College of Graduate Studies

Master of Business Administration –MBA Program

Knowledge Management and its Relation to Employees' Performance: An Approach to Developing Water Sector in Hebron City

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This Thesis is Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration, College of Graduate of Studies & Academic Research, Hebron University.

(2024AD ،1445 AH)

Thesis Approval

إجازة الرسالة

إدارة المعرفة وعلاقتها بتطوير أداء العاملين كمدخل لتطوير إدارة قطاع المياه

في مدينة الخليل

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نوقشت هذه الرّسالة وأجيزت بتاريخ: 4/7/2024 من لجنة المناقشة المدرجة أسماؤهم

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(2024AD، 1445 AH)

ACKNOWLEDGEMENT

ملخّص الدّراسة

تهدف هذه الدراسة إلى معرفة تأثير عمليات إدارة المعرفة (KM) على أداء الموظفين في بلدية الخليل-دائرة المياه والصرف الصحي لتسليط الضوء على العلاقة بين عمليات إدارة المعرفة وأداء الموظفين في القطاع العام، مع التركيز على سياق عمل البلديات. تستند الدراسة إلى نظرية إنشاء المعرفة التي تشرح طبيعة الأصول المعرفية، حيث تشير إلى أن المعرفة يتم إنشاؤها من خلال التفاعلات الاجتماعية وتبادل الخبرات. تم استطلاع اراء عينة احتمالية من الموظفين في الدائرة بتقنية العينة العشوائية المنتظمة لجمع البيانات حول عمليات إدارة المعرفة ومستويات أداء الموظفين. اذ تم استخدام النهج الكمي، من خلال الاستبانات الكمية. تم تحليل 104 استبيانا باستخدام نمذجة المعادلات الهيكلية (SEM) لتحليل البيانات المجمعة وتقييم تأثير عمليات إدارة المعرفة على أداء الموظفين، باستخدام برنامج تحليل البيانات SPSS الإصدار 24، وبرنامج تحليل البيانات PLS-SEM .

أفادت نتائج هذه الدراسة البحثية أن إنشاء المعرفة ونقلها (مشاركتها) ذات دلالة إحصائية وترتبط بشكل إيجابي بأداء الموظف، تؤكد النتائج أيضًا على أهمية التنفيذ الفعال لعمليات إدارة المعرفة، وخاصة إنشاء المعرفة ومشاركتها، لتعزيز أداء الموظفين من خلال تشجيع ثقافة التعلم المستمر وتبادل المعرفة، التي تؤدي لتحسين أداء موظفيها، مما يؤدي إلى تحسين الأداء المؤسساتي ورضا المواطنين. بينما، تبين أن تطبيق وتخزين المعرفة ليس لها أي دلالة إحصائية أو أي تأثير على أداء الموظف. و تتبلور مساهمة الدراسة في: مساهمة "الفجوة القطاعية"، ومساهمة الفجوة النظرية والعملية لعمليات إدارة المعرفة، إلى جانب أهميتها العملية.

الكلمات المفتاحية: عمليات إدارة المعرفة، أداء الموظف، إنشاء المعرفة، مشاركة المعرفة، نقل المعرفة، تدوين (تخزين) المعرفة بلدية الخليل ـ دائرة المياه والصرف الصحي.

ABSTRACT

This study investigates the impact of knowledge management (KM) processes on employee performance at Hebron Municipality, directed specifically on the Water and Wastewater Department (HM-WWD), to highlight the relationship between KM processes and employee performance in the public sector, focusing on municipal context. The study is based on the Knowledge creation theory which explains the nature of knowledge assets, it states that knowledge is actively created through social interactions and shared experience. A total of 104 employees (valid questionnaires for analysis) from HM-WWD were surveyed as probability sample using a systematic random sample technique to gather data on knowledge management processes and employee performance levels.

Utilizing a quantitative method approach, through quantitative surveys, data was collected from employees within HM-WWD. Structural Equation Modeling (SEM) was employed to analyze the collected data and assess the effects of KM processes on employee performance, by using SPSS version 24, utilizing the data analysis program: PLS-SEM.

The study also identified the knowledge management processes that were most effective in improving employee performance at HM-WWD. Knowledge creation, and sharing, were found to have a significant impact on employee performance, aligning with the Knowledge creation theory as an underpinning theory for the study. Whereas Knowledge application and codification were found to have no significant impact on employee performance. The findings also emphasize the importance of effective implementation of KM processes, particularly knowledge creation and sharing, for enhancing employee performance at HM-WWD, by encouraging a culture of continuous learning, and knowledge exchange, organizations can improve their employees' performance, leading to improved organizational

performance and citizens satisfaction. The study provides the following contributions: the "sector gap" contribution, KM Processes' theoretical-practical gap contribution, besides its practical significance**.**

Key words: Knowledge Management Processes, Employee Performance, Knowledge Creation, Knowledge Sharing, Knowledge Creation, Knowledge Codification (storing) Hebron Municipality- Water and Wastewater Department (HM-WWD)

List of Abbreviations

EP	Employee Performance
HM- WWD	Hebron Municipality- Water and Waste Water Department
KA	Knowledge Application
KBV	Knowledge Based View
KC	Knowledge Creation
KCo	Knowledge Codification
KCT	Knowledge Creation Theory
KS	Knowledge Sharing
KM	Knowledge Management
MoLG	Ministry of Local Government
RBV	Resource Based View
SCT	Social Cognitive Theory
PNA	Palestinian National Authority
PWA	Palestinian Water Authority
WSRC	Water Sector Regularity Council

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CHAPTER ONE

INTRODUCTION

1.1 Background of The Study – Public Sector and Municipalities (Local Authorities) in Palestine

Water, sanitation and wastewater is one of the most vital sectors in the world. Water is at the core of sustainable development and is critical for socio-economic development, energy, food production, healthy ecosystems and for human survival itself. Water is also at the heart of adaptation to climate change, serving as the crucial link between society and the environment, Water is also a rights issue. As the global population grows, there is an increasing need to balance all of the competing commercial demands on water resources, so that communities have enough for their needs (Water-United Nations, 2020). In addition, Sustainable Development Goal (SDG) 6 is to "Ensure availability and sustainable management of water and sanitation for all". The targets cover all aspects of both the water cycle and sanitation systems, and their achievement is designed to contribute to progress across a range of other SDGs, most notably on health, education, economics and the environment. (Goal 6 | Department of Economic and Social Affairs, 2020).

Global water demand has been rising by 1% per year since the 1980s and is expected to continue increasing at a similar rate until 2050, with the industrial and domestic sectors featuring the greatest contributions. It is expected that water stress will be more extreme, specifically, in areas of the globe where the water resources are already scarce, or the water services are deficient. (UNESCO: Paris, France, 2014, 2019; Ramos et al., 2021). To overcome these challenges, water utilities must act and implement optimization

methodologies to improve water management systems' efficiency (Ramos et al., 2021) indicated.

The Palestinian Water Authority (PWA) is the public institution acts as an entrusted authorized entity, responsible for the legislation, managing, developing and protecting water sources to provide the Palestinian people with integrated and sustainable water supply, (PWA, 2017). Yet; achieving justice in the distributed water quantities among localities is a real challenge that the State of Palestine must face, due to the Israeli restrictions that hinders the water service development as integrated water system at the national level. Consequently, the water quantities provided for the Palestinian communities are not covering the full needs for the citizens (MK, 2022).

