exercise power over the decision-making process of community life"

Merton (1969) defined leadership as "an interpersonal relationship in which others comply because they want to, not because they have to"

(Hollander & Julian, 1969) defined leadership as "Leadership is viewed as the performance by the leader of those acts which are required by the group"

2.7.1 Modern Theories of Leadership

“Leadership as the art of persuading a follower wants to do the things, activities that the leader sets as goals. The role of leaders is therefore in the process of directing the individual’s behavior towards a desired goal. Leaders vary depending on the individual leadership style that stems from personality characteristics. Some leaders, particularly charismatic and transformational, have personal power through which they engage employees, whereas other exert the positional, legitimate power. Leaders are characterized by different values, attitudes, beliefs, conduct, habits and practices and that is to a certain extent dependent upon the organizational, professional or institutional culture” (Mihelic *et al.*, 2010). There are some modern theories which identify some leadership styles as more responsive and positive towards the organizational effectiveness and efficiency King (1990) positive leadership styles are more vision-oriented, ready to take risk, aware of organizational culture, transform and develops followers, open for innovation, change and delegation, and recognize the environmental factors. Among the modern and positive leadership styles there are servant leadership, ethical leadership, charismatic leadership, Spiritual Leadership, transactional leadership, knowledge-oriented leadership and transformational leadership styles. However, the main focus of this dissertation is on the two types of leadership styles which are “Ethical” and “Servant” Leaderships. Both types of these leaderships are considered as positive leadership styles as their leading directions are more in the interest of organization and followers.

According to Hong (2010), there are eight fundamental principles of positive leadership styles which they are :

1. “Positive Leadership is a choice, an act of the mind and the will. It is a continual commitment that individuals make to themselves, over and over again”.
2. “Positive Leadership necessitates that organizations and those within the organization have values, ideals, standards and integrity. The source of energy comes from these values and allows individuals to lead by example in a way that inspires others”.

3. "Those within a Positive Leadership culture show great fortitude, development of character and depth of capabilities. Positive Leadership recognizes that winning generates momentum, but character sustains it".
4. "Positive Leadership requires individuals to have a clear sense of purpose, for themselves and for their organization"
5. "Those who understand Positive Leadership create achievable dreams that others want to share. Their passion can compel others to make things happen".
6. "Positive Leadership encourages individuals who are determined and never let up until they reach their dream. They are resilient and therefore do better after they fail and learn from their mistakes".
7. "Positive Leadership recognizes the importance of constant debriefing. Such self- reflection is the source of self-awareness, development and personal growth".
8. "Positive Leadership recognizes that impact is magnified through service to others".

2.7.1.1 Ethical leadership

Brown, Treviño and Harrison (2005) described EL as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement and decision-making" (p. 120). According to their demonstration an Ethical leader should have the following characteristics in the work place; role-model for the followers, communicate and conduct ethical values and standards with appropriate rewarding system for a healthy ethical climate and should follow ethical decision-making processes for providing a fair treatment and management system in the organization (Brown, Treviño, & Harrison, 2005; Treviño *et al.*, 2003) Ethical leadership can take different forms, it can be simplified as the willingness to engage with the stakeholders' community and that is to understand and listen to their needs in the sake of getting a positive impact for your organization. Also, ethical leaders should be authentic, transparent and self-aware to have a better interaction with stakeholders. There are some other characteristics of ethical leaders including empathy, compassion and humility; these attributes

help the leader himself to have a better listening and understanding of followers. The leader's engagement with the followers' responsibilities is considered as the most ethical part of the process because the employee or the person who is assigned to a task does not feel alone but rather having someone strong in the back. Ethical leadership provides a framework with a set of principles that help the leaders to in decision making and how to act morally. On the other hand, the leaders' influence will be built through the ethics that the leaders cultivate within the organization and eventually the followers follow. The central focus of ethical leaders is their ethics that they have because it creates the relationship between the leader and his/her follower. Ethical leadership is highly related to the respect from the leader to his followers. This respect should be manifested in accepting and tolerating the opposite ideas and viewpoints. According to (Pretorius, 2007). The most discriminant feature that distinguishes an ethical leader from other leaders is having integrity. In this regard, leadership is not only about charisma but character, and it os not about personality but having principles. Based on some criterions, Ethical leadership differs from unethical leadership. The differences can be found in table (2).

Table 2: the differences between ethical and unethical leadership styles. (Yukl & Yukl, 2002)

Criterion	Ethical leadership	Unethical leadership
Influence and power	Serving the organization and its members	Satisfying personal needs and objectives of career
Interests of stakeholders	Attempting to make a balance among stakeholders	Partnership with those who offer more benefit
Vision Development	Developing the vision with the followers' ideas, values and needs.	Developing a personal vision and generalize it
Integrity	Acting with espoused values	Acting to achieve personal goals
Risk Taking	Taking personal risks to have better decision making	Avoiding decisions that involves risks
communication	Transferring information about problems and events timely	Deceiving and distorting to bias followers about the problems.
Criticism	Encouraging critical thinking and evaluation for better solutions	Suppressing criticism
Career development	Developing followers through training and monitoring	Deemphasizing the employees' development to let them stay weak.

2.7.1.2 Servant leadership

Hoch *et al.* (2018) noted that servant leadership has originated from the Greenleaf's (1970,1972) studies. Greenleaf defined servant leadership as a lifestyle to serve others rather than leading and managing (Parris & Peachey, 2013). Their distinguished characters are empathy, listening, stewardship, healing, awareness, and building community (Spears, 2010). Consequently, Parris and Peachey (2013) noted that these leaders establish a trustful, fair, and mutual atmosphere in the organization for the individual and organizational effectiveness. Servant leadership incorporates some features of leadership that cannot be found in other leadership styles such as total quality, employees' empowerment and team building (Page & Wong, 2000). As a model of leadership, SL focuses on increasing services to others and sharing power in decision makings. The philosophy of a servant leader is based on value-driven character driven and process oriented. A servant leader is someone who is main purpose is to serve others through leading truthfully and investing in development of followers; this purpose is to serve the common good. Servant leadership is related to the leader's inner intention (Bender & Hellman, 1997). The leader should have the internal will to serve others and replace self-interest with the collective development. The whole process of servant leadership starts within a servant heart and real character as it is shown in figure 6.

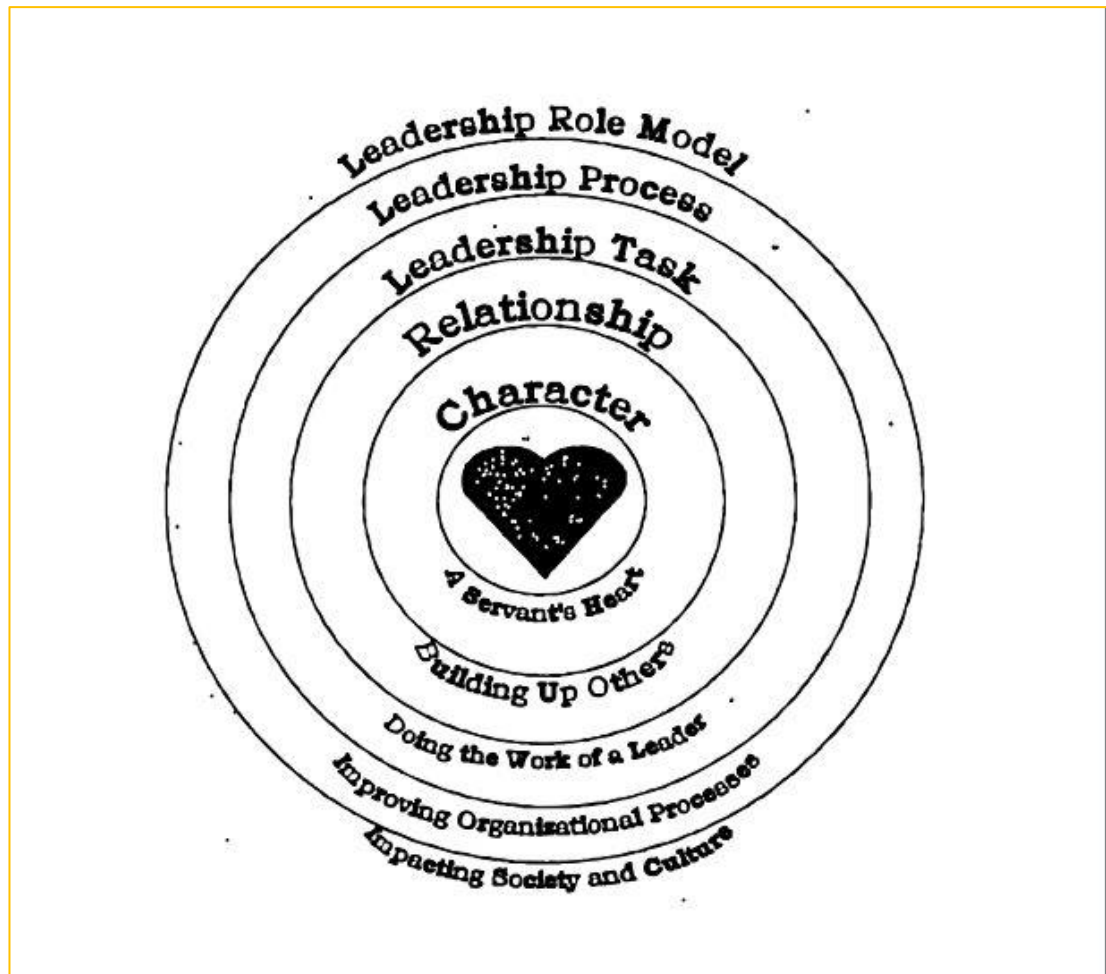


Figure 13 shows the Expanding circles of servant leadership

Source: (Page & Wong, 2000).

Servant leadership as a paradigm has some distinctions and differences from other command leadership. The command leadership styles are authoritative and leaders-centered leadership styles while servant leadership is people-centered leadership. The details about servant leadership styles and command leadership styles can be found in table (3). Some of these characteristics of servant leadership are applicable to other positive leadership styles including the ethical leadership style, but none of the leadership style can include all of the characteristics.

Table 3 : the contrast between servant leadership and command leadership.

Source: (Kouzes & Posner, 2011), in their book, *Credibility*

Command Leadership	Servant Leadership
The objective is to be served	The objective is to serve followers
Personal image is important in most decisions	Collective development before self image
entitlement is more important than its responsibilities	Responsibilities are more important than entitlements
Team members are not invited to participate in decision making	Co-workers are respected and treated as a part of team to achieve the tasks and make decisions
The leader is accessible only for close people to him	Often times, the leader is interacting with his co-workers.
Using power to influence over others	Power is used to serve others
The leaders want others to listen	The leader listens to others before making decisions
The leader wants others to understand him first	Servant leader understands others then he wants others to understand him.
Condemns other if making mistakes	Learn from mistakes
Rejects criticism and always consider the accomplishments as his success	Appreciates the feedback and considers the success as team achievement.
Does not train for more effectiveness	Invest in others for higher performance
Personality creates the followship	Character bases the followship
Winning ideas and support from deception	Winning support from discussion and persuasion
Promotion is based on following without question	Promotion is based on contributing to success
Authority is built upon external controls of rules and regulations	Authority is based on inspiration, motivation and encouragement
The leader is accountable only for his seniors	Accountable for the whole organization
Attach to the positions	Step aside for more suitable people to fill the positions

2.8 Psychological ownership of Knowledge

Liu *et al.* (2012) defined POK as a “mindset in which employees perceive that a certain knowledge or information belongs to them”. “Although psychological ownership has been frequently identified as being one of the factors which influence individual behavior and attitude, there are limited empirical studies focusing on knowledge hiding”. “Furthermore, knowledge psychological ownership shows the level at which an individual employee feeling of possession or ownership of a particular knowledge. This may be as a result of their investment of much efforts or time/money in acquiring the knowledge. Moreover, employees have control over the knowledge they have created, acquired or familiar with in their daily routine. The control over the knowledge may serve as a competitive advantage to the knowledge holder in bargaining power upon their organization for rewards to exit from the organization” (Peng, 2013). Further, once employees have the feeling of knowledge psychological ownership, knowledge sharing in the organization would be impeded. In so doing, an individual with knowledge psychological ownership would refuse to share core knowledge among others in order to avoid threat or the decline of possession to the knowledge, demands of security, competitive advantage, efficacy and needs, and self-esteem; thus, instinctively rejecting knowledge sharing (Xinyan & Xin, 2006). “In addition, an employee with strong knowledge psychological ownership has a tendency to engage in dysfunctional behavior in order to keep the ownership of the target” (Xinyan & Xin, 2006). Experience for personal loss, stress and frustration may discourage knowledge sharing behavior. Based on these facts, it can be argued that individual employee with high knowledge psychological ownership is likely to conceal knowledge unlike employee with low knowledge psychological ownership.

In the words of Pierce *et al.* (1991)ownership, the object of ownership is the partnership between essential obligation and shared interest with other shareholders. Employees' sense of ownership is directly influenced by competitiveness and therefore drives them to obtain successful productivity (James, 1890) added that psychological property originates in the psychological study of self and non-self - governing areas, initiated. Jussila *et*

al. (2015) done study on possessive behavior by is an important contribution to the advancement of psychological property description efforts. Possessive feelings are plentiful and can be based on the lawful ownership or absence of legal property (James, 1890; Richins & Fournier, 1991). The idea of ownership is so strongly rooted in one's identity that it is viewed as self-extension, as Belk (1988) implied. The study was strongly linked to personality and to the idea of "my." Brown highlighted the importance of psychological control in the 19th century. In conjunction with of (Brown, Treviño, Harrison, *et al.*, 2005) psychological ownership "the key to effectively managing in the 1900s will know how to install psychological ownership. It is psychological ownership that makes the competitive difference".

(Pierce *et al.*, 2001a) empirically tested the principle of psychological regulation. Psychological ownership is a sense of autonomy of intent that may or may not be underpinned by institutional ownership – an issue, a concept, an entity, or some person. This property decides not just the object but also above all the customer. Persons are interested in ownership as an indicator of who they are and to whom they belong (Dittmar, 1992; Pierce *et al.*, 2001a). The entity has a personal interest in the performance of the item, which reflects its recognition. This creates a feeling of possession that can be displayed in a good or negative manner, a feeling of possessiveness and an emotional relation to the target (Pierce *et al.*, 2001a).