The nature of public sector problems - complex, cross-boundary and unsolvable by traditional government tools and approaches – also reinforce the importance of building the capacity of government to innovate and invent solutions to the complex and intractable problems faced by society (Daglio et al., 2015).

The Palestinian public sector -including ministries, and governmental institutions, is considered a dynamic sector entrusted with serving the Palestinian public, especially in the challenging circumstances in Palestine, considering the Israeli control and restrictions of all natural resources (The World Bank, 2017), and the resulting pressures and increased requirements, necessitate improving employee performance and innovative solutions in order to enhance the quality of public sector services and enhance their sustainability (Demircioglu & Audretsch, 2017). The ministry of Local government (MoLG) is the leading Party of the Local Governmental Units (LGUs), recognized as Municipalities in their communities, whom oversee diverse responsibilities including providing services like electricity, roads

construction and rehabilitation, etc. (Ministry of Local Governorate - Brief, 2023). Municipalities ae also responsible for delivering the water and wastewater services to fulfill all society needs based on the Local Government Law No. (1) of the year 1997, (Palestinian National Authority, 1997). Municipalities' capacities in the west bank vary tremendously considering their classification, population served, size and availability of resources (Palestinian National Authority, 1997). According to the World Bank: Some existing LGUs were created as early as the second half of the 19th century, and over the decades, they have performed under the complexities of disparate political and legal regimes. As the lowest level of governance, Palestinian local authorities fulfill a critical role, not only as a key public service provider but also as the government tier closest to citizens, with elected councils critical for representation and accountability to citizens, (The World Bank, 2017).

Palestinian communities face water shortage problems, basically because water resources remain under Israeli control, (Wolf, 2023). These problems escalates as we head to the south of the West Bank, as a result, LGUs (municipalities), who are responsible for the water service providing for the citizens in their authorized area, face several issues concerning their capability to manage and deliver safe, sufficient, affordable, and acceptable waiting time for the citizens. The establishment and development of strong institutions, including a strong organizational capacity to carry out their roles effectively and efficiently is considered a main challenge for the water sector. As well as its role related to infrastructure development (PWA, 2016).

Hebron city stands as one of the rapidly developing urban areas across various sectors, including water and wastewater. It is one of the biggest municipalities in the Westbank, serves around 221,136 citizens, (PCBS, 2021). Hebron Municipality- Water and Wastewater

Department in (HM-WWD) serves as a pertinent case study, given the manifold challenges this city faces concerning water provisioning, quantity, quality, and societal needs.

During the past ten years, the water quantity shortage, long waiting time, and unfair water distribution cycles, resulted in citizens dissatisfaction, and a negative public attitude toward the HM-WWD.

The researcher conducted primary interviews with three key employees in the WWD, to diagnose the status queue in the institution. The key employees' positions and questions of the interview are included in Appendix 1 of this thesis. Accordingly, three main problems were highlighted: 1-Geopolitical issues and available water quantities for the Palestinians particularly in the southern West Bank, and Non-Revenue Water (NRW). 2-Managerial issues including decision making, slow actions towards problems solving or innovative solutions which affects the employee performance occasionally, missing information due to lack of knowledge retention from retired employees, low level of information sharing among employees (in several cases), low citizen's satisfaction, in addition to the financial issues considering the complexity situation in Hebron Municipality, and the WWD as future separate entity. 3-Technical problems considering the topography of Hebron city, technical capacity building for the staff, and WWD infrastructure construction and rehabilitation.

Due to the fact that available water quantities are beyond the municipalities control; at that point, HM as a water service provider, has to find alternative administrative solutions to enhance their water service quality in the city of Hebron, up to a higher citizens satisfaction, whereas the afore mentioned problems can be summarized in low level of employee performance, which affect the procedures and work flow among the different departments in the HM-WWD. That can be improved by creating, sharing and applying knowledge

(Asiimwe & Barigayomwe, 2024). And the latest can be summarized in knowledge management.

Many internal organizational factors affect employee performance. Atatsi et al. (2019) explained that: "In the bid to understand and explore the phenomenon of individual or employee performance, many empirical studies have been conducted on the subject in relation to different antecedents and other outcome variables. For instance, leadership, customer satisfaction and performance (Ahearne et al., 2005); leadership, resistance, empowerment, satisfaction and performance (Vecchio et al., 2010); empowering leadership; turnover and performance (Wong et al., 2015); commitment, engagement and performance (Nazir and Ul Islam, 2017); learning and performance (Van Der Vegt and Bunderson, 2005); and organizational commitment, citizenship behavior and performance (Asiedu et al., 2014)" (Atatsi et al., 2019). Performance and HRM practices (Theriou & Chatzoglou, 2014), performance and work environment (Chandrasekar, 2011) and performance and knowledge management (Pelealu, 2022), and other factors". This study focuses on KM and performance, considering the diagnosis for some problems in the WWD from one side, and the positive relationship between KM and the employee performance (Tajali et al., 2014) on the other side. Organizations are constantly looking for ways to improve overall performance and stay ahead in their sector, and one way to do this is by preserving valuable knowledge within the organization using the best knowledge management application, (Malak, 2023). Malak also mentioned that: "It can have significant negative impacts on an organization including loss of valuable knowledge and expertise, reduced productivity and quality, increased costs, decreased innovation, and risk to safety and compliance".

Therefore, the researcher will investigate if KM can develop the HM-WWD employee performance to enhance the water service in the city of Hebron. And this was the first motivation to conduct this study. As introduced by other scholars who investigated the relation between knowledge worker and employee performance: The knowledge-based view of HRM, a relatively recent extension of Resource-based view of the firm theory, emphasized the human capital aspects and knowledge resource of knowledge workers critical for the innovation performance sustainability (Grant, 1996; Zack et al., 2009; Sergeeva and Andreeva, 2016; Razzaq et al., 2019).

Unfortunately, despite the importance of the water sector in Palestine, and the cruciality of water services, it was noticed that very limited studies were conducted within the Knowledge Management domain in the public sector in general and in Palestine and the water sector in particular. This serves as the second motivation for conducting the present study.

This study aims to measure and analyze the applied knowledge management processes and its impact on the employee's performance within the HM-WWD in Hebron city. The investigation will develop into an in-depth analysis of theoretical concepts related to knowledge management and its processes within the public institutional environment. Particular attention is directed toward examining how knowledge exchange and acquisition among employees can influence their performance improvement and overall efficiency in serving the community.

1.2 The Problem statement:

Employee performance can be defined as how effectively employees perform their tasks (Lim & Ahmad, 2021). Colquitt and other researchers pointed out that in empirical research, employee performance is typically designated as the dependent variable as it is observed as

the consequence or the outcome of HR practices or organizational behavior rather than the determinant or the reason (Prasetya, 2018). It is important as the performance of the employees is a significant indicator for the success of all organizations in both short and long run, (Alshahrani, 2021). Moreover, aligning with the saying of our Prophet Muhammad (PBUH), employee performance vibrates with the notion that, "Allah loves it when you do something to make it perfect" (Al-Albani, 1986; Hoque et al., 2014; Salahat, 2017).

As previously illustrated, Hebron city amidst rapid urban development, grapples with different challenges in water and wastewater management including employee's performance. Employee performance in the public institutions was found to be critical for the services provided, (Alshahrani, 2021). In water sector, finding a way to measure the performance of water service providers has been one of main concerns of regulatory bodies, and government entities around the world. In essence, the relevant studies about performance have assessed service providers' efficiency in a way of input and output in term of cost and production (Murrar, 2017). It is necessary therefore; to look to other areas wherein service providers employees can perform to achieve organizational development, this illustrates the sectoral gap.