(Dittmar, 1992); Pierce *et al.* (2001a) defined, and subsequently identified, three socio-biological factors for human psychological affinity: potency and utility, self-identity and 'positioning.' The literature indicates an individual's motivation for success and the ability to produce beneficial outcomes while speaking regarding the causes for effectiveness and influence of psychological results. In theory, the justification of achievement is a trigger for climate change. Writers themselves notice that the "trigger" for progress generates a feeling of usefulness and accomplishment when they have improved it on their own. As a consequence, the control of the person's ownership purpose, the control of the possession property and the use of the thing as a way of managing other aspects of one's physical environment. In

addition to the functional and positive roles, Dittmar (1992) of psychological ownership, the impetus for self-identity lies. Psychological encouragement may be defined as a combination of three distinct components. Second, the purpose of ownership will play a role in self-understanding if you see the target as an extension of yourself. Getting a target plays a major role in the partnership with others. Thus, the presence of an individual may be used as a means of interaction with another to communicate with oneself and to indicate influence.

Finally, the pursuit to self-identity may be seen as a form of self-continuation. Silva de Garcia *et al.* (2020) proclaimed the land to be "repositories in the past, suggestive of one's own life" (p. 19). Here, the writers suggested that, in the long term, people use ownership goals as principles of self-continuity. Van "compared psychological ownership with other related constructs". Psychological ownership tends to do with the employee's thought and understanding of control. Around the same period, it is a duty and a privilege to maintain the involvement of the Organization. Thus, the whole attention on employee influence of the target defines the differentiating attributes of psychological possession as comparing to other related schemes. This study emphasized that psychological ownership is discriminatory and is a specific home. In the other side, (Mayhew *et al.*, 2007) Mayhew, M. G. *et al.*, (2007) the structure categorized into two sub-categories, namely the psychological possession of the business and the psychological management of jobs. Psychological ownership centers on an entity that refers to the idea of ownership of all the employees of the corporation. Psychological influence, on the other hand, concerns a sense of curiosity in the specific activity of a person.

2.9 Conceptual Framework and Building Hypothesis

2.9.1 Psychological Ownership of Knowledge and Knowledge Hiding

According to (Pierce *et al.*, 2001b) psychological ownership of knowledge (POK) "refers to a state in which individuals feel as though the target of ownership or a piece of that target is 'theirs' (i.e. "It is mine!"). The POK

theory postulates that individuals are more expected to act as knowledge hider when they have strong feelings of psychological possession as they see their knowledge as personal property and are motivated to hide it in order to defend their territory (Peng, 2013). Psychological ownership of knowledge may offer a potential clarification of why people are hiding knowledge (Peng, 2013). “In organizational life, employees attempt to develop the feeling of ownership over both tangible and intangible objects such as ideas, information and plans” (Pierce *et al.*, 2001b) propose three major directions through which people develop this psychological attachment to a certain target. The three directions are (1. control of a target, 2. Knowing the target and 3. “Investing of the self into the target”). First dimension is control; which is a crucial asset of possession as it pushes the feeling of ownership towards an object. The authority over knowledge provides the power of bargaining to an individual over his own organizational environment and the protected knowledge in the mind will keep his status in the institution. Second direction belongs to relationship with an object that empowers the individuals to intimately recognize the targeted knowledge (Pierce *et al.*, 2001b). Through this notion a concrete relationship will be created which accordingly feeds the ownership feeling. Finally, the investing of self into the target is one more method of POK in which the person who has the knowledge is making and constructing the knowledge therefore he has an intensive ownership feeling. Any route of these three ways has own effect on knowledge hiding; yet effect level of them differs from an organization to another one. For employees, the main type of bargaining control over corporations, which means possession of experience, determines the degree of compensation, the position of the company and the ability to withdraw from the enterprise, is an opportunity for specialized skills (Bacharach & Lawler, 1980; Mechanic, 1962). The theory of psychological ownership is very powerful in recognizing secret knowledge (Webster *et al.*, 2008). In terms of knowledge that is essential to the operations, it is directly supervised by workers when it acquires or produces information. They still know the knowledge well, and they use it every day in working environments. They have invested a lot of effort and money into the effort to discover or gain new ideas. People would also easily experience feelings of control of their

knowledge that is vital to their activities. In addition, the management of their skills is a crucial factor that affects the bargaining power of individuals in their company. Individuals can boost their own power and role in organizations by ownership and management of knowledge. It may also be argued that most employees are very mentally conscious of knowledge, as understanding is so important for their corporate existence. Following this sound argument, it can be clarified that an individual with a high degree of psychological awareness is more likely than another individual with a low level of psychological awareness, such that he or she tries to fulfill his or her needs in terms of efficacy and implications for the avoidance of personal injury, frustration and stress. The effect is a poor degree of social awareness.

The three needs of human beings (efficacy and reflectance, home, and self-identity) are characterizing the instruments of the three dimensions to psychological ownership of knowledge (Pierce *et al.*, 2001b). Efficacy and effectance relate with the employee's desire to play his role effectively in the organization. It implies the capacity of controlling over a tangible or intangible object (Pierce *et al.*, 2003). Co-workers attempt to achieve their efficacy desires through psychological possession, thus their psychological ownership stimulates them to work in a way that can protect their controlling power over the knowledge they hold, this controlling power prevent other employees to steal the knowledge. "Studies have also shown that individuals may experience personal loss, frustration, and stress when their experienced control is injured or transferred" (Pierce *et al.*, 2003). When an organizational member share what he/she has, that means his control over a target is transferred as well. Therefore there is always a fear of losing control over the knowledge (Thaler, 1999) and loss aversion (Tversky & Kahneman, 1991). Second, the belonging sense to a place which echoes as a family for that member. The need of "Home" refers to the desire to have a place, a sense of belonging to a certain place "in which to dwell" (Pierce *et al.*, 2001b). Self-identity is the last human need in which workers want to incorporate an object into themselves, and this integration is reflected in their expressions and extensions within the organization. Following the above three routes, it is logical to articulate that employee who have higher

psychological ownership of knowledge may engage in knowledge hiding to protect their efficacy and reflectance. In the framework of knowledge management, in which knowledge is so intangible in terms of possession and ownership, knowledge hiding may occur. Hence, it is rational to propose that psychological ownership of knowledge may be positively related to knowledge hiding behavior.

H1: "Psychological ownership of knowledge is positively related to knowledge hiding".

2.9.2 Moderating role of ethical leadership between POK and KH

Studies confirm that leadership has an impact on employee behavior and attitude (Bass & Riggio, 2006; Bass & Stogdill, 1990; Olson *et al.*, 2006; Park, 2013), as knowledge hiding is a behavior, a positive leadership style might play a mitigating role to correct a behavior.

EL is defined as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making” (Brown, Treviño, Harrison, *et al.*, 2005). “The viewpoints on the meaning of ethical leadership have highlighted the leader’s character, integrity, ethical awareness, collective orientation which encourages team or organizational interests over self-serving interests, demonstration of civility and consideration for the rights and needs of others, and management of accountability” (Brown, Treviño, Harrison, *et al.*, 2005; Gini, 1997). “Ethical leadership consists of two dimensions: moral person and moral manager” (Treviño *et al.*, 2003). “Moral person component which ethical leaders have personal traits and appropriate characteristics such as integrity, honesty, and trustworthiness” (Men *et al.*, 2018). Second, “moral manager aspect in which the leader tries to encourage his followers normatively and correct behaviors through role exemplification and genuine care, as well as rewards and punishments” (Treviño *et al.*, 2003).

The impact of “ethical leadership” has the potentiality to be linked with the theory of social learning. The theory (A. J. E. C. Bandura, NJ, 1986) is an novel and prime academic outline that clarifies the impress of ethical leadership. It provides a theoretical basis to articulate the notion of ‘an ethical leader can effectively promote follower pro-social conduct, such as knowledge sharing behaviors (Brown & Treviño, 2006). “Through observation, the observer can acquire the behavior without performing it. Later, the observer may display the behavior. Learning by observation involves four separate processes: attention, retention, production and motivation. Attention is that observers cannot learn unless they pay attention to what’s happening around them” (A. Bandura, 1986). “Ethical leaders have the right to reward and punish their followers based on the shared common

goals and ethics. Linking to that principle and according to social learning theory, people learn the suitability of a behavior from their surroundings and they select to continue of rewarded behaviors and refrain from unfavorable manners” (Brown, Treviño, Harrison, *et al.*, 2005) affirm that “a prerequisite of social learning in leadership is that leaders can draw attention to their role modeling”. Ethical leaders have the authority to decide on reward and punishment. “Since people learn from rewards and punishments on the popularity of their behavior” (A. Bandura, 1986), the power of rewards and punishments will drive workers to join to leaders’ conduct. The above characteristics regulate on the legality and salience of the leader’s role modeling in directing the employees.

In previous years, a number of studies found that ethical leaders have influences in the field of KM. For example, EL is stated to be connected to employees’ willingness to express their problems (Brown, Treviño, Harrison, *et al.*, 2005), organizational commitment, employee’s trust and optimism (De Hoogh & Den Hartog, 2008), (Mayer *et al.*, 2009). “In addition, high level of ethical leadership is also related with voice behavior and psychological safety” (Walumbwa *et al.*, 2017b). Ethical leaders have the capacity of alleviating knowledge hiding as a counterproductive act. Ethical leaders hold the desire of generating fair and healthy atmosphere which will ultimately cause to shape trust in workers with respect to offer the demanded knowledge and not to hide the knowledge. “As such, employees feel more attached to their organizations and they perceive less to the threat of losing control over their knowledge” (Walumbwa *et al.*, 2017b). Besides, ethical leaders attempt to lessen harmful managerial activities by formulating common vision, morality and justice that might place a positive inspiration on employees to a more operative collaboration within the organization.

POK is peculiarly human (Pierce *et al.*, 2001b). Due to the fact that knowledge has the potential to be a competitive advantage asset, employees try to retain it to protect their power and that is sustaining their control over the targeted knowledge. Employees regularly take up ownership of knowledge which they assume as “mine”, thus resulting in control of

knowledge (Chen *et al.*, 2019). In addition, it bullies their job improvement (Zhang & Cheng, 2015). Second, knowledge hiding is driven by the employee's fear on the protection of their self-interest over that of the coworkers (Chen *et al.*, 2019). "One of the routes of psychological ownership of knowledge is investing in self; however ethical leadership may help employees to feel less concerned in this feeling. Normative appropriateness is dominant to the description of ethical leadership" (Brown, Treviño, Harrison, *et al.*, 2005). Therefore, ethical leadership has been reported to support employees to overcome the destructive influence concerning self-interest. Ethical leaders promote those behaviors that are collective interest oriented and consequently the individual self-interest feeling declines. "By situating the collective interest, ethical leaders will regularly converse collective concerns with their groups, emphasizing the significance of the collective interest, and stating the potentials that their supporters will support the collective interest" (Steinbauer *et al.*, 2014). This sense of collectivism in causes and concerns that has been founded by ethical leadership as a 'common cause' will result in followers' investment of personal resources into their work role. (Tang *et al.*, 2015).

The feeling of having the control over knowledge and ownership feeling are two other characteristics of POK. Because of the strong controlling sense of knowledge, managers are caring about contributing competitive ownership, in this way making them reluctant to accept efforts to interpret and internalize the information of their ethical leaders (Sun *et al.*, 2019). Ethical leadership is responsible for producing an managerial environment that can fight these developments. The core objective of ethical leadership is to foster an ethical organizational climate (Avey *et al.*, 2008). "Through building some ethics and organizational values, leaders can alter employees' attitudes more specifically the psychological-related behaviors because ethical leaders work on the individuals' feelings". For instance, workers in public institutions are more responding to help an ethical leader who is loyal to the organizational ethics and at the same time the leader increase in value of the employees' contributions. Additionally, ethical leadership helps to substitute values that endorses a sense of belongingness among the staffs (Avey *et al.*, 2008).

Ethical leaders run their people ethically, thus the people would have no reason to engage in knowledge hiding because they feel the organizational belongingness. For example, employees, who are attended to and are accepted for their work, are more probable to sense that they have its place in the organization. “Contrarily, employees who are ignored and sidelined are emotionally detached from their organization and thus lack a sense of belonging” (Avey *et al.*, 2008). Lastly, Studies based on neurology and psychology have shown that emotion regulation strategies significantly affect the internalization, processing and utilization of information, though simultaneously causing in valuable effects (such as sharing knowledge with colleagues (Kuonath *et al.*, 2017). Ethical leaders use emotional regulations as a style of theory of social exchange to impact worker’s manners. Emotion is associated to cognitive process and finally stimulus the psychological feelings of persons. Based on this understanding, it can be claimed that the effect of ethical leadership on employees is the process of emotion management. When emotions are becoming interrelated with cognitive system, they function as a motivating support to generate feelings. Ethical leaders can nurture optimistic emotions; hence the workers feel confidently stable. Based on this, we assume that:

H2: “Ethical leadership (a) is negatively related to knowledge hiding, and (b) moderates the relationship between psychological ownership of knowledge and knowledge hiding such that ethical leadership weakens the relationship between psychological ownership of knowledge and knowledge hiding”

2.9.3 Moderating role of Servant leadership between POK and KH

Starting from its origins and definitions of servant leadership, the servant leaders are servant to their followers. It starts from the notion that someone at a leadership position wants to serve others (Greenleaf, 1979). Although the concept of servant leadership was first developed by Greenleaf (1977) but it gained the consideration from 1990s. According to Kashyap and Rangnekar (2014) there are ten characteristics of servant leadership which are (Listening, foresight, Persuasion, Conceptualizing, Commitment to growth, Awareness Empathy, Community building, Healing, Stewardship) Among the tested leadership styles servant leadership style gives the lion’s share to the

role of leaders to make an influence in the employee's understanding. Page and Wong (2000) defined servant leadership style as "a leader whose primary purpose for leading is to serve others by investing in their development and well-being for the benefit of accomplishing tasks and goals for the common good." Servant leadership supports job performance, organizational citizenship behaviors, individual self-efficacy, creativity, organizational commitment, commitment to the supervisor, and turnover intentions (Bell *et al.*, 2018; Liden *et al.*, 2014; Neubert *et al.*, 2008; Van Dyne & Pierce, 2004; Walumbwa *et al.*, 2010). Consequently, these organizational outcomes put a positive impact on employees' psychological understanding.

According to the theory of leadership of Greenleaf, R. K. (1977) is characterized above all by the type of a leader interested in the health of staff. Leaders aspire to be more on the ground and to carry the well-being of staff into line with the overall goal. Leadership in Africa, which is called "Ubuntu," has long been implemented and this principle can be seen to have operated well in the diverse communities who preceded it (Mibigi, L. & Maree, J., 1995). Management has been practiced in the United States over the years and the effects have been seen to be successful in terms of enhancing the performance of the Organization. "Some Fortune 500 firms such as TD Industries, South West Airline and Synoves Financial have proven successful in their use" (McLaughlin & Bils, 2001). The main focus in this sense is on how official leaders perform in their organizations, using Seffinger *et al.* (2003) principle as a guideline, and whether this has a positive effect on employee and organizational performance; it implies that staff leadership can have positive effects on the overall results of the organizations. Nelson considers this to be particularly popular as employees at various organizational levels who do require guidance and motivation to perform their many duties are key to customer desires, and therefore highlights the success of this through the style of servant leadership they have adopted. As a consequence, Yukl (2008) opined that servant leader is someone who assures that their workers have a shared purpose and trust and cooperation to accomplish the overall organizational objective

Furthermore, “because of increased organizational success generally indicates greater responsibility in managing others, the possibility exists for the growth and development of staff through servant leadership, because such leaders do what is best for organizations and not themselves. In addition, they constantly engage with their followers to discuss their needs, and how these can best be met by assisting them appropriately. When trust is built, and there is mutual respect between managers and staff, employees generally feel more at liberty to communicate with their leaders concerning how they can also be served in various ways” (Tufail *et al.*, 2016).

In literature, there are some studies which are conducted on the antecedents of servant leadership and its relationship with employees’ attitudes and behaviors. such as agreeableness , traits conscientiousness (Hunter, 2013; Krekeler, 2010). Linking to the psychological aspect of employees as human beings, servant leadership has a strong impact on employee’s attitudes and behaviors. Based on the above connections between servant leadership and human psychological aspect, this paper assumes that servant leadership moderates between POK and KH. Based on the above arguments, the intentions of this paper are to test these attributes of servant leadership style to answer our research question which is: Does servant leadership style moderate between POK and KH?

(Greenleaf, 2002) defined servant leadership as “increased service to others; a holistic approach to work; promoting a sense of community; and the sharing of power in decision making.” It is rational to wonder about the characteristics of servant leaders. Servant leaders try to build excellent helpful relationships with all workforces and members of the group (Greenleaf, 1977). Here, the employees and subordinates are the center of care by prioritizing the interest of them. Page and Wong (2000) defined servant leader as “a leader whose primary purpose for leading is to serve others by investing in their development and well-being for the benefit of accomplishing tasks and goals for the common good.”. Therefore, servant leadership promotes emotional health, organizational wisdom, and self-determination. Similarly, when leaders exhibit servant leadership style, organizations may gain positive outcomes such as employees’ extra effort,

employees' satisfaction, and perceptions of organizational effectiveness (Barbuto Jr & Wheeler, 2006).

Psychological ownership refers to employees' attitudes to accountability and also to the sharing of knowledge in such a way that they remain effective inside organizations. However, such actions may lead to a lack of confidence and therefore to a decrease in competition. The beneficial impact on corporate leadership performance can contribute to the exercise of the leadership style by investors. Whereas little research has been performed on the relationship between the management of employees and their psychological needs, the data available indicates that the net effect of offering leadership to their staff is positive, as such leaders develop trust and inspire their followers and provide them with support and services (Černe *et al.*, 2017; Connelly *et al.*, 2019; Peng, 2013).

According to a study carried out by (Knipfer *et al.*, 2015), any leader who has a hostile mindset towards his supporters by his or her egotistical actions can be a catalyst that may encourage intellect hidden inside institutions where the representatives may not have the best interests at heart. However, the effects of knowledge concealed inside companies often do not exist in terms of experimental research and thus more study is required (Černe *et al.*, 2014a; Connelly *et al.*, 2019; Webster *et al.*, 2008). The authors suggest that intelligence not only be treated as an individual body, but also be included in the subjective possession of facts. Servant leaders are those who create opportunities for their followers to achieve their goals through encouraging faith, group engagement and good ethical practice, and who are thus willing to pursue realistic pathways towards the accomplishment of the mutual interests of both the company and its workers (Northouse, 2015).

Employees thus engage in protecting details due to control conflicts and are therefore reluctant to threaten knowledge and thus unwilling to exchange information with anyone. Their expertise as a benefit involves unnecessary surveillance. The positive and negative interaction between psychological ownership, its detrimental impact through facilitating awareness-raising (Peng, 2013) and positive information sharing is characteristic of serving

leaders who encourage personal and institutional performance, imagination, mutual vision and trust and encourage the achievement of psychological belongings.

According to Pickford and Joy (2016), 'a feeling of ownership is an idea, purpose, concept, organization or other object that may or may not be legally held.' Serving leaders have importance, continuity and contentment in an environment that delivers the best potential customer experience. It enables greater innovation.

One of the strongest characteristics of servant leadership is providing directions to followers through development, empowerment and interpersonal acceptance (Van Dierendonck, 2011). These leadership elements are parallel with the identification of Rude (2004) servant-leading institutions which are valuing the employees, community building, and development of employees, authenticity and sharing leadership. From this perspective, servant leadership can nurture organizational justice and trust, collaboration and citizenship. POK is naturally a human characteristic (Pierce *et al.*, 2001b). Since employees keep their knowledge as a vital competitive advantage basis, that is to preserve the control over their knowledge. Knowledge hider employees regularly take up ownership of knowledge which they assume as "theirs", thus resulting in control of knowledge (Chen *et al.*, 2019). In addition, knowledge hiding is driven by the employee's fear on the protection of their self-interest over that of the coworkers (Chen *et al.*, 2019).

As a result, supporters will be inspired to achieve better job success with the correct mentality and action of the representatives (Hess & Fischer, 2013). There are few empirical studies on the relationship between leadership and the concealment of knowledge. In view of the minimal tools available to link these two fields, the literature indicates that both the normative and ethical levels of the organizations can be effectively enhanced through the leadership of the staff, ensuring that all participants in their positions are involved in the decision-making phase without prejudice (Zeigler-Hill *et al.*, 2013). Secret information, on the other hand, does not promote fairness, sensitivity to others, positive ethical conduct or solidarity within organizations

and has a detrimental effect on personal and corporate outcomes and the achievement of competitive advantages. It may be suggested, however, that official leaders should not allow their supporters to participate in knowledge-dissimulation practices that may hinder the development and effectiveness of organizations. As a result of the positive association between information sharing and employed leadership, this style of leadership can be used as a stimulus to help reduce employee awareness trends, taking into account the empirical evidence of literature and theory that predicted (Černe *et al.*, 2014a; Connelly *et al.*, 2012a; Lin & Huang, 2010)

To combat knowledge hiding as an individual behavior, there needs to be anti-hiding mechanisms. Servant leadership might play the mitigating role as its essence contains some positive features that guarantee the employees assurance. Servant leaders lead their employees by transcending their self-interests and demonstrating care and sympathy (Van Dierendonck, 2011). That is to an effective transmitter to spread the spirit of trust and cooperation among the employees, because according to social exchange theory by (Juárez Ramos, 2018) the more an individual receives the more he/she will broadcast. Influenced by servant leadership practices, employees are socially reciprocating through returning excellent contributions such as sharing their knowledge and that is to be deserved to the leader's treatments. There is a parallel relationship; the more the leader care about the employees the more the employees will be reciprocating (Tuan, 2016).

H3: "Servant leadership (a) is negatively related to knowledge hiding, and (b) moderates the relationship between psychological ownership of knowledge and knowledge hiding such that servant leadership weakens the relationship between psychological ownership of knowledge and knowledge hiding"

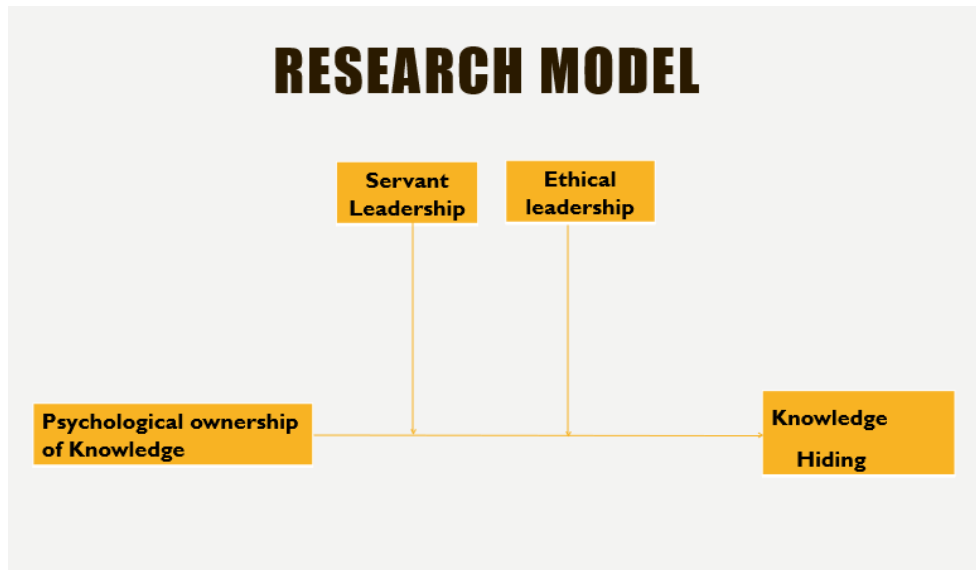


Figure 14 shows the Conceptual Research Model

Chapter Three

3. Methodology

3.1 Research Map

The first chapter of this thesis covered the “what” of this research. Chapter one deals with the research background, research problem, research questions, research h gap and research contribution in both theoretical and practical levels. Chapter two the literature is reviewed, to understand what is done and what is needed to be done. All the contributing variables are separately reviewed. Chapter three explains and answers the question of “How” this research is conducted. It states the research method and instruments of collecting data. On the other hand, the chapter states the research setting and population sample. Chapter four is dedicated for results and discussions. All the results are presented by tables and figures with proper interpretations. The last chapter deals with the research limitations, recommendations for future projects and conclusion.

3.1 Introduction

In the field of organizational behavior researching, the most used research design is cross sectional. That may be due to the fact that the cross-sectional design is easier and relatively quicker than longitudinal and experimental designs. In this study, the researcher is going to use a quantitative method to answer the research questions and collect data. The reason behind the practice, there will be several public universities to be investigated and definitely they have common patterns of change among these sets of variables. In addition, the cross-sectional criteria require a single point in time which is the post-invasion of Iraq. “Researchers who employ cross-sectional design collect data on more than one case at a single point in time” (Bell *et al.*, 2018). In most cross-sectional studies, questionnaire is used. As our research design is cross sectional design there will be questionnaire in which eventually provides interval data. It is planned to follow the quantitative design in conducting the current research. The quantitative method is fit for our case as it is more explanatory and testing for theories. In the field of

organizational behavior, human resource management and marketing analysis the quantitative method is more dominant. In our quantitative research design, the questionnaire contains questions which provide different numbers with different meanings, each question has order and the scale between the options is equal. The purpose of quantitative method is to study the relationship between variables. The interpretations of worldviews and research methods are presented in figure (15).

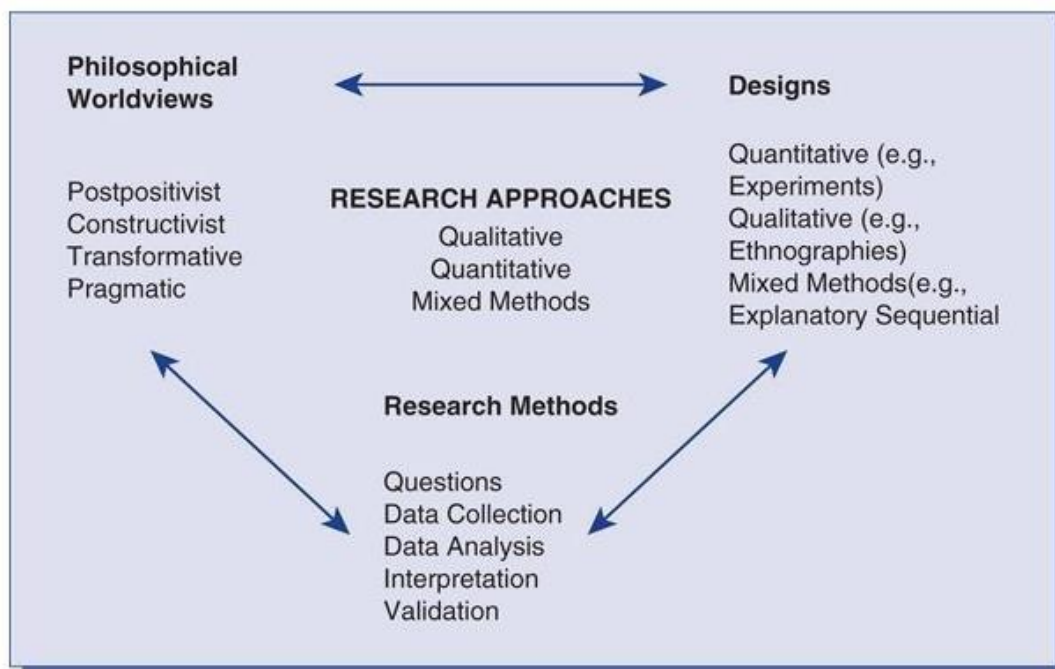


Figure 15 A Framework for Research – The Interconnections of Worldviews, Design, and Research Methods, Source: (Slife *et al.*, 1995)

3.1 Background of the Research setting

This dissertation was conducted in the north of Iraq, which is a constitutional federal region. The population of the region is around six million people. The government in Northern Iraq practices “legitimizes”, “executive” and “judicial” powers based on the Iraqi constitution 2005. The region was liberated from Saddam’s power in 1991 through a revolutionary uprising. Since then the region has established its own institutions and organizations, apparently there has not been much intervention by Iraqi central government. After the invasion of Iraq by USA in 2003, Kurdistan went to Baghdad to negotiate its rights and responsibilities. During 2003-2014 the region has received 17% of the Iraqi total revenue which is the approximate of 13 billion

dollars annually. This aided the region to enjoy an economic development that could build public institutions including public universities. Now, according to the (MOHE, 2020) there are 15 public universities in Northern of Iraq. The number of employees in these 15 public universities is around 20360 employees (Qasim *et al.*, 2021). However, these public universities still function in classic ways and they are academically low-ranking universities. That raised the concern of thinking about establishing knowledge management systems. Yet, the public universities are at their beginning stages of knowledge management system. There are some attempts to figure out the correct way of approaching knowledge management, but the process may take time until a proper model will be discovered.