Research indicates a positive link between knowledge management application and improved employee performance like (Akram & Hilman, 2018; Argote & Fahrenkopf, 2016; Asiimwe & Barigayomwe, 2024; Ibidunni, 2020; Mardani et al., 2018; Pelealu, 2022; Ramona & Alexandra, 2019; Razzaq et al., 2019; Zaim et al., 2019); although this relationship may be influenced by various moderating factors as in (Abbas, 2020; Adeinat & Abdulfatah, 2019; Nam Nguyen & Mohamed, 2011) studies. Existing literature often explores organizational, innovation performance, and HRM practices like (Abualoush et al., 2018; Akdere, 2009;

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Zaied et al., 2012; Zaim, Muhammed, et al., 2018); or only with impact on high educated employees like (Henttonen et al., 2016); we can find limited attention has been directed towards understanding the correlation between knowledge management and employee performance, which is considered as empirical gap.

Theoretically; Knowledge management can affect the employee performance. Knowledge Creation Theory (KCT) involves the provision and magnifying knowledge generated by individuals, while also integrating and linking it into an organization's knowledge framework (Nonaka et al., 2006). Therefore, the research has employed the knowledge creation theory (KCT), also known as knowledge management theory, as the key theory which encompasses various models and frameworks that aim to understand how knowledge is created, captured, shared, and utilized within organizations. The better individuals create knowledge in an organization, the more they increase the variety of knowledge (Ashby, 1958; Kaschig et al., 2016).

The connection between knowledge management processes and employee performance remains a topic of ongoing debate within both theoretical and empirical studies, leaving unanswered questions. Despite the growing recognition of knowledge management as a crucial asset for organizational success, and enhancing employee and organizational performance, research examining the effect of knowledge management processes on employee performance within the public sector, particularly within municipal context in Palestine, remains limited. Hence; the researcher got the motivation of testing the implementation of the knowledge management on the employee performance, to contribute to filling the identified gaps.

1.3 Research Questions

Based on the abovementioned problems, this study has a major question:

What is the impact of KM processes on the employee performance in Hebron Municipality-Water and Wastewater Department (HM-WWD)

Specifically, this study attempts to answer the following sub-questions:

1: What is the impact of knowledge creatin processes on EP in the HM-WWD?

2: What is the impact of knowledge sharing processes on EP in the HMWWD?

3: What is the impact of knowledge application processes on EP in the HMWWD

4: What is the impact of knowledge codification processes on EP in HM-WWD?

5: What is the impact of KM processes on the in- role employee performance in HM-WWD?

6: What is the impact of KM processes on the extra role employee performance in HM-WWD?

1.4 Research Objectives:

This study aims to explore the relationship and impact of Knowledge Management as an independent variable and the Employee Performance as the dependent variable in the HM-WWD, as an approach to develop the management of the water sector in Hebron City. This can be achieved by investigating the main research objective:

1- To examine the impact of KM processes on the Employee Performance in HM-WWD.

And the sub research objectives are:

a: To investigate the impact of knowledge creation process on EP in the HMWWD.

b: To investigate the impact of knowledge sharing process on EP in the HMWWD.

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c: To investigate the impact of knowledge application process on EP in the HMWWD.

d: To investigate the impact of knowledge codification process on EP.

e: To assess the impact of KM on the employee in-role performance in the HMWWD.

f: To assess the impact of KM on the employee extra role performance in the HMWWD.

1.5 Scope of The Research

The purpose of this research is to examine the effect of KM processes on the employee performance in the public sector/ municipal organizations, to develop the management of water services in Hebron city, through KM practices. Consequently, the scope of the study will be defined and narrowed into the Hebron Municipality, Water and Wastewater Department. The targeted participants will be the employees in the administrative and operational departments of the HM-WWD.

1.6 The significance of the research

This study demonstrates significance on two primary levels; (1) the theoretic level and (2) the applied level. Theoretically, the study seeks to explore the impact of KM processes on the employees' performance in the Local Governmental Units as services providers, specifically the water services sector. Practically, the study findings, will form a guidance proposition to better improve the knowledge management processes in the other local governmental units in the West Bank, for achieving better performance of employees in their positions, and encourage the innovative thinking towards services provision sector. This will enhance the sustainability and effectiveness of municipalities in general, and as service providers in particular. Moreover, the study clarifies the relationships between KM processes, Employees' performance, leading to enhanced organizational performance and provided services, up to citizens satisfaction, while using the knowledge creation as supporting theory.

1.7 Organization of Thesis

This study comprises five chapters. Chapter one serves as the introduction: presenting study's background and problem statement. Additionally, it outlines the significant gaps and contributions on the explored relationships between the KM processes, and the employee performance. Chapter two lays the basis by establishing conceptual definitions and theories that are relevant to the study variables, explicating their dimensions and explains the supporting theory. While chapter three outlines the conceptual framework and hypotheses, clarifying the research methodology, design, variables measurement, study population and sampling, data collection technique and analysis methods. Whereas Chapter four illustrates the data analysis and the outcome of hypothesis testing. Finally, the fifth chapter comprises the study summary, and points out the research findings, recommendations and major contributions. It concludes by indicating the study's limitations and offering recommendations for future researches.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature-review of the current study. It inaugurates with the conceptual definition of the variables of the study; employee performance, knowledge management, knowledge management process, local governmental units/water service providers. Subsequently, it clarifies the variables' dimensions. At the end; this chapter introduces the basic theory for this study; "Knowledge creation" theory.

2.2 The Conceptual Definition of Employee Performance

Individual job performance is the tangible tasks undertaken by individuals, which directly contribute to the achievement of the organization's goals, (Campbell & Wiernik, 2015), while employee encompasses both efficiency and task completion within their role. Satisfactory performance indicates how effectively employees fulfill their job responsibilities. Service employees play a pivotal strategic role by converting the philosophy of customer direction into concrete outcomes. This is reached by enhancing the quality of the provided services through its processes (Lee et al., 2021; Moon et al., 2019; Salahat, 2021).

As indicated by Patwary et al. (2023): "different studies have explored the intersections of knowledge management and organizational performance, as mentioned by (Giampaoli et al., 2017). However, these researches concentrated on assessing organizational performance". The individual knowledge performance concept in the knowledge management field is relatively new. Until recently, there hasn't been a designated category to evaluate the

performance and productivity of individual knowledge workers, and other aspects like timeliness of workers, the quality of delivery, task efficiency and job autonomy. Other indicators for measuring the productivity of knowledge workers included innovation, contribution to problem-solving, creativity and stakeholders' satisfaction (Shujahat et al., 2019). "Therefore, knowledge management comprises the attainment, usage, retention and sharing of knowledge and experience to enhance organizational performance; similarly, knowledge management practices boost both employee performance and overall firm performance (Butt et al., 2022)",(Patwary et al., 2023).

Employee performance utilizes a mixture of procedures from Knowledge management practices give framework plan, for example, organized knowledge acquisition methodologies from topic specialists (McGraw and Harrison-Briggs, 2019; Shami et al., 2021). To improve employee performance, the company must design a strategy to retain potential employees. One of them is the application of talent management and knowledge management (Banuari et al., 2021). Knowledge Management can lead to enhanced organizational performance as found by (Zaied et al., 2012), By practicing knowledge management actions like knowledge creation, sharing and application in a competitive setting, organizations can improve employee performance in an extensive context (Alom et al., 2019; Patwary et al., 2023). and thus, can contribute to practically enhance the employees' communication, cooperation, knowledge and experience sharing and retention through continuous knowledge application, and enhanced decision making as Knowledge, skills, and abilities are found to be significant decision criteria (Siengthai & Pila-Ngarm, 2016), as noticed, the aforementioned points include the problems identified earlier. In addition, high performance increases citizen confidence in government image and service (Yang & Holzer, 2006). According to Albloush

(2020), Stredwick (2005) emphasized that individual performance improvement and behavior is one of many solutions, towards providing basic services efficiently and reliably by municipalities to the citizens. Where citizens' satisfaction was identified as a problem in the WWD as well.

It is worth mentioning that numerous studies have also demonstrated that an organization's culture can impact how well its individuals perform (Bose & Emirates, 2018). To summarize what the researcher understood from the read literature, the employee performance is connected and related to the organization performance, it is a vital resource contributing to achieving the goals of the organization by doing the job well and in the desired quality.

In their study in the banking sector, Akram & Hilman (2018), explained that by applying their capabilities, skills and knowledge, employees play crucial role in achieving a competitive advantage for their organization. Hence, the activities of knowledge-based employees are significant for the organization to boost employee performance.

2.2.1 Importance of Employee Performance:

The study of human resources and employee performance in an organization has been directed in different directions, but the goal remains unchanged, namely the effectiveness of human resource management in achieving better employee performance. Most organizations are aware of the importance of employee performance, enhancing their performance, or finding ways that they can improve or enhance employee performance (Georgievska Cvetanovska, 2019).

Superior performance of the employees leads to superior performance of the company and vice versa (Alshahrani, 2021). Employee performance is critical for organizational survival

and success, and it carries the same importance for the employees and their career development as well as promotion and salary. Researchers believe that employee performance is the most important construct in the Human Resource Management (HRM) (Agyare et al., 2019).

In her study about employee performance in the public institutions Alshahrani (2021), reviewed several studies to capture the importance of employee performance and its relation to different aspects, she indicated the positive relations between employee performance and service delivery, management trust, resource allocation, transformational and self-leadership, innovation, and knowledge sharing.

2.2.2 Theories of Employee performance

Resource Based-View (RBV) theory deliberates establishing links between a firm's performance and its resources and capabilities (Ismail et al., 2014). On the other hand; (Herbert Simon (1955, 1956) claimed that intended rational behavior is behavior that operates with constraints. These constraints on choice involves the characteristics of humans as actors of information processing and problem solvers (Nonaka et al., 2006).

The resource-based view of the firm is less a theory of firm structure and behavior as an effort to explain and foresee why some firms can establish positions of sustainable competitive advantage and, in so doing, earn superior returns. The resource-based view observes the firm as a distinctive collection of unique resources and abilities considering the key task of management is to make best use of value by optimally deploying existing resources and capabilities, while also emerging the future organization's resource base (Grant, 1996). The firm employs individuals to use their knowledge resources. Grant

explained that knowledge-based view of the firm has implications for the decision making. issue concerns the linkage between decision rights and ownership. If the primary productive resource of the firm is knowledge, and if knowledge resides in individual employees, then it is employees who own the bulk of the firm's resources. Whilst physical and financial assets are only part of the organizational ownership rights, the decisions of the firm in relation to employees' knowledge are constrained. Knowledge assets remain resident within individual employees and cannot be readily transferred (Grant, 1996).

Through his study Grant (1996) argued that firms may be characterized both as product domains and knowledge domains where the human capital and knowledge resource of knowledge employees are vital for achieving innovative and sustained performance.

A study implemented by (Choi et al., 2008) -who referred to similar result for the studies of (Ebben et al.,2005, and Lewis, 2000)-, who suggested that internal organizational tensions (between tacit-oriented and explicit oriented strategies) are difficult to reconcile, leading to potential performance deficits.

"In the theory of performance, a model to explain the causal patterns of links between the professional performance and its determinants is presented by Campbell, McHenry and Wise (1990) and Campbell, McCloy, Oppler and Sager (1993). In the model of Campbell et al. (1993), it is supposed that the performance components as a function of three determinants: declarative knowledge, procedural knowledge and skills, and motivation. Declarative knowledge, according to the theory of performance, includes self-knowledge and knowledge about facts, goals, principles and rules" (Boset et al., 2017).

It is assumed to be a source of the absence of ambiguity which leads to job satisfaction (Yuliandi, 2014; Boset et al., 2017).

A core proposition of public service motivation (PSM) theory is that PSM is positively related to individual performance. Literature on human resource management (HRM) in the public sector draws attention to the important role of employees for the performance of organizations (Gould-Williams et al., 2013; van Loon et al., 2017).

2.2.3 Dimension of Employee Performance:

The present study will utilize two primary dimensions of employee performance; in-role performance and extra-role performance. The researcher selected these two dimensions as they have been frequently employed and endorsed by several scholars. Additionally, it has been established that the knowledge worker thrives in a well-established supportive contextual environment, considering the positive influence on his/her performance.

2.2.3.1 In-role performance (Task performance)

In-role performance refers to the proficiency with which an employee performs central job tasks (Campbell, 1990; Koopmans et al., 2014). It can be referred as the tasks or formal requirements that an employee is expected to meet, and which either directly or indirectly supports the organizational technical core (Wu et al., 2012; Salahat, 2017)

Task performance describes the core job responsibilities of an employee. It is also called "in-role prescribed behavior", and is reflected in specific work outputs and deliverables as well as their quality and quantity. It holds significance as it facilitates the generating of required job outputs and services to acquire and demonstrate the necessary technical skills, (Koopmans et al., 2011).

In governmental organizations, especially service providers, tasks will involve service delivery procedures, which have characteristics that differs from those of manufacture processes (products). Service delivery has to do with meeting or exceeding customers' expectations, which involves a complex web of dual perceptions, those of the managers and those of the customers (Luthans, 1988, 1995; Stajkovic & Luthans, 1997).

In the study of "Effect of Knowledge Management Activities and Dynamic Capabilities on Employee Performance in The Banking Sector: Empirical Evidence from Pakistan" by Akram & Hilman (2018), revealed that knowledge sharing has a notable positive impact on employee performance within Pakistani banks. This is for knowledge sharing fosters greater socialization, thereby improving employee's learning capability and knowledge. Furthermore, it fosters stronger social ties among the employees in the organization, consequently increasing their ability to execute their assigned tasks effectively.

2.2.3.2 Extra-role performance (contextual performance)

Extra-role performance can be defined as employee behaviors that underpin the organizational, psychological, and social setting in which the central job tasks are performed (Borman, 1993; Koopmans et al., 2014). Extra-role performance embraces volunteering to undertake activities that are not officially part of the job, as well as assisting and liaising with teammates in the organization to accomplish tasks (Borman & Motowidlo, 1997). Contextual activities are more likely to involve personality variables, they added. It captures the ability of employees to participate in actions that enhance the overall well-being of the organization is crucial. This part of job performance is observed as equally significant as task performance (Nini, 2019).

Extra-role (contextual performance) extends the formal job responsibilities and is often referred to as "discretionary extra-role behavior", contextual performance is exemplified by activities like coaching among coworkers, consolidation of social networks within an organization and welling for extra efforts for better achievements for the organization, (Koopmans et al., 2011).