3.1.2 Research Philosophy

Research philosophy is known as research paradigm or research methodology as well (Hunter, 2013). According to (Elshafie, 2013) this philosophical world view is related to creating knowledge and its nature of. "Particularly, research paradigm is defined as assumptions on the societal world that provide a conceptual and philosophical structure for the planned study" (Mayer & Filstead, 1979). This research paradigm leads the philosophical assumptions (Denzin & Lincoln, 2011). It is very significant for the researchers to decide on the research philosophy the adopt so as to help the reader to understand why the researcher has used quantitative, qualitative or mixed method. Research paradigm usually prepares the research setting for the research by offering methodological views. According to Van Strien (1978) an effective research paradigm should include three components: "(a) a scientific theory in behavioral science, (b) Goals and Norms, and (c) a comprehensible set of interferences that report the research problems in the direction of the set norms and objectives". Social scientists have recognized several research paradigms. "Three of the most famous and broadly practiced research paradigms in the social sciences in over-all and business and public management in specific, amongst others, are positivist/post positivist, interpretivist / constructionist and pragmatic". These paradigms vary meaningfully on the foundation of their epistemic, ontological

and procedural grounds. “Epistemology is the study of knowledge and is concerned with what institutes satisfactory knowledge or the logical conducts of how we derive to distinguish” (Bryman & Cramer, 2012). While ontological deliberations narrate to the nature of societal objects or the interpretation of the nature of communal spectacle or realism (Healy & Perry, 2000). Ontology inspects the nature of reality in regard of whether the truths of the community world are alleged from an detached or subjective(Burrell & Morgan, 2017).That is, it is the reality that scholars are trying to discover. Method is also troubled with how we come to know, but it is more applied, somewhat than metaphysical, in nature. “Methodology comprises the character of the investigator, the emphasis of the study, and the practices and measures active by the investigator to examine that reality” (Healy & Perry, 2000).

Table 4 : The Four Philosophical Worldviews, Source: (Lincoln *et al.*, 2011; Martens, 2010)

<p>Postpositivism</p> <ul style="list-style-type: none"> • Determination • Reductionism • Empirical observation and measurement • Theory verification 	<p>Constructivism</p> <ul style="list-style-type: none"> • Understanding • Multiple participant meanings • Social and historical construction • Theory generation
<p>Transformative</p> <ul style="list-style-type: none"> • Political • Power and justice oriented • Collaborative • Change-oriented 	<p>Pragmatism</p> <ul style="list-style-type: none"> • Consequences of actions • Problem-centered • Pluralistic • Real-world practice oriented

3.2 Deduction and Theory testing

Social scientists frequently adapt one of the two essential research approaches which are induction and deduction. The main aim of the deduction approach is to formulate a certain explanation of hypothesis built on the broad principles. In this approach, which is linked to post positivism and scientific research, the researcher offers clarifications of the association between the variables of the study (Creswell & Creswell, 2017). Post positivists try to use deductive method to investigate the truth and generalize it for the broader context. The findings of post positivism approach can be

numerical, statistical and factual forms (Bassegy & Short, 1990). According to (Bryman & Cramer, 2012) there are six sequentially phases for the deductive approach:

3.2.1 Theory: the deduction theory tries to find out what is already available as theory related to the study.

3.2.2 Hypothesis: after the review, the researcher needs to articulate hypothesis that state the relationship among variables. The variables should be given the operational definition.

3.2.2 “Data collection: This stage involves collecting quantities data for testing the hypotheses. Post positivists ask the researchers to independent while observing and collecting data and analyze them.”

3.2.4 Findings: it involves data analysis and explaining the finding..

3.2.5 “Hypothesis confirmed or rejected: testing whether the hypothesis are confirmed or rejected.”

3.2.6 Theory revision: “if the hypotheses are not confirmed the researcher should explain whether changing the theory based on the findings”

For this dissertation, a deductive approach has been employed to answer the research questions and test the hypotheses. The argument behind using such approach is to determine about the research design required to deal with the questions of this study. A review of the current literature which was conducted by (Creswell & Creswell, 2017) showed that 18% of the 133 papers had used deductive method. Table (4) shows the research matrix.

Table 5: "The matrix of research paradigms, designs, approaches and methods"

Research paradigm	Postpositivism	Constructivism	Pragmatism
Research approach	Deductive	Inductive	Deductive/Inductive
Research design	Experiment Quasi-experiment Cross-sectional Longitudinal	Grounded theory Ethnography Case study Longitudinal	Any combination of research designs employed by postpositivists and constructivists
Research methods	Quantitative	Qualitative	Mixed methods: 1. Convergent 2. Exploratory sequential 3. Explanatory sequential

3.3 Research Design

Research designs are either quantitative, qualitative or mixed types of inquiries. Each of them provide a specific direction in the research process, these approaches are called strategies of inquiries (Denzin & Lincoln, 2011). Table (5) shows an overview of the classification of research designs. Research designs are also called strategies of inquiry, it helps the researcher to have an idea on data collection, limitations and considering the ethics (Saunders *et al.*, 2007). In addition, the research design helps the researcher to answers the proposed research questions as clearly as possible (Saunders *et al.*, 2007). The research paradigms decide on the research designs for the process of data collection and data analysis. This clarifies the importance of choosing the research design. According to Yin (2013) there are three fundamental conditions for any research design as:

- 1- The research questions type
- 2- The control which is owned by the researcher on the behavioral events
- 3- The focus degree on the different events of the history.

Table 6: The three main research designs

Quantitative	Qualitative	Mixed Method
<ul style="list-style-type: none"> • Experimental designs • Non-experimental designs such as survey 	<ul style="list-style-type: none"> • Narrative research • Phenomenology • Grounded Theory • Ethnographies • Case study 	<ul style="list-style-type: none"> • Convergent • Explanatory sequential • Exploratory sequential • Transformative, embedded or multiphase

3.2.1 Quantitative design

Research designs which are associated with quantitative design are mostly oriented to positivist or post positivist paradigm (Saunders *et al.*, 2007). One of the most broadly utilized non-experimental schemes is cross-sectional design. Researchers who are interested in cross sectional collect data in at the same period of time (Bryman & Cramer, 2012). The quantitative research deals with quantifying the problem by generating numerical data or data that can be converted to statistical useability. It is used to quantify behaviors, attitudes and opinions the generalizing the obtained results to a broader context and larger population sample. In this research design, the measurable data is to formulate facts and reveal the patterns. The data collection is more structured in quantitative method.

Quantitative data is capable to answer the questions which start by "How" and "what" of a given circumstance. The questions are quantifiable and direct and often times it includes questions of "To what extend", "what percentage", "how many". The findings of the quantitative method will reveal behaviors and trends. However, it is significant to remember that quantitative results do not tell us why people think or feel in a certain way. For this study, quantitative method is used as the dissertation belongs to a social science.

Table 7: Types of Research Design, Source: (Lincoln *et al.*, 2011; Martens, 2010)

Qualitative vs. Quantitative analysis

Criteria	Qualitative	Quantitative
Purpose	Understand and interpret social interactions	Test hypotheses, check the cause and effect. Develop predictions for the future
Studied group	Small, selected intentionally	Larger and selected randomly
Data type	Words, images, objects	Numbers and statistics
Data form	Open-ended responses, interviews, participant observations, field notes	Precise measurements using structures and validated instruments for data collection.
Type of data analysis	Patterns, features, themes identification.	Statistical relationships identification
Researcher's role	Researcher may be known to participants in the study and participants's characteristics may be known to the researchers.	Researcher and their biases are not known to the participants in the study. Participant characteristics are hidden.
Results	Particular findings, less generalizable	Generalizable findings, can be applied to the other populations.

3.2 Measures

The questionnaires are presented in appendix. “Unless noted otherwise, all measures were based on a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).” To guarantee a scientific and academic measurement of all variable’s, previously developed scales are used. Questionnaires were managed in the employees’ native language (Kurdish). In line with Brislin (1980) “recommendations, questionnaires were first translated to Kurdish by the researcher, followed by the back-translation by an external researcher.”

3.2.1 Psychological Ownership of Knowledge

The three items developed by (Van Dyne *et al.*, 2004) scale were used to measure this variable. The employees were asked how they sense about their knowledge. “An example item was I feel a very high degree of personal ownership of the knowledge”.

3.2.2 Knowledge Hiding

12 items developed by (Connelly *et al.*, 2012b) were used to measure KH . The respondents were asked as they were in a condition of requesting a question by a co-worker, how did they respond? An item sample “I pretended I did not know what s/he was talking about”.

3.2.3 Ethical Leadership

10 items of (Brown, Treviño, Harrison, *et al.*, 2005) to measure ethical leadership. The employees were asked about their leaders of being ethical. “A sample item was “My supervisor has the best interest of employees in mind”.

3.2.4 Servant leadership

Servant leadership was measured with 8 items of (Liden *et al.*, 2014)The staff was asked regarding their leaders attitudes and behaviors. A sample statement my leader is interested in making sure others reach their career goals.

3.2.5 Control variables

Control variables. Age (1= male, 2= female) education (1= bachelor degree, 2= master, 3= PhD. Years in service was scaled to write the number of years in service. Participants were asked if they hold managerial positions or not for that scale 1= ordinary employee, 2= manager. It is worth mentioning that managers have a broader access to knowledge rather than ordinary employees. (Wanberg & Banas, 2000).Furthermore, “gender was also assessed for its potential relevance. Gender and supervisory position were included in the regression analyses as nominal variables, education as an ordinal variable. It should be noted that, although categorical in nature, I followed Georgalis *et al.* (2015) and rank ordered education into seven categories.”

3.3 Data collection and data type

According to the ministry of higher education in Ali *et al.* (2021) there are fifteen public universities in Kurdistan which are shown in table (7). These universities are completely governmental in terms of financial support, employment and regulations. Data is collected among these public universities, and as sample cases. There are several reasons behind selecting public universities as case study for this dissertation. First, universities are knowledge factories and for that reason there should be academic concerns whether KM systems are properly functioning or not. Second, I am as the researcher employed in the context as a lecturer, that helps me in terms of familiarity with the research setting and organizational culture. Additionally, the universities staff and lecturers are more responsive and familiar with the mentality of academic research rather than other people in other sectors. Based on that, we can assume that university employees are more understandable and cooperative in that regard.

Table 8 : the Public Universities in northern Iraq.

NO	Name of University	Year of establishment	location
1	University of Sulaimani	1968	Sulaimani
2	University of Salahaddin	1968	Erbil
3	University of Duhok	1992	Duhok
4	Sulaimani Polytechnic university	1996	Sulaimani
5	Erbil Polytechnic university	1996	Erbil
6	Duhok Polytechnic university	1998	Duhok
7	Hawler Medical University	2005	Erbil
8	University of Halabja	2012	Halabja
9	University of Koya	2004	Koya
10	University of Soran	2011	Soran
11	University of Raparin	2010	Ranya
12	University of Zakho	2011	Zakho
13	University of Garmian	2012	Kalar
14	Charmo University	2014	Chamchamal
15	University of Kurdistan/Hawler	2006	Erbil

Among these public universities four universities were selected for the pupose of data collection. The selection was based on the location and time

of establishment for each of the selected universities. The researcher has tried to include the oldest university which is university of Sulaimani and the mostly established universities which are (Soran and Raparin). Table (8) shows the numbers and percentage of participation for each university. Among the participating universities, the University of Raparin has the lion's share in participation That is due to the fact that the researcher is an employee in that university therefore the accessibility and cooperation was easier.

Table 8: Participating universities and percentages

NO	University	Number of questionnaires distributed	Returned Questionnaires	Percentage
1	University of Raparin	78	76	34.5%
2	University of Sulaimani	60	58	26.3%
3	University of Koya	50	47	21.3%
4	University of Soran	41	39	17.7%
Total		229	220	

3.4 Research Validity

The idea of conversion validity is frequently demonstrated in thoughts as content or face validity. researchers claim that, this is not even a validity because "validity refers to inferences made about scores, not to an assessment of the content of an instrument" (Pedhazur & Schmelkin, 1991). "Most of the writers identify that the content of the tool is extremely significant in the situation of measurement, but it does not institute as an indication of validity. Despite of such disapproval on validity of content, it is valuable to consider translation validity as the extent in a way the measures reflect the content of the constructs when it is operationalized" (Aliyu *et al.*, 2015). "Content validity contains the valuation of the significance and representativeness of the gradation to which items of a measurement tool imitate the hypothesis and its content for a specific determination" (Haynes *et*

al., 1995). It ensures that the measures will be reliable with the academic field of the concept in all features such as item wording, catching the diverse facets of the goal construct, answer arrangement, and directions (Netemeyer *et al.*, 2003). Both potential operators and specialists in the field are used in item generation, and for further refining the measures for content validity. Validity is usually a post hoc test of the items to guarantee that nothing was wrong in converting the concept into a measure (Livingstone & Day, 2005) It includes assessment by potential users, and enhances the use of the instruments in applied circumstances (Netemeyer *et al.*, 2003) Criterion connected validity is also interchangeably used as analytical validity. A criterion is any variable “one needs to clarify and/or forecast” with data from other variable(s) (Pedhazur & Schmelkin, 1991). “Careful selection of the criterion, and its meaningful definition and measurement is foremost for criterion related validation. Criterion related validity assess the validity of measures in relation to other external measures” (Livingstone & Day, 2005). “Predictive validity is assessed by sizable correlations of the measure with some subsequent criterion. If a different measure of the same variable is available, which has already been validated, concurrent validity can be assessed without expending resources to assess predictive and construct validity” (Nijs *et al.*, 2014).

Chapter 4

Results and Discussions

“What does it mean if a finding is significant
or that the ultimate in statistical analytical
techniques have been applied, if the data collection
instrument generated invalid data at the outset”
(Jacoby, 1978)

4.1 Introduction

This section is going to provide the statistical evidences for the research model and answering research questions. The section is divided into three dimensions. First, it shows the regression analysis for the relationship between POK and KH. Second, it presents the results of first moderation through ethical leadership between the independent and dependent variables. Thirdly, the results of the second moderation via Servant leadership will be presented; this moderation is going to test the interaction impact on POK and KH as well. The data analysis roadmap is shown in figure 9.

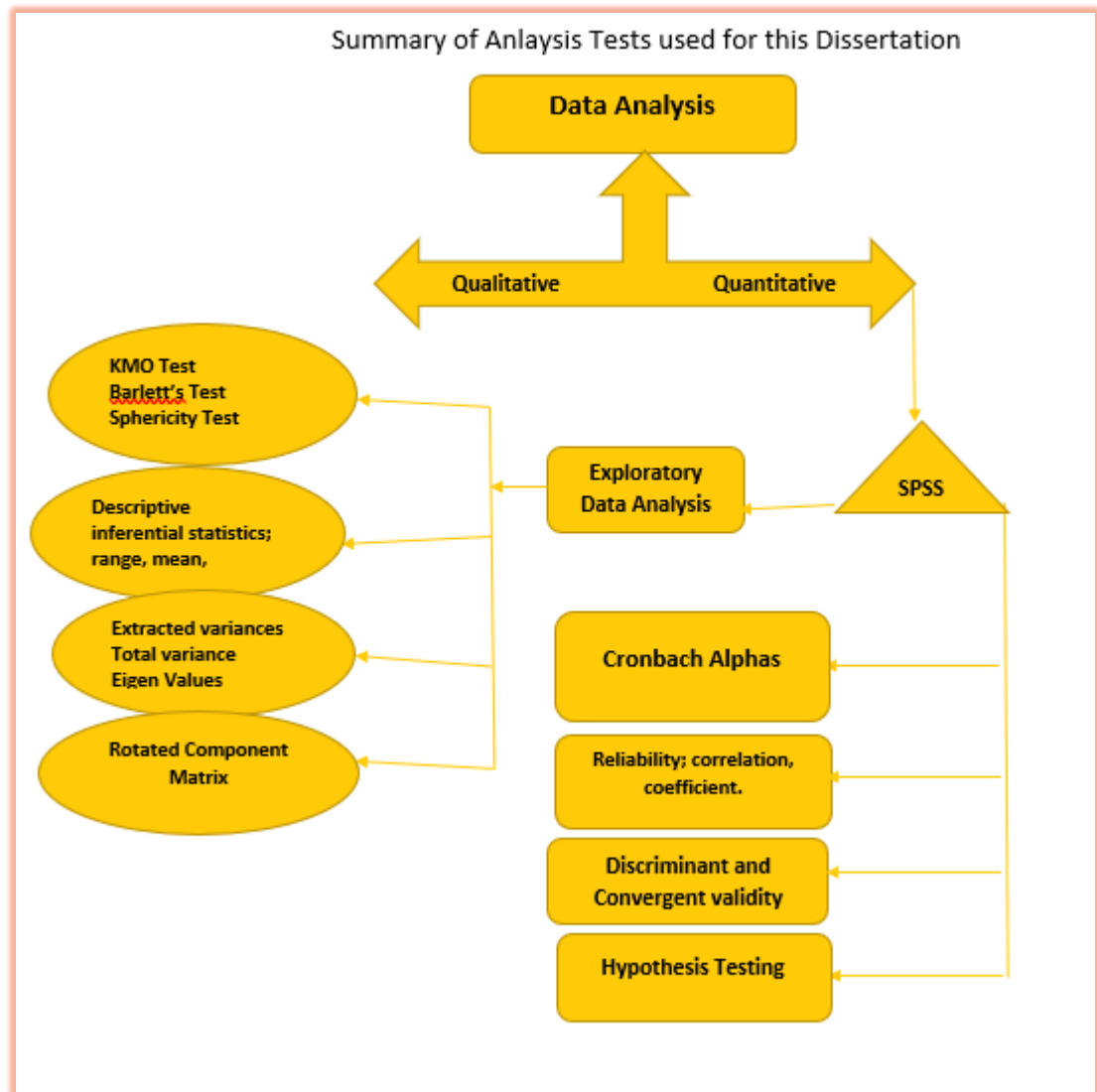


Figure 16 explains the research roadmap of data analysis

4.2 Main Model of the Thesis

As it was articulated before, this thesis tries to provide a scientific and statistical evidence on the moderating impact of positive leadership styles on the relationship between POK and KH. Two leadership styles will be tested which are ethical and servant leadership styles. It is true that both leadership styles are combined into one model as it is showed in Table 3 and Table 4. both leadership styles are playing as moderators, but the results of each of them will be presented and interpreted individually especially the interaction tables and graphs. Figure (17 and 18) show the conceptual and statistical models.

Moderation Model Conceptual Model

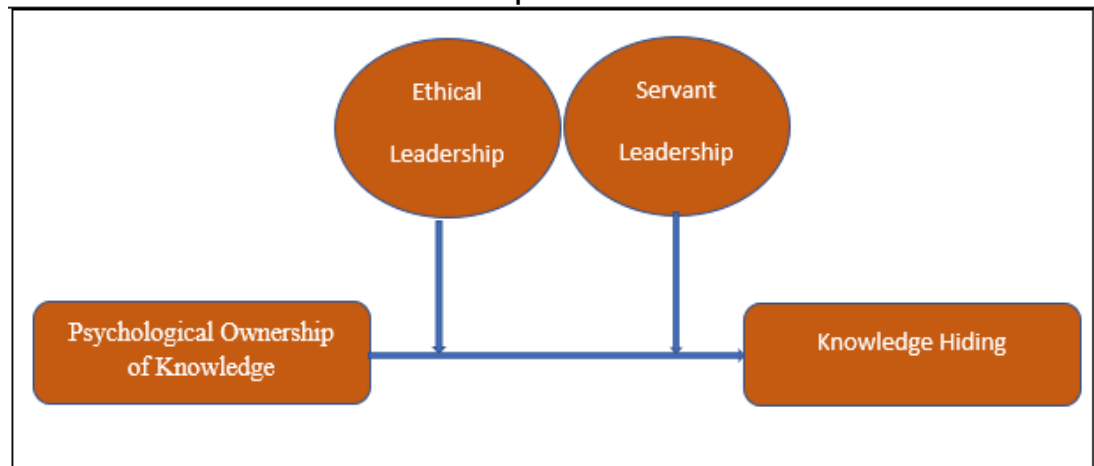


Figure 17 conceptual model of the research

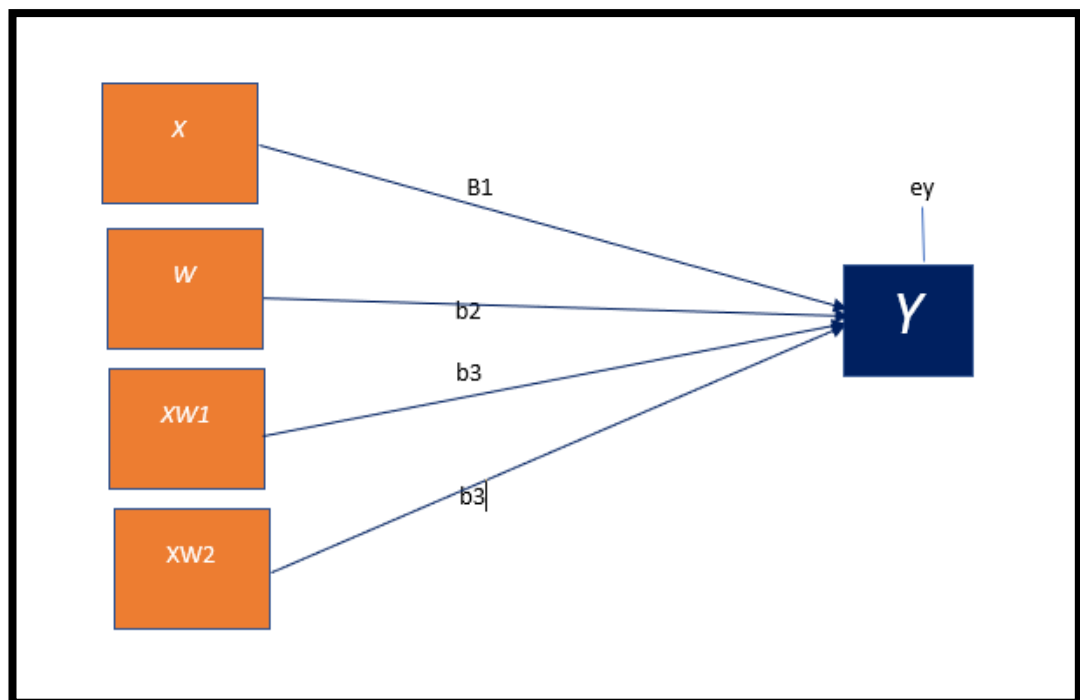


Figure 18 Statistical Model of the Research

4.2 The novelty of the model

As it has been explained in the first chapter this model has its own originality in two different dimensions. First of all, most of the studies have focused on the simple relationship between one independent variable and knowledge hiding as dependent variable. Yet, there are very few attempts to test the moderation effect between a predictor and knowledge hiding as dependent variable. More specifically, positive leadership styles are not investigated in that regard. Secondly, in knowledge management, the carried out studies in are in western settings, while this research is an attempt to investigate in knowledge hiding as an organizational phenomenon and how the relationship might be affected by a positive leadership style.

4.3 Demographics of the Main Model

Based on the distribution of participants within the four participating universities, the 8.18% of them had high diploma, 19.09% bachelor degree, 55.45 Master's Degree and 17.27% with PhD degree. Regarding the gender of participants, 67.73% were male and 23.27 were female. The details of demographics are presented in table (9).

Table 9: the demographics

Education	Frequency	Gender	Frequency	Years in Service	Frequency	Age	Frequency
Diploma	8.18%	Male	67.73%	Less than 5	6.5%	Under 25	1.4%
Bachelor	19.09%	Female	23.27%	6-11	64.5%	26-31	18.6%
Master	55.45%			12-17	25.4%	38-43	69.5%
PhD	17.27%			More than 18	4.6%	44-49	4.1%
						50 Older	6.4%

Besides, concerning to the position of the employees at SMEs; 15 percent were from the top management, 7 percent were from the middle level management position, about 8 percent from low management, and 70 percent were normal employees in the workplace. Regarding to the gender of the participants; 67.73% of participants were male and 23.27% of them were female.

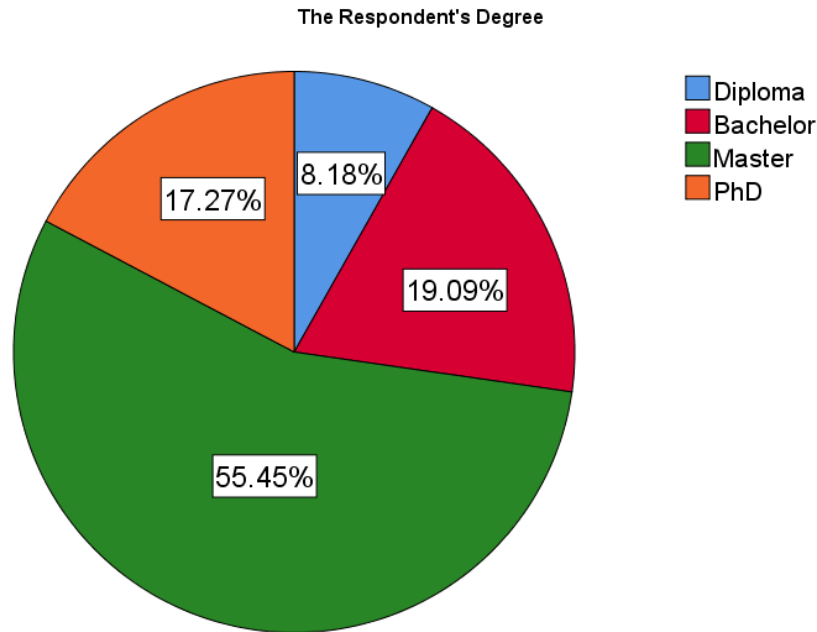


Figure 19 shows the demographics of participants' degrees

Descriptive Statistics

"The means, standard deviations and correlations of the variables are shown in Table (10)". All correlations amongst the key variables are statistically significant and in the predictable direction.

Table 10 : the correlations, means and standard deviations

	M	SD	1	2	3	4	5	6	7
1.KH	4.67	.76	1						
2.POK	3.95	1.29	.319**	1					
3.EL	3.90	1.32	-.346**	-.437**	1				
4. SL	3.27	1.38	.314**	.413**	.963**	1			
5.GENDER	3.25	1.39	-.051	-.069	-.026	1			
6.Age	36.35	6.90	.064	.069	.021	.008	1		
7.YS	3.27	1.38	.064	.187*	.135	.087	.189*	1	
8.Degree	1.96	.63	.008	-.064	-.161*	.100	.148*	-	1
								.042	

"Note: **Correlation significant at 0.01 level (two-tailed). * Correlation significant at 0.05 level (two-tailed)

Note: Coefficients are presented on the diagonal in the parentheses: Gender (0=female, 1=Male), KH= knowledge hiding, POK=Psychological Ownership of Knowledge, EL=Ethical Leadership, YS=Years of service".