Akram & Hilman (2018) study of "Effect of Knowledge management activities and dynamic capabilities on employee performance in the banking sector: empirical evidence from Pakistan" pointed out that: studies have produced sufficient evidence that learning, creating, sharing, applying and ability of an organization to rebuild assets heavily rely on knowledgeable, experienced and skilled employees. These factors eventually impact their performance (Augier and Teece, 2009; Ambrosini et al., 2009; Ambrosini and Bowman, 2009; Hsu and Wang, 2012; Teece, 2007; Akram & Hilman, 2018). Hence, there is a definite correlation between employee performance with KM activities and dynamic capacities.

2.3 The Conceptual Definition of Knowledge Management

Back in 1959, Peter Drucker was credited the first use of the term "knowledge worker" in his book The Landmarks of Tomorrow, where he specified knowledge workers as advanced workers who employ their theoretical, and analytical understanding utilizing their education and trainings, to develop products and services (Drucker, 1959).

(Thomas. et al., 2002) mentioned that Drucker insisted on the need to pay more attention to knowledge work and the people doing such work.

The recognition of knowledge as a valuable asset should be preserved and managed brings individuals and organizations to courageously embrace knowledge technology. Knowledge management has become increasingly important within science, business, and social communities as many organizations activates and aspects of science and social life are currently driven by knowledge. Recently, this managerial action has been known as KM. Consequently, Knowledge Management (KM) is rapidly emerging as a commercial imperative for numerous organizations and individuals, aiming to effectively manage and preserve their accumulated knowledge for future accessibility and reusability. Actually, KM has evolved into a standard function within business organizations (Paez-Logreira et al., 2016; Zaim, 2016; Zaim et al., 2018).

According to Grant; Knowledge can be abstracted in two main types; tacit knowledge and explicit knowledge. He explained how the knowledge-based view of HRM is an amendment of the knowledge-based view, he indicated that: The knowledge-based view of HRM, a relatively recent extension of knowledge-based view of the firm theory, recognizes the human capital factors and knowledge resource of knowledge workers as critical components for achieving sustainable innovation performance. (Grant, 1996; Zack et al., 2009; Sergeeva and Andreeva, 2016; Razzaq et al., 2019). In their study, García-Holgado et al. (2015) reviewed different scholars for Staab, Studer, Schnurr and Sure, and specified that a four steps of knowledge practices includes capture (creation), retention, access, and application (use). Though, Holgado referred to a study by (Ward & Aurum, 2004), who suggested a seven-stage model: knowledge identification, knowledge adaptation, knowledge creation, knowledge acquisition, knowledge organization (codification), knowledge sharing and knowledge utilization (application).

Knowledge can be addressed from two different perspectives, the first perspective is more people-oriented as it focuses on people and organizations and the associated working and communication processes, The second perspective places the emphasize on the information technologies on an operational level as enabling technologies to provide the knowledge somebody needs to perform a specific task as efficiently as possible (Rollett, 2003).

2.3.1 Importance of Knowledge Management:

Knowledge management is defined as the systematic planning, organizing, motivating, and controlling of people, processes, and systems within an organization, with the goal of enhancing and effectively utilizing its knowledge-related assets (García-Holgado et al., 2015). Alternatively, Knowledge management is a range of strategies, activities and initiatives employed by organizations to generate, apply, store, and share the knowledge to enhance the performance of organizations (Govareshki et al., 2017; Salahat, 2021), It encompasses an organization's external and internal performance metrics, such as brand reputation, customer satisfaction, stakeholder policies, loyalty strategies, and employee engagement and retention (Demir et al., 2021; Salahat, 2021). Knowledge Management is an amazing, multidisciplinary, and controversial idea. It empowers the current individual knowledge to be caught and changed into hierarchical information, then diffused and shared by numerous workers. Learning Management is likewise the administration of organization's knowledge that can improve many highlights of hierarchical execution in order to be increasingly "canny acting" (Gupta, et al., 2012; Shami et al., 2021).

In addition to the knowledge saved in organizations in soft and hardcopies (electronic and printed documents), organizations have the knowledge residing in employee's minds and

embedded in the organizational processes. "Currently, knowledge management is one of the biggest challenges for any kind of organization", (García-Holgado et al., 2015).

Overall, these definitions highlight the importance of knowledge management in creating value and achieving organizational goals and emphasize the need for processes and practices that support the creation, sharing, and effective use of knowledge. KM is of vital significance as the knowledge retention process supports the organization in preserving the institutional memory of departing staff and transferring it to fresh staff members (Cong & Pandya, 2003). If those who possess powerful resources exit the institution, they erode the institutional knowledge built over a period of years. This results to the suffering of knowledge attrition in an organization which is characterized by loss of skills, experience, institutional memory and mentally built strategy (Levallet & Chan, 2019). Knowledge also plays an important role in preparing qualified human resources and competitiveness. Given the intense competition of today's global, the company should be able to create human resources that have a lot of knowledge to push the performance of employees to achieve company goals. By applying knowledge management, a company can perform a variety of innovations and renewal that continues to grow (Banuari et al., 2021). Also, Ibidunni (2020) referred to Campbell's model, (1990), and explained that the integration of organizational dynamic capabilities with organizational knowledge has the potential to improve organizational performance by integrating the firm's internal and external contexts (Curado, 2006; Ibidunni, 2020).

2.3.2 Theories of Knowledge Management:

Humans and information, as main elements of the organization's resources, have a direct relation with work performance. A significant shift in organization theory and management

took place focusing on the information processing within organizations, decision-making, adaptability and specifically, the interface between decision-making and organizational design (March and Simon 1958; Galbraith 1973; March and Olsen 1976; Simon 1991; Nonaka et al., 2006).

In this context, knowledge integrally contains human morals and ideals, organization theory analyzes the internal structure of the organization and the relationships between its constituent units and departments, (Nonaka & Toyama, 2005).

According to Bandura's Social Cognitive Theory (SCT), individuals learn from observing others and from the outcomes of their own actions. Positive organizational behavior regards self-efficacy as a state-like construct that has significant effects on employees' work-related attitudes and behaviors (Luthans & Avolio, 2009; Luthans & Youssef, 2007; Ozyilmaz et al., 2017). SCT is a theory that posits learning occurs using mental information processing to acquire knowledge and form cognitive structures in memory (Schunk, 2012; Flores, 2018). The model that holds human functioning is a product of the interaction of behavioral, cognitive, and other personal characteristics, and the environment as an expression of the triadic reciprocal model, and which is defined by the basic capabilities of "symbolism, forethought, vicarious learning, self-regulation, and self-reflection" (Bandura, 1986; Flores, 2018) operating in a social environment.

Bandura (1977) posited retention entails cognitively organizing information, rehearsing it, coding the information, and transferring it for memory storage either in image or verbal forms, or a combination thereof. Symbolic representation using generative conceptions plays a role, Flores explained.

In the context of knowledge creation and employee performance, we can say that this theory suggests that employees who actively participate in knowledge creation processes (such as collaborative problem-solving or sharing best practices) observe the outcomes of their actions, leading to enhanced performance through learning and skill development.

Another theory concerning the knowledge and performance is the Knowledge-Based View of the Firm: Knowledge has emerged as the most valued intangible asset, transforming into a source competitive advantage for organizations, because the evolvement of knowledge management replaced the concepts of assets management. This shift represents a transition of the model from RBV to KBV, from resource-based competitiveness to knowledge-based competitiveness, (Novianti, 2019). In his study "Achieving Competitive Advantage through Knowledge Management Practices: Knowledge-Based View (KBV) Strategy on Indonesia Electricity Sector", Novianti concluded that Knowledge-Based View knowledge management practices in achieving competitive advantage is based on three practices of knowledge management which is people, process and technology. Concerning knowledge sharing, knowledge creatin and knowledge storing. The knowledge-based view emphasizes the importance of knowledge transfer between individuals, internal and external organizations in order to gain competitive advantage (Novianti, 2019).