4.4 Validity and Reliability Analysis

In this part, we have carried out the reliability test through Cronbach Alphas for the questionnaire items, we have also tested the validity of the questionnaire through confirmatory factor analysis (CFA). The results of Cronbach alpha state that the value for Knowledge Hiding was 0.815, Psychological Ownership of Knowledge was 0.612, Ethical Leadership was 0.878, Servant Leadership was 0.876.

In addition, I conducted the validity test by using confirmatory factor analysis. Both comparative and absolute model fit values were observed. Based on the Exploratory factor analysis which is suggested to test the initial validity of research variables, both Kaiser-Meyer-Olkin (KMO) sampling adequacy (0.681) is above 0.5 and Barlett's test of sphericity was significant at $P < 0.01$. Therefore, the sample of the study is adequate to propose further exploratory factor analysis because Kaiser-Meyer-Olkin (KMO) and Barlett's test of sphericity examine the sampling adequacy. Table 11 shows the Kaiser-Meyer-Olkin (KMO) and Barlett's test results.

Table 11: Kaiser-Meyer-Olkin (KMO) and Barlett's test of sphericity

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy."		,681
Bartlett's Test of Sphericity	Approx. Chi-Square	3291,035
	df	210
	Sig.	,000

Through using the Cronbach Alpha, the internal reliability of each construct and item of variables is calculated. The threshold of Cronbach alpha is 0.65 (Budur *et al.*, 2018). The results show that the minimum Cronbach Alpha is 0,665 and the maximum value is, 871. Therefore, the internal validity is accomplished for the items. Furthermore, the means, standard deviation and correlations of the items are presented. Tables 12, shows the details about the above tests. Exploratory factor analysis is used to decrease the

dimensions that probably replicated the number of covert variables. The Kaiser-Meyer-Olkin value is detected. The results show that the value is 0.681 which is well above the 0.5 threshold.

4.5 Exploratory Factor Analysis Test

Table 12: EFA analysis.

Item NO	Item Construct	Mean	St Deviation	Factor Loading	Correlations	Cronbach Alpha
EL3	My manager listens to what employees have to say	3,573	1,2494	,727	,664	,871
EL4	My manager disciplines employees who violate ethical standards	3,223	1,3584	,850	,813	,812
EL5	My manager conducts his/her personal life in an ethical manner	3,200	1,3089	,806	,750	,838
EL6	My manager can be trusted	2,486	1,2514	,801	,722	,849
POK1	I sense that this is my knowledge	3,027	1,3977	,580	,408	,875
POK2	This is My knowledge	2,905	1,2368	,542	,408	,845
KH1	I said that I was not very knowledgeable about the topic.	4,064	,9439	,594	,521	,742
KH2	"I explained that the information is confidential and only available to people on a particular project"	4,200	,6931	,668	,670	,665
KH3	"I explained that I would like to tell him/her, but was not supposed to"	4,059	,8920	,470	,573	,667
KH4	I told him/her that my boss would not let anyone share this knowledge.	2,409	1,0319	,597	,539	,861
KH5	"I agreed to help him/her but never really intended to"	2,041	1,1075	,752	,716	,817

KH6	"I agreed to help him/her but instead gave him/her information different from what s/he wanted."	1,923	,9924	,735	,693	,823
KH7	I told him/her that I would help him/her out later but stalled as much as possible.	1,886	1,0602	,710	,731	,813
KH8	I said that I did not know, even though I did.	1,891	,9684	,780	,696	,823
KH10	"I pretended that I did not know the information"	2,373	1,1732	,712	,672	,813
KH11	"I pretended I did not know what s/he was talking about."	2,886	1,2930	,602	,773	,712
KH12	"I said that I would not answer his/her questions."	2,736	1,2869	,448	,680	,806
SL3	My leader holds high ethical standards.	3,609	1,2170	,718	,671	,865
SL4	"My leader cares about others' personal well-being."	3,223	1,3105	,859	,804	,813
SL5	"My leader makes others' career development a priority."	3,245	1,2905	,800	,752	,834
SL6	"My leader is always honest."	2,518	1,2623	,805	,710	,850

We expect communality coefficient values more or equal to 0.5. if the values meet the thresholds, it means that the participants were eligible to answer the questions and they wanted to answer. As it shows in Table 13, there is the maximum value is 0,798 and the minimum value is 0,543 they are eligible for the validity of the thesis results and above the threshold according to sample size (Hair *et al.*, 2010).

Table 13: the Communalities.

Communalities Coefficients	
	Extraction
EL3	,698
EL4	,748
EL5	,724
EL6	,700
POK1	,676
POK2	,716
KH1	,602
KH2	,775
KH3	,695
KH4	,543
KH5	,657
KH6	,646
KH7	,721
KH8	,697
KH10	,741
KH11	,793
KH12	,798
SL3	,682
SL4	,759
SL5	,709
SL6	,702

4.6 Discriminant and Convergent validity

The convergent principle is to measures of constructs that are related to each other should be strongly correlated. On the other hand the discriminant principle measures of different constructs should not correlate highly with each other and to check whether there is enough distance among variables (Hair *et al.*, 2010). Checking the convergent validity, Fornell and Larcker (1981). Recommend composite reliability (C.R.) value to be more than 0.5 and for the average variance extracted to be more than 0.5. Given in Table (14) the composite reliability of the variables is between 0.676 to maximum 0.795. While, average variance extracted (AVE) is minimum 0.535 and the maximum is 0.632. Therefore, the convergent validity is obtained. For testing the discriminant validity, the square root of average variance extracted of any construct should be more than the correlation of that measurement to any

other variable. Depending on the results, it can be determined that there is enough distance among the variables and discriminant validity is obtained.

Table 14: the discriminant and convergent validity

	CR	AVE	MSV	MaxR(H)	ETL	POWK	KH	SRL
ETL	0.872	0.632	0.653	0.892	0.795			
POWK	0.714	0.557	0.069	0.696	-0.044	0.676		
KH	0.773	0.535	0.237	0.793	0.123	0,176†	0.731	
SRL	0.869	0.626	0.653	0.904	0.808	-0.032	0.102	0.791

4.7 Hypothesis Testing

In this section the suggested hypothesis are tested through applying the structural equation modeling. We have three main hypotheses are articulated as following:

H#1: “Psychological ownership of knowledge is positively related to knowledge hiding”

H#2: “Ethical leadership (a) is negatively related to knowledge hiding, and (b) moderates the relationship between psychological ownership of knowledge and knowledge hiding such that ethical leadership weakens the relationship between psychological ownership of knowledge and knowledge hiding.”

H#3: Servant leadership (a) is negatively related to knowledge hiding, and (b) moderates the relationship between psychological ownership of knowledge and knowledge hiding such that servant leadership weakens the relationship between psychological ownership of knowledge and knowledge hiding”.

To answer the research questions and to test the hypothesis that whether POK and KH are positively related or not, and to test the possibility of using positive leadership styles as moderators a multiple hierarchal regression and moderation tests were conducted. The independent variable is (Psychological ownership of knowledge =POK), Dependent variable is (Knowledge Hiding=KH) the moderator variables are (Ethical Leadership=EL)

and (Servant Leadership) =SL. “To prevent the challenging high multicollinearity with the interaction , the variables were centered and an interaction term between POK and KH was created” (Aiken *et al.*, 1991). Our predictor variables are quantitative therefore we have centered them.

Hypothesis 1 expected that POK as independent variable is positively related to knowledge hiding as dependent variable. Our empirical analysis supports this hypothesis ($\beta = .327$, $p < .05$), these are the positive effects of POK on KH. We can say that the effect of psychological ownership of knowledge is (3,992) and its p-value (0.000) as it is shown in table 7. POK is positively related to KH in the level of (0.175) and p-Value of (0.000). Table (16) shows the regression analysis.

Table 15: ANOVA test.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11,762	1	11,762	21,854	,000 ^b
	Residual	117,325	218	,538		
	Total	129,086	219			

Anova test is to compare means. The above Anova table shows us that there is a statistically significant difference between the mean numbers of each and every condition means. An analysis of variance shows that the $df = (1, 218) = 21,854$ and the achieved p-value which is $0.000 < 0.05$.

Table 16: The regression analysis.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,992	,155		25,784	,000
	Psychological ownership	,175	,038	,302	4,675	,000

a. Dependent Variable: Knowledge Hiding

b. Predictors: (Constant), Psychological ownership

Table 17: Model (1) of the moderation effect

Model	Coefficient	SE	t	p-value
POK	0.3278	0.0862	3.8003	.000

EL	0.417	0.1139	3.6679	.000
Interaction effect (POK*EL)	-0.073	0.0272	-0.5579	.007
Model summary	$R^2 = .21$	$F = 14.12$	$df = 216$.000
<i>Notes: * p < .05; ** p < .01; *** p < .001. POK =Psychological ownership of knowledge; EL = Ethical leadership.</i>				

Hypothesis 2a regarded at the effect of ethical leadership on the relationship between POK and KH. It is hypothesized that EL moderates the relationship between POK and KH. Table 3 demonstrates that ethical leadership is definitely negatively moderate the relationship between POK and KH. ($\beta = -.073$, $p 0.00 < .05$). This interaction is statistically significant and consistent with the hypothesis. The moderation interactions are shown in figure 19 revealed that psychologically ownership of knowledge positively relates to knowledge hiding however ethical leadership negatively interacts the relationship. In the plot, it explains the simple slopes of the relationship between the independent variable (POK) and Dependent variable (KH) in the effects of Ethical leadership which is the moderator. When Ethical leadership is high the level of psychological ownership of knowledge will be low. The interaction shows the difference of knowledge hiding level with and without moderation role of ethical leadership. The more attributes of EL style affect the decrease of POK and consequently it reduces KH. Thus, the H2a is confirmed.

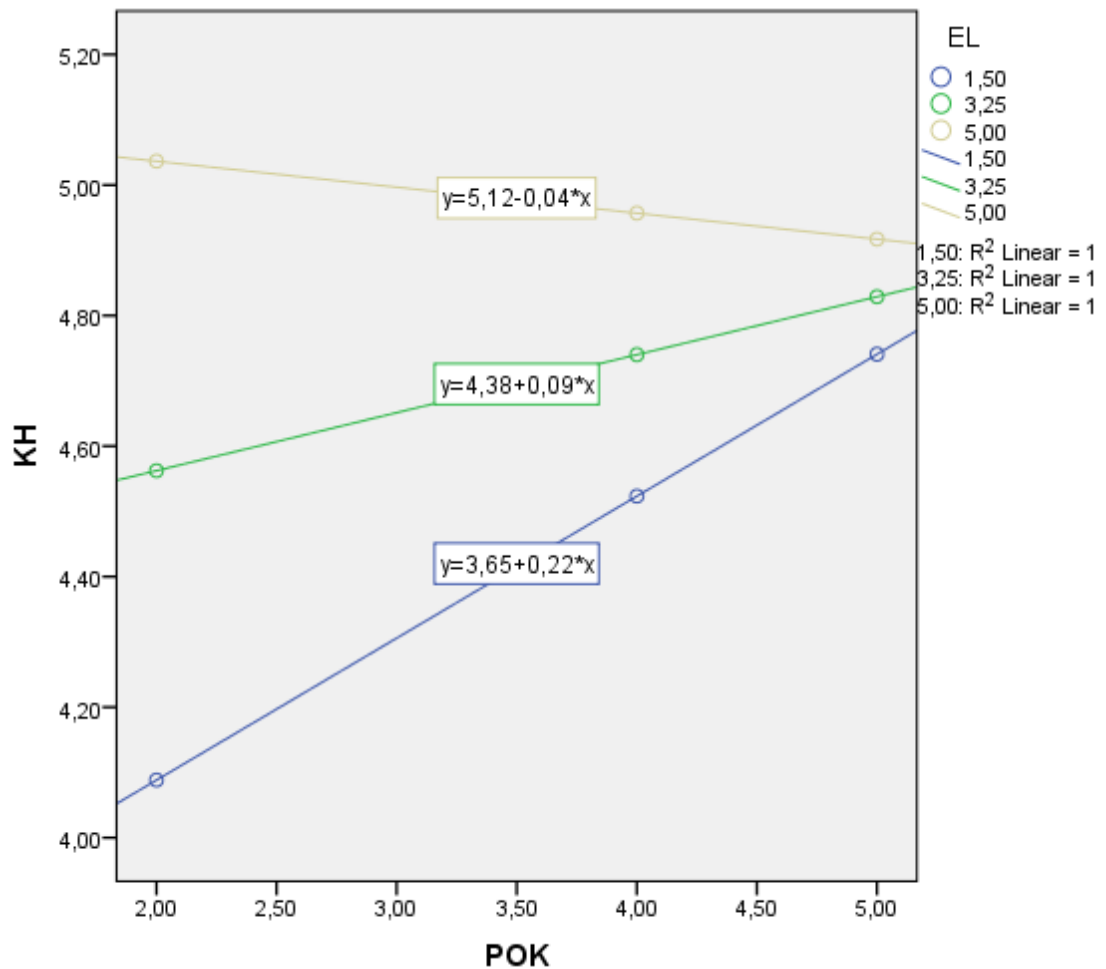


Figure 20 shows the interaction relationship the POK, KH and EL.

Table 18: Model (2) of the moderation effect

Model	Coefficient	SE	t	p-value
POK	0.3700	0.0862	4.2905	.000
SL	0.4780	0.1144	4.1792	.000
Interaction (POK*EL) effect	-0.0883	0.0271	-3.2519	.007
Model summary	$R^2 = .17$	$F = 15.26$	$df = 217$.000

“Notes: * p < .05; ** p < .01; *** p < .001. POK =Psychological ownership of knowledge; SL =Servant leadership.”