2.3.3 Dimensions of Knowledge Management (Processes/ Practices of the present study):

The processes of Knowledge Management are inherently complex, often involving a combination of technological, human, and technical procedures. Moreover, these processes can differ remarkably based on the lifecycle of knowledge management in an organization.

The knowledge management processes can be wrapped out in four main processes: knowledge creation, knowledge sharing, knowledge codification and knowledge application. Zaim et al. (2019) referred to Garrick and Chan (2017), in the debate that the transfer of tacit knowledge is challenging, despite its critical importance to employee's performance (know-how) and for verifying the knowledge usage value in KM. Zaim also referred to the study of SotoAcosta (2016), who explained that the existence and success of organizations hinge on interrelations and efforts of individuals as they possess the abilities, and skills to create knowledge for renovating different ideas into innovations.

The study of "The effects of knowledge management processes on human resource management: Mediating role of knowledge utilization" by (Zaim, Muhammed, et al., 2018), who examine the effect of KM processes on the HRM performance considering employee performance of a firm, disclosed findings that firms with improved KM processes have better employee and HRM performance. The finding of the study reveals positive effect of knowledge management on employees and HRM practices which is constant with the standing literature.

Similarly, Razzaq et al. (2019), in his study entitled: "Knowledge management, organizational commitment and knowledge-worker performance: The neglected role of knowledge management in the public sector", found that there is a positive significant relation between knowledge management processes and knowledge-worker performance. These findings are in consistent with Mustapa and Mahmood's (2016) findings in his study on knowledge management processes and employee performance in the Malaysian public sector, Razzaq added. The findings make sense, as knowledge employee task managing and relative performance needs the utilization of experience and knowledge resources as inputs of

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knowledge management processes. Knowledge workers' task offer chances for knowledge employment as input to improve the task improvisation and extra performance (Nisula and Kianto, 2016; Razzaq et al., 2019).

Another finding of a study by, (Patwary et al., 2023), confirmed that knowledge management processe exert a positive and significantly impact on employee performance. Employees attain this performance level through the mediating influence of organizational commitment and a culture focused on capacity building. The study title is "Examining employee performance through knowledge management practices, organizational commitment and capacity building in the Malaysian hotel industry"

Equally, Asiimwe & Barigayomwe (2024) found in their study titled "Knowledge Management Practices and Employee Performance at DFCU Bank in Uganda" that there exists a positive relationship between knowledge management processes and employee performance. Precisely, those reported higher levels of utilizing knowledge management processes also reported higher levels of employee performance.

An opposite result was presented by (Darroch, 2005), who found in her study that there isn't enough evidence to support the claim that organizations with developed knowledge management processes and attitudes will perform better. Whilst she found that having access to knowledge facilitates decision-making, and that contributions to innovating performance are enhanced by efficient knowledge management.

The study titled "Analysis and Improvement of Knowledge Management Processes in Organizations Using the Business Process Model Notation" was conducted by (García-Holgado et al., 2015), concluded that: knowledge management stands out as one of the most important success components for all organizations types, whether they are SMEs, major

business or governmental (public) institutes. Knowledge includes both printed and electronic documents, and people, procedures and supportive technologies

Below are the four knowledge management processes considered for this study:

2.3.3.1 knowledge creation and acquisition

Knowledge management (KM) is a systematic process utilized by organizations and individuals to locate, store, retrieve, share, adapt and use knowledge to develop and foster the organizational objectives. Knowledge is recognized as a power for organizations, and people have constantly been recording, storing and sharing it throughout the history of humankind (Karamitri et al., 2017).

Nonaka et al. (2000) expressed that knowledge is created in organizations by the interactions between explicit and tacit knowledge. This process is termed `knowledge conversion'. By applying this conversion processes both the quality and quantity of tacit and explicit knowledge is expanded. Nonaka and Takeuchi suggested four modes of knowledge conversion as follows: **(1) socialization** (from tacit knowledge to tacit knowledge); **(2) externalization** (from tacit knowledge to explicit knowledge); **(3) combination** (from explicit knowledge to explicit knowledge); and **(4) internalization** (from explicit knowledge to tacit knowledge). The afore mentioned SECI modes explore knowledge creation through conversion between tacit and explicit knowledge.

More specifically; **Socialization** concerns converting new tacit knowledge like shared experience, technical abilities, and common mental models; **Externalization**: In which the tacit knowledge is transformed into explicit perceptions, it is clearly realized in conceptualization process of and created by discussion or collective reflection; **Combination**

converts explicit knowledge into more systematic sets; and **Internalization** incorporates the tacit knowledge into explicit knowledge, where explicit knowledge is able to be internalized in individuals' implicit (tacit) knowledge. Fig. 1 shows these four modes of knowledge conversion (Nonaka et al., 2000).
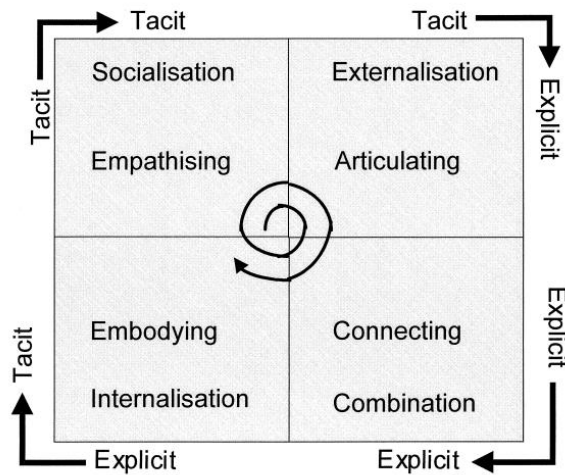
1Figure 1: The SECI process

source: Ba and Leadership (Nonaka et al, 2000)

In a recent publication, Nonaka & Toyama (2005) suggested that knowledge is produced by combing the ideas and behaviors of employees networking with each other inside and outside the organization. Where a comprehensive framework to capture dynamic knowledge creation processes through the interaction of subjective and objectives to create and become molded in the organizational environment, The process includes different issues and factors like values, context and power.

In their study, Choi & Lee (2002), focused on knowledge creation in isolation because it is a critical competitive tool in the modern global market; If knowledge isn't continuously created, businesses will eventually become obsolete.

Finally, it's worth mentioning that knowledge creation is critical to an organization, which needs an intelligent leader for its success. Today, business leaders have to be innovative to capture the collective wisdom of their employees, customers, and shareholders, (Parent et al., 2000). In addition, attention must be given to the leadership style and practices when applying knowledge creation. As it is context dependent and requires specific organizational leadership (Nonaka & von Krogh, 2009).

A study by Darroch (2005) entitled "Knowledge management, innovation and firm performance", argued that its findings support the interpretation that responsive organizations will benefit more than less responsive, as they get more from their resources. Darroch indicated that employees' performance is impacted by knowledge acquisition, yet this link is mediated by responsiveness to knowledge. Considering indirectly statistically significant effects, only partial impact is imposed by knowledge acquisition on performance.

"Relationship between knowledge management processes and performance: critical role of knowledge utilization in organizations" is a study by (Zaim et al., 2018), who explored the linkages and concluded that knowledge creation and knowledge sharing can be seen as fundamental organizational activities as they increase knowledge capability in the organization, which their utilization can better improve the performance, Zaim, Muhammed, et al. (2018) indicated that: (this matches with previous study proposing the importance of knowledge creation and sharing for organizations (Bock et al., 2005; Muhammed et al., 2011; Nonaka, 1994; Von Krogh, 1998; Yang & Chen, 2007; Zaim et al., 2018). Knowledge creation and sharing is necessary in order to capture and use it, although knowledge creation theory claims that the relationship between performance and knowledge is not that instinctive or obvious. (Kalling, 2003; Zaim et al., 2018).

2.3.3.2 Knowledge sharing (transferring):

Knowledge transfer is defined as indirect educating, which involves indirect learning from others experience, (Major & Cordey-Hayes, 2000; Argote & Fahrenkopf, 2016). It concerns the employee's readiness in an organization to share their acquired or created knowledge with others. (Gibbert and Krause 2002, Rutten et al., 2016). By sharing-transferring knowledge, individual knowledge is transformed into organizational and contributes to improved performances of a company, (Radosavljević, 2022). It is about exchanging critical information, weather of explicit information (documented) or tacit information (through experienced employees) across the workforce, to maximize the organizational impact. Argote & Fahrenkopf (2016), highlighted that a key strategy to improve the target unit's performance is through Knowledge transferring.

Knowledge sharing/transferring is perceived to be the most essential processes for knowledge management, (Bock & Kim, 2002), Knowledge sharing is important because it enables spread of knowledge as organizational collective manner (Grant, 1996; Argote and Ingram, 2000; Henttonen et al., 2016).

In their study, "Knowledge management in public organization" Sayed Ikhsan and Rowland indicated that Knowledge sharing depends on several organization elements including organizational culture, organizational structure, technology, people/human resources and political directives. Where these elements are crucial to consider for a positive relation towards employees' knowledge sharing and performance (Syed-Ikhsan & Rowland, 2004).

Another study by (Argote & Fahrenkopf, 2016) entitled "Knowledge transfer in organizations: The roles of members, tasks, tools, and networks", referred to Argote and Ingram (2000) who argued that there is sufficient proof for positive impact of knowledge

transfer on recipient units' performance, making it a significant tool for improving performance. Additionally, they designed the idea that an organizations' knowledge sources could provide a competitive advantage by its configuration, which can enable and simplify internal knowledge transfer while restricting external transfer.

The afore mentioned study of Argote and Fahrenkopf, also referred to different studies which indicated that the networks' coherence for internal and external compatibility both improve employee and organizational performance. For instance, the tasks and responsibilities assignment to the employees with most experience and qualifications, can improve the internal coherence of the employee's network task which would boost organizational performance. The individuals -task network and employee-employee network are consistent when employees ask for advice from those who have the greatest task expert. They similarly referred to other researchers who investigated which enhance performance: task homogeneity or task heterogeneity. Where Task heterogeneity may enhance performance through the process of transferring knowledge, in which performing skills from one task are transferred to another. According to different researches' findings, organizations can gain more knowledge from varied heterogeneous work experience than from identical ones (Haunschild & Sullivan, 2002; Schilling, Vidal, Ployhart, & Marangoni, 2003; Wiersma, 2007; Argote & Fahrenkopf, 2016).

2.3.3.3 knowledge codification (storing):

knowledge codification or storing comprises both digital or printed documentation, and maintain personal and organizational knowledge in manners that allow retrieval accessible for information. Storing process of knowledge storing operates technical arrangements such

as modern data software and hardware along with human procedures, that are used to recognize the available knowledge within an organization, codify it, and eventually index it for future (Gholami, Nazari, Nazari-Shirkouhi, & Noruzy, 2013; Kazeroony et al., 2019). The integration of different technical infrastructure consisting of database, computers, software and networks will absolutely facilitate and accelerate the storage and recovery of knowledge (Armstrong, 2006; Karadsheh, Mansour, Alhawari, Azar, & El-Bathy, 2009; Mavodza &Ngulube, 2011; Nonika &Takeuchi, 1995; Kazeroony et al., 2019). It can be represented in mathematical, grammatical, digital, and symbolic codes, and involves the creation of conceptual categories that facilitate the classification of several variable (Semertzaki, 2011).

When codifying the information, individual memory revealed in a unique shape of skills, abilities, and experiences essential to carry out tasks in the organization. On the level of organization, memory is fixed in the organizational routines, documents, repositories, organizational routines, practices, culture and procedures (Camisón and Villar-López, 2011; Adobor et al., 2019).

It can be argued that initiatives for the codification of KM should be encouraged to manage, track, and promote the creation of intangible assets. This codification is intended to increase the company's value, its ability to create a competitive edge, and its potential to remain competitive for the foreseeable future (Mugabe, 2017). Mugabe used Dalkir (2005) definition of "codification" as valuable knowledge translated into an explicit form, often referred to as "codification of knowledge", he also referred to Hansen, Nohria, and Tierney (1999) who highlighted two broad strategies in companies; personalization and codification. The essence of codification is the "individual to document" style, where knowledge is extracted from the

employee who formed it, made a separate from that employee, and then applied to different contexts or bases. It can thus be argued that there is a greater chance of knowledge being accessed if codification is done properly and is well-structured. The personalization and codification outcomes contribute to the complete cycle of knowledge creation, transfer, storage, and application. It can be argued that the idea behind the workgroup alignment is to avoid knowledge loss. This is supported by codification, which contributes immensely towards exploiting that knowledge (Mugabe, 2017). And thus, it can be utilized for better employee performance.

Codification is important to reserve the data collected in the organization through knowledge retention, In his study, "Knowledge Retention Within Small and Medium sized Enterprises" (Ramona & Alexandra, 2019) recommended that No matter what strategy the company chooses to use, it is very important to have knowledge-keeping methods implemented from the first contact that the employee has with the organization, so that, the company management not to be in a risky situation the moment one or more employees decide to leave. And recognizing key data under the risk of being lost, which prioritizes the knowledge and the impact on the global organization performance, subsequently developing feasible plans for preserving the respective knowledge.

On the other hand, the study entitled "Achieving Performance Excellence in Organizations: The Role of Knowledge Management in Quality Management Practices" by (Akdere, 2009), who debated that although technologies inarguably will contribute to the enhancement of organizational ability and the increase of organizational capacity to generate and catalog information, they will not necessarily contribute to knowledge creation and formulation in the organization. Hence the human aspect of the organization must be taken into greater

account when considering how knowledge management can potentially improve organizational performance.

2.3.3.4 knowledge application:

KA is the critical part of the KM process. It is at this stage that the value of knowledge is manifested (Rudezˇ, 2010; Boateng & Agyemang, 2015). Knowledge application denotes using knowledge and information to resolve complications, make decisions, and perform job tasks efficiently (Yang et al., 2021; Alshammary & Ali, 2024). Knowledge application leads to improved productivity, higher quality work, and better outcomes for the organization. Employees who apply knowledge about a customer's needs and preferences can provide better service and increase consumer gratification (Cavaliere et al., 2021; Tien et al., 2021; Alshammary & Ali, 2024).

In other studies, Knowledge application refers to an organization's timely response to technological change by utilizing the knowledge and technology generated into new products and processes. IT has a clear, positive association with the level of knowledge application (Song et al., 2005).