Hypothesis 3 claims that servant leadership moderates the relationship between POK and KH such that servant leadership weakens the relationship between POK and KH. The beta coefficient of psychological ownership of knowledge is (0.3700) on knowledge hiding and its p-value is 0.000 which less than 0.05. on the other hand, the interaction value is (-0.0883) which means it is negatively related to knowledge hiding thus servant leadership

plays a negative moderator between POK and KH. From this point we can say that our third hypothesis is supported. Our fit lines of interactions nicely clarify the role of Servant leadership as moderator. When the psychological ownership increases at (knowledge hiding is also increases and they have positive relationships. When the characteristics or attitudes of servant leadership come to the relationship, it decreases the impact of POK and KH hence the impact of servant leadership as moderator is apparent. Thus H#3 is statistically supported which is presented in figure (20).

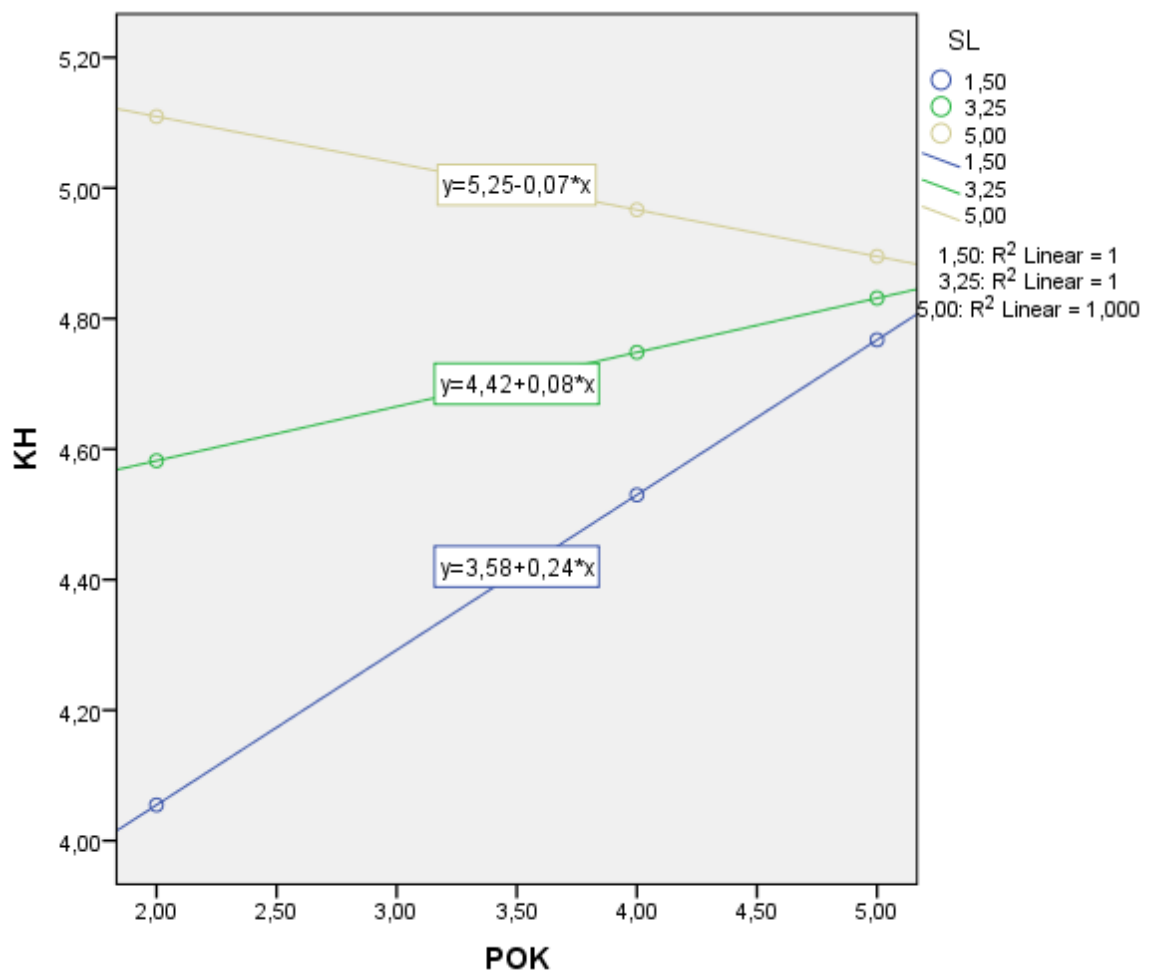


Figure 21 shows the interaction relationship the POK, KH and SL.

Now the investigated model is redesigned with the obtained coefficients and their effects. The model is shaped as there is positive relationship between POK and KH. The more an employee has the ownership feeling of knowledge the more he/she hides the knowledge. This relationship can be

moderated through inserting positive leadership styles as a device to weaken this relationship. The coefficients of both leadership styles (Ethical and servant) are negative and they have negative relationship with knowledge hiding, and on the other hand they moderate the relationship between POK and KH. The confirmed conceptual model is shown in figure (21).

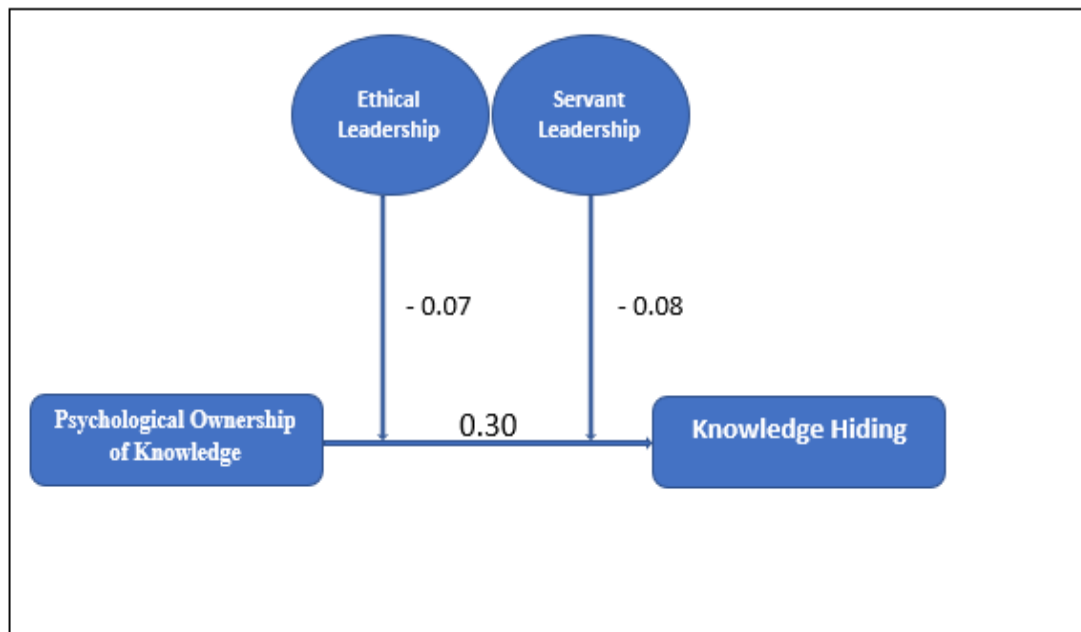


Figure 22 shows the confirmed research model

Discussion

The main purpose of this research which is basically a PhD dissertation firstly is to investigate the relationship between (psychological ownership of knowledge) and (knowledge hiding). Secondly, is to test two positive leadership styles as moderating variables between this relationship. The proposed hypothesis assumed that there is a positive relationship between POK and KH. Also, it was hypothesized that the two positive leadership styles moderate the relationship between POK and KH.

First, it was assumed that POK as an individual related factor affects knowledge hiding in a positive direction. The research findings from regression analysis show us that there is a strong relationship between POK and KH. The finding of this study is consistent with prior research efforts (Aiken *et al.*, 1991; Peng, 2013; Van Dyne & Pierce, 2004; Xinyan & Xin, 2006). POK as an individual-related factor of knowledge hiding may push

employees to hide what they know. The results indicate that individuals have an inner feeling of keeping their knowledge within themselves, and that is to protect their personal competitive advantage over their colleagues. An employee who thinks that the requested knowledge is his/her property is more likely engage in knowledge hiding. Our data and the analyses support the theory of “psychological Ownership of knowledge” as the state in which the individual feels that the targeted knowledge is their own knowledge” (Aiken *et al.*, 1991). Employees who psychologically protect their knowledge from sharing claim that they have put too much effort in achieving the valuable knowledge therefore they feel afraid to provide their knowledge. This feeling of knowledge possession eventually creates the sense of building competitive advantage within the organization (Peng, 2013). This may be to force the organization to keep them as the key employees and always consider them as needy human assets. It is worth mentioning that our findings on knowledge hiding are from public sector universities, and that is a pure evidence to support the previous studies in private sector (Cole, 2018; Connelly *et al.*, 2012b; Ford & Staples, 2010)

Second, this research’ findings show that there is a negative relationship between ethical leadership and knowledge hiding. This is a confirmation of previous studies which were conducted (Abdullah *et al.*, 2019). On the other hand, the present study found that ethical leadership can play a moderating role to weaken the relationship between POK and KH. Our findings explain that ethical leadership provides emotional support to employees through taking care of their professional and personal needs. This is in line with previous study by (Kalshoven & Boon, 2012).The respondents showed certainty that they feel under the ethical leadership style. As the result of building trust and confidence among employees, they do not feel the fear of losing their competitive advantage and therefore they do not hide knowledge from their organizational co-workers. Our research findings in this regard are in line with the studies of (Cole, 2018; Kalshoven & Boon, 2012) in which they confirmed that ethical leadership reduces knowledge hiding behavior through the characteristics of honest, fairness and selfless concerns. In addition, the analysis demonstrates a correlation between ethical leadership

as a positive leadership style and social learning theory because social learning theory of (A. Bandura, 1986) promotes the theoretical foundation for an idea that “if an ethical leader is capable of promoting pro-social conducts among her/her followers” (Brown & Treviño, 2006) In addition to that, ethical leadership style is about cultivating role models and exchanging positive ethics that serve the common interest of all, this is an essential link between ethical leadership and social learning theory because in social learning theory leaders are role models and followers are striving to emulate the leaders’ model (YILDIZ & YILDIZ, 2015). As a result of this leadership style, if an employee follows shows the will of sharing knowledge he will be rewarded for this productive behavior. The results show further explanation on how ethical leaders show openness and altruism to enrich employees relational social capital through cooperation’s and common trust, this is the real bridge between ethical leadership and social learning theory in decreasing knowledge hiding. Some of these findings were already discovered in private sector by (Brown & Treviño, 2006; Tang *et al.*, 2015; Walumbwa *et al.*, 2017a), however our results are purely from public sector and that is a novel evidence on the impact of ethical leadership in decreasing knowledge hiding.

Third, our results show that employees who have the sense of knowledge ownership engage in knowledge hiding, but when servant leadership comes to the ground it decreases the impact of POK and KH. That is a reconfirmation of previous studies which were conducted by (Ohlott *et al.*, 1994). The results of our moderation analysis support the previous research attempts by the servant leadership characteristics are contributing in enhancing knowledge hiding. The data suggests that servant leadership plays the role of “Vision Creator” by bringing all the employees together and reaching an attainable goal. That reduces the mistrust of employees that has been resulted from their feeling of knowledge ownership. Our results support the theory of servant leadership when it says “the essence of servant leadership is to serve others and create a shared vision among the followers” (Page & Wong, 2000). On the other hand, servant leadership theory encourages trust, care of others, honesty and collaboration (Černe *et al.*,

2014a), and eventually all these attributes will serve the common vision among the organizational members. It is worth noting that servant leaders build shared vision through leading others by example (Page & Wong, 2000). Moreover, the respondents of this study showed a great interest for a leadership style which considers their well-being and personal needs. One of the main attributes of servant leadership is caring about the well-being of followers. This result can be interpreted as the lack of care of employee's well-being amongst public universities. This study has been conducted during the Covid 19 pandemic which affected almost every sector financially. In the era of corona virus oil countries faced a dramatic decline in the oil prices and as a result employee did not receive their salaries on time, the lack of care is obvious in their responses. Finally, the findings showed us that respondents prefer servant leadership because it focuses on employee's career development. This is another important characteristics of servant leaders who try to serve others by developing their skills and competences (Ohlott *et al.*, 1994). As a statistical distinction, it was noticeable that servant leadership was stronger than ethical leadership in moderating the relationship between POK and KH. This can be interpreted as a cultural distinction in Kurdish society because servant leadership has a stronger role than ethical leadership in shaping a culture and society (Page & Wong, 2000).

Chapter 5

Research Limitations, future directions and conclusion

5.1 Limitations

Each and every study has some limitations and this dissertation research had some own limitations as well. First of all, this study is limited to the public universities in north of Iraq. It is true that public universities in the Kurdish region are the extension model of the rest of Iraqi public universities but the results of this study cannot be generalized to the rest of Iraq. Public universities in Kurdistan region have some rules and regulations which are completely different from the other universities in Iraq. On the other hand, the research findings are not relevant to private universities, there might be different consequences resulting from ethical and servant leadership styles because private universities are functioning differently in terms of finance, leadership, organizational culture and students' affairs. Future researches can put more emphasis on private universities because they have more foreign academic staff and some international students. In addition, future researches can investigate the same tested model in the institutes which are administratively related to the ministry of higher education. These institutions offer diploma in several disciplines.

Second limitation is related to a statistical and methodological aspect of the research. This dissertation was resulted from cross-sectional data which are not vulnerable to some statistical tests. It is logical for future research to follow Longitudinal research design to collect data form two different periods of time. Besides, for this dissertation the quantitative method was used to collect data, however it is applicable and more reliable if we use qualitative method or mixed method as well. Methodologically, the sample size can be larger and that gives a bigger reliability to the study. Regarding the nationality of the questionnaire participants, this research is limited to Kurdish employees in public universities, future researcher may consider other nationalities especially the foreign lecturers and administrative staff that are currently working in Iraqi universities.

Thirdly, in terms of content and knowledge-related aspects there are many other attributes in each variable that can be investigated further. Psychological ownership of knowledge is only of the individual related factors of knowledge hiding. There are many other personal factors that can be linked to knowledge hiding. Future researches may test other individual-related factors of knowledge hiding such as interdependency, territoriality, performance climate, power, avoidance goal orientation, distrust, openness to learning, neuroticism as a personality type, workplace incivility and workplace ostracism. All these individual relevant attributes might be tested in other culture and private sector, but almost all of them are raw materials to be investigated in Iraq. On the other hand, other styles of leadership can be tested as moderator. We have only used ethical and servant leadership styles but there are other positive styles of leadership such as authentic leadership, charismatic leadership, spiritual leadership and pacesetter leadership. Lastly, this research has taken "Knowledge" as a one single concept; however, this concept can be divided to tacit and explicit knowledge. Due to the fact that using all the attributes of all variables in one research model may create complexity in mediation and moderation, future researches may take each type of knowledge individually. In addition, we have taken knowledge hiding as a one combined concept however there are three types of knowledge hiding which are evasive hiding, playing dumb and rationalized hiding. Future studies can investigate each of these dimensions individually so as to understand statistically which type of knowledge hiding is the strongest.

5.2 Research implications

5.2.1 Theoretical

Theoretically speaking, the results of this study show that there is a strong relationship between POK and KH. The relationship is moderated by two positive leadership styles which are ethical and servant leadership styles. This study is conducted in an eastern setting of Northern Iraq. The research context is completely different from previous studies. On the other hand, the case of public universities was investigated, that was an additional attempt to

understand if the theories and practices are functioning the same way as they do in private sector. All these together, give an advantage to this research to contribute to the existing literature in several ways. First, to the best knowledge of the author, the tested variables were not applied in this context before. That is a real novelty that enriches the available literature by providing empirical evidences that these theories are investigated. Second, theoretically speaking, the relationship between POK and KH was not studied in this context. Therefore, the dissertation can be depended as foundation for future researchers who want to have a deeper understanding on the organizational behavior in public universities. This study is a respond to the call by Connelly *et al.* (2012a) and some other scholars, when they had asked to investigate more on the individual-related factors and knowledge hiding. This research combined several previous literatures to explain why people hide knowledge in organizations and more particularly in public higher education institutions.

5.2.2 Practical

Public universities in Iraq are at the phase of restructuring and redesigning their systems, therefore any relevant academic and scientific guidance may help them towards success (Ali & Sagsan, 2020). To be able to compete with world universities and to rank in a high position among other international universities, the Iraqi universities need to develop and improve their knowledge management systems. Universities cannot survive if they do not have an effective knowledge management system, and to build and maintain such a system they need to understand the challenges and changes of today. For example, there is a strong relationship between university accreditation and student learning in one hand and knowledge management system on the other hand. An effective KM system is complementary and conditional for student learning. To build this connection, public universities can get advantage from the outcomes of this research to build a better collaboration among the faculty members, staff and lecturers across the entire university. That can be achieved through enhancing the organizational KM functions especially the knowledge sharing climate to reduce knowledge hiding. Among the factors of hiding knowledge, psychological ownership of

knowledge plays a strong role therefore university leaders should take more consideration and care to manage it (Pagani *et al.*, 2020). The results recommend that university leaders should provide a more flexible sharing culture to reduce knowledge hiding through the means of team building, reward system and appreciation culture when there is an achievement (Zellars *et al.*, 2002). public universities may work on creating a shared visions among employees and that is to reduce the personal competition because according to the research findings, one of the factors of (psychological ownership of knowledge) is competitive advantage that pushes the employees to hide knowledge (Peng, 2013). Second, the Kurdistan public universities can learn from this dissertation that they can practice (ethical and servant leaderships) as positive leadership styles to mitigate knowledge hiding among their administrative staff and lecturers. To obtain and implement this strategy, public universities should hire leaders whose vision is based on ethics and serving others. The foundation of positive leadership styles is laid down on the notion of being a positive role model for followers (Tepper *et al.*, 2006). On the other hand, public universities may understand from this research's findings that their employees need trainings on the essence of ethics is being a serving person to others. This culture should be developed and appreciated among all employees. By implementing this strategy, public universities can reduce knowledge hiding as an organizational behavior.

5.3 Recommendations

Based on the findings of this dissertation, there are several recommendations that can be retrieved. Public universities in North of Iraq can follow the following recommendations to improve their knowledge management systems and more specifically to reduce knowledge hiding among organizational members.

- The employee's self-perception possession of knowledge can be reduced through focusing on management practices and managerial roles including leading and role-modeling.

- Adopting effective tools of knowledge management such as quality improvement initiatives, online product roadmaps and insights.
- Building team ownership of knowledge instead of individual ownership that can be stressed on through highlighting any effort of knowledge sharing.
- Promoting teamwork and the culture of collective success, every team member should be appreciated when there is an achievement.
- Encouraging organizational commitment through HR trainings, these trainings can cultivate the essences of ethics and the sense of serving others.
- Providing and offering the opportunity of participating, organizational members should have the chance of self-expression particularly when the decisions are related to their scope of work.

5.4 Conclusion

This dissertation was designed to first, investigate in an individual-related factor of knowledge hiding which psychological ownership of Knowledge, and second, to test the moderating role of positive leadership styles in mitigating the relationship. The dissertation aimed to answer two main research questions. Based on the quantitative approach of data and the analysis that were used in the study, it can be concluded that “psychological ownership of knowledge is positively related to knowledge hiding”, and secondly, ethical and servant leadership can play the moderating role to weaken knowledge hiding. The results showed that employees who have high feeling of knowledge possession are more likely to engage in knowledge hiding. On the other hand, positive leadership styles can reduce the feeling of knowledge possession a consequently it decreases the knowledge hiding. This research illustrates how positive leadership styles can affect psychological ownership of knowledge through cultivating ethics and the sense of being in the service of others. The research findings met our expectations, but surprisingly the servant leadership was stronger than ethical leadership in moderating the relationship. Based on this distinction, public universities should adopt any kind of the tow leadership styles but servant leadership styles would be more effective. These research findings will contribute to the literature as the study has been conducted in an unexplored region which is north of Iraq and the investigated case is public sector. To better understand the practical implications of this study, the Kurdistan public universities should follow and practice positive leadership styles. They also implement training programs for employees and academic staff to introduce the foundations of ethics and the mentality of being a servant organizational member.

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Appendix

Questionnaire					
1 - شار دندهی مه عریفه					
تکایه ... بیهینهوه یادت که له موهه ی پیشوودا هاوکارتیکت داوای زانیاری لئی کردیی (جا نهو هاوکاره چ له بهشه که ی خوت بوویت یان به شیکه تر). چۆن هه لسه که وت کرد له گه ل داواکاری هاوکاره که ت؟					
زۆر هاویرام	هاویرام	هیچ رایه کم نیه	ناهاویرام	زۆر ناهاویرام	
5	4	3	2	1	له پرسیاره که ی ورد بوومه وه بو نهوه ی دلنیابم که وه لامه کانم دروستن
5	4	3	2	1	هه موو شتیکم به ته وای بو روون کرده وه
5	4	3	2	1	هه موو پرسیاره کانم به خیرایی وه لام دایه وه
5	4	3	2	1	هه رچی داوای لئی کردبووم ، ریک پیم گوت
5	4	3	2	1	رازی بووم که هاوکاری بکه م ، به لام هه رگیز نه مده ویست که بیکه م
5	4	3	2	1	رازی بووم که هاوکاری بکه م ، به لام شتیکی جیاوازم پین گوت له وه ی که ده ویست
5	4	3	2	1	پیم گوت که هاوکاری ده کم به لام نه وه نده ی پیم کرا تاخیرم کرد
5	4	3	2	1	زانیاری ترم پیندا له جیاتی نه وه ی که داوای کردبوو
5	4	3	2	1	وام نیشان دا که هه چی لئی نازانم
5	4	3	2	1	پیم گوت که وه لامه که ی نازانم ، هه رچه ند ده مزانی
5	4	3	2	1	وام نیشان دا که هه ر نازانم باسی چی ده کا
5	4	3	2	1	پیم گوت که زۆر زانیاریم نیه له سه ر نهو بابه ته
5	4	3	2	1	بۆم روون کرده وه که پیم خوشه زانیاریه که ی پین بده م به لام نا کرئ پینی بلیم
5	4	3	2	1	بۆم روون کرده وه که نهو زانیاریه نه نینه ، ته نها هه ندئ خه لک ده بین بیزانی
5	4	3	2	1	پیم گوت که سه رۆک به شه که م / به ریه به ره که م رینگه م نادا نهو زانیاریه ی پین بلیم
5	4	3	2	1	پیم گوت که ناتوانم وه لامی پرسیاره که ی بده موه

سايكولوژيى خاوهندار نيتيكر دنى مه عريفه					
زور هاورام	هاورام	هيچ رايه كم نيه	ناهورام	زور ناهورام	
5	4	3	2	1	نمه زانيارى و مه عريفهى خومه، نايدم به كهس
5	4	3	2	1	بهرا دهيهكى زور ههست دهكهم كه نهو زانيارى و مه عريفهيهى ههمه هى خومه.
5	4	3	2	1	ههست دهكهم نهوه زانيارى و مه عريفهى خومه.

سهركردايه تيكردنى نيتيكي (نه خلاقى)					
زور هاورام	هاورام	هيچ رايه كم نيه	ناهورام	زور ناهورام	
5	4	3	2	1	بهريوبه دهكهم گوئ دهگريت بو فهرانبه رهكاني
5	4	3	2	1	بهريوبه دهكهم نهو فهرانبه رانه ديسپلين دهكات كه ستاندارده نه خلاقيه كان پيشنيل دهكهن
5	4	3	2	1	بهريوبه دهكهم له كاروبارى ژباني خوشيدا هه پيرهوى بنه ما نه خلاقيه كان دهكات
5	4	3	2	1	بهريوبه دهكهم به باشترين شيوه بير له بهرزه و هندی فهرانبه رهكاني دهكاتهوه
5	4	3	2	1	بهريوبه دهكهم بريارى دروست و واقعي دهكات
5	4	3	2	1	بهريوبه دهكهم جيگاي متمانويه

سهركردايه تيكردنى (خزمهتكار)					
زور هاورام	هاورام	هيچ رايه كم نيه	ناهورام	زور ناهورام	
5	4	3	2	1	بهريوبه دهكهم بنه ماي نه خلاقى بهرزي ههيه
5	4	3	2	1	بهريوبه دهكهم گرنگى به خوشگوزهرانى نهوانى تر دهكات
5	4	3	2	1	بهريوبه دهكهم گه شه پيدانى نهوانى تر دهكات نهولهويهتى كارهكاني
5	4	3	2	1	بهريوبه دهكهم هه ميشه راستگوويه
5	4	3	2	1	بهريوبه دهكهم كات تهرخان دهكات تا گوئ له فهرانبه رانى بگريت به شهخسى
5	4	3	2	1	بهريوبه دهكهم ههست به بن تاقهتى فهرانبه رانى دهكات تهنانهت به بن نهوى پرسياريان لبيكات
5	4	3	2	1	بهريوبه دهكهم بهرزه و هندی نهوانى تر له پيش بهرزه و هندی خوى داده نيت

Questionnaire					
1-Psychological Ownership of Knowledge					
Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
"I feel a very high degree of personal ownership of the knowledge"	1	2	3	4	5
"I sense that this is my knowledge"	1	2	3	4	5
"This is My knowledge"	1	2	3	4	5
2-Knowledge Hiding					
Please think of a recent event/episode in which a specific coworker requested knowledge from you (either a member of your team/unit or a colleague from another team/unit). In this specific situation, how did you behave?					
IETMS	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I looked into the request to make sure my answers were accurate.	1	2	3	4	5
I explained everything very thoroughly.	1	2	3	4	5
I answered all his/her questions immediately.	1	2	3	4	5
I told my coworker exactly what s/he needed to know.	1	2	3	4	5
I agreed to help him/her but never really intended to.	1	2	3	4	5
I agreed to help him/her but instead gave him/her information different from what s/he wanted.	1	2	3	4	5
I told him/her that I would help him/her out later but stalled as much as possible.	1	2	3	4	5
I offered him/her some other information instead of what he/she really wanted.	1	2	3	4	5
I pretended that I did not know the information.	1	2	3	4	5
I said that I did not know, even though I did.	1	2	3	4	5
I pretended I did not know what s/he was talking about.	1	2	3	4	5
I said that I was not very knowledgeable about the topic.	1	2	3	4	5
3-Ethical Leadership					

ITEMS	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
My manager listens to what employees have to say	1	2	3	4	5
My manager disciplines employees who violate ethical standards	1	2	3	4	5
My manager conducts his/her personal life in an ethical manner	1	2	3	4	5
My manager has the best interest of employees in mind	1	2	3	4	5
My manager makes fair and balanced decisions	1	2	3	4	5
My manager can be trusted	1	2	3	4	5
My manager sets an example of how to do things the right way in terms of ethics	1	2	3	4	5
My manager discusses business ethics or values with employees	1	2	3	4	5
My manager defines success not just by results but also the way that they	1	2	3	4	5
4-Servant Leadership					
ITEMS	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
My leader holds high ethical standards.	1	2	3	4	5
My leader cares about others' personal well-being.	1	2	3	4	5
My leader makes others' career development a priority.	1	2	3	4	5
My leader is always honest.	1	2	3	4	5
My leader takes time to talk to others on a personal level.	1	2	3	4	5
My leader can recognize when others are feeling down without asking them.	1	2	3	4	5
My leader puts others' best interests above his/her own	1	2	3	4	5

Biography

Shwana is born on June 23rd 1986; he graduated from department of Business Management at University of Kurdistan-Hawler 2011. He pursued MBA at the American university of Iraq-Sulaimani in 2014. He was recruited in University of Raparin 2013 and appointed as the director of University Central library. In 2016 he founded the department of Administration at the same university. Now, he is a PhD candidate in Near East University/Cyprus. His research areas are organizational theories, HRM, innovation and Knowledge management.



11.11.2020

Dear Shwana Hassan Ali

Your application titled **“The Relationship between Psychological Ownership of Knowledge and Knowledge Hiding: The Moderating Role of Ethical Leadership”** with the application number YDÜ/SB/2020/828 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

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