Organizations apply knowledge management to increase their employee performance by creating, sharing and applying knowledge in a variety of contexts within a competitive setting (Alom et al., 2019; Patwary et al., 2023). Through knowledge application, a productive utilizing of information is applied by the ability to transform information into decisions and activities (Pandey and Dutta, 2013; Turulja & Bajgorić, 2020), Therefore knowledge can only add value and contribute to organizations when used in place.

Knowledge application meets its primary objective by integrating knowledge from both inhouse and outsources to support the objectives of the organizational (Shin, Holden, & Schmidt, 2001; Ode & Ayavoo, 2020). Prior researches indicates that knowledge application is a critical factor for the success in developing products and a major enabler for performance and innovation (Hamdoun et al., 2018, Mardani et al., 2018; Ode & Ayavoo, 2020).

 Knowledge retention is important for knowledge application, considering that the Key issue, no matter what strategies or approaches an organization uses, is to embed knowledge retention activities within the daily working lives of the employees from the first day the employee arrives to the organization. In this manner, the organization will not be hit by surprise when the individual decides to leave the organization. More important the organization will be building its own "knowledge base" so that people can easily share, apply, learn, and create knowledge from accessing each other's corpus of knowledge, (Liebowitz, 2008). Therefore, the retained knowledge, can be utilized and applied to help workers to perform their tasks as well as can help in decision making (Banuari et al., 2021).

Every company needs to realize that the knowledge of which is owned in a company should be utilized review effectively and efficiently. The company continues to perform the development of employee competencies through the implementation of various workshops to hone soft skills and hard skills (Banuari et al., 2021).

Understanding and leveraging knowledge creation processes allows for the effective utilization and applying of knowledge assets and contributes to individual and collective growth and development. Song et al. (2005), in the study entitled "Determinants of the Level of Knowledge Application: A Knowledge-Based and Information-Processing Perspective" found a clear, positive association with knowledge application, thus offering valuable insight

into the importance of designing IT explicitly to improve the level of knowledge application in an organization leady to improved performance.

Similarly, Asiimwe & Barigayomwe, (2024) study findings about KM practices and EP propose that organization can supervise and monitor its knowledge assets and major activities by applying knowledge management processes. Consequently, the organization is enabled to enhance employees' performance on the long-term, by creating and using knowledge.

This finding is consistent with (Adeinat & Abdulfatah, 2019) results in the context of universities. Their findings states that the culture of the organization places a strong emphasis on knowledge creation, which afterwards, shared and applied by members of faculty. Finally; managers should eliminate any obstacles to the creation and sharing of knowledge, and encourage networking and cooperation for the aim of applying knowledge to attain greater performance and results (Abualoush et al., 2018).

2.3.4 Knowledge Management in action:

By reviewing several literatures in related studies, the opinions indicated that knowledge management cannot be an effective tool unless it is applied successfully. In 2007, the United Nations published a study that examined how institutions successfully applied knowledge management systems, it was founded that the institutions included in that study adopted different knowledge management solutions in order to build, develop and disseminate knowledge. In addition, (Razzaq et al., 2019), referred to (Riege & Lindsay, 2006) in his debate that universally, governments have initiated to use the strategic knowledge management as the primary chief instrument for developing and implementing strategies in

public sector entities and public policy. They also referred to (Drucker, 1999) who said that the majority of work in the twenty first century is knowledge work, which comprises using knowledge as an input to produce an output that is based on cognitive experience. Organization in the twenty-first century hire knowledge workers who utilize their knowledge as input to produce knowledge-based cognitive output through the process of knowledge work performance. (Wright, 2005; Razzaq et al., 2019). Consequently, it has been argued in literature that knowledge-employee performance is essential to achieve successfully functions and performance in organizations (Razzaq et al., 2019).

2.4 The study underpinning Theory:

In reference to the study variables, different theories are introduced in this chapter. Different scholars investigated the relationship between KM and employee performance.

The current study has a major contribution placed on the fact that few and restricted researches have been executed to investigate the KM processes implemented and utilized in the LGUs considering their role as service providers in their localities in Palestine, and its impact on the employees' performance. The knowledge creation theory has been used in this study as the primary "Underpinning Theory"; more explanation on KC theory is provided in the next section.

Epistemology and knowledge conversion are the two main components of organizational knowledge creation theory. The theory of knowledge creation was launched through deductions constructed on the organization and management theory.

In his study, Salahat (2021) highlighted that: (Nonaka and Knonno, 1998) indicated in their study that "Based on an existentialist framework, in which the key platform for knowledge

creation is a 'phenomenal' space, it was developed further in the organizational knowledge creation theory. A review of literature indicated that knowledge-based view theory explains the relationship between extra-role performance and knowledge management (Obeidat & Tarhini, 2016; Razzaq et al., 2019). The knowledge-based view theory stated that knowledge management and its processes strength individual to become more capable and productive, which eventually improves their tasks and contextual performance (Alshaibani & Bakir, 2017). Since knowledge management employees have a more positive attitude toward their work duties, knowledge management plays a crucial role in boosting employee efficiency in service delivery and decision making (Mustapa & Mahmood, 2016; Salahat, 2021).

The goal of knowledge creation theory in organizations extends the explanation of the nature of knowledge properties to improve both employee and organizational achievement, by providing a complement to employees' representations (Nonaka & von Krogh, 2009). Where knowledge conversion is not only individual but also a social process (Nonaka & Takeuchi 1995; Nonaka & von Krogh, 2009). The knowledge-based view theory and the dynamic capabilities theory are complementary for the knowledge creation theory, where organizational creativity, transformation and innovation are seen as main aspects of KCT. This is generally known as the "social practice view" in the social sciences based on Schatzki et al. ,2001 term of "practice turn". scholars analyzed available close-knit groups functioning in organizations that have socially stable contexts, which enable employees to gain tacit knowledge by practicing socialization, Nonaka & von Krogh, (2009) added.

Organizational Learning Theory emphasizes the importance of knowledge creation and sharing within organizations for continuous improvement and adaptation. Studies based on this theory have found that organizations with strong knowledge creation processes tend to

have higher levels of employee performance due to improved problem-solving capabilities, innovation, and adaptability (Brix, J. 2017).

According to Cassiman & Veugelers (2006), who referred to Choi and other authors conclusion that KM sources revealed non-critical symmetric complementarity, that integrating external with internal knowledge source increased the probability of obtaining a higher level of organizational performance. Which is consistent to the results from several empirical studies investigating complementarity between internal and external sources in research and development conducted by Cassiman and veugelers. Therefore, its crucial to take care of KM, to utilize the organization resources toward enhanced performance.

Accordingly, the knowledge creation theory is the most appropriate theory that links the knowledge management dimensions with the EP, as it involves the provision and magnifying knowledge generated by individuals, while also integrating and linking it into an organization's knowledge framework, utilizing knowledge from inner and outer sources.

2.4.1 Summary of theories

To summarize the theories referenced throughout the literature, the table below illustrates the theories linked to the research variables and dimensions. These theories' relationships with the KM and EP dimensions were reflected in the designed questionnaire, based on previous studies (as detailed in chapter three):

No.	Theory name	Description and relation to variable dimensions	Contribution to measured variables
1	The knowledge-based view of HRM	A relatively recent extension of Resource-based view of the firm theory, emphasized the human capital aspects and knowledge resource of knowledge workers critical for the innovation	extra-role performance and KM dimensions.

		performance sustainability. It explains the relationship between extra-role performance and knowledge management.	
2	Knowledge Creation Theory (KCT)	Involves the provision and magnifying knowledge generated by individuals, while also integrating and linking it into an organization's knowledge framework The theory of knowledge creation was launched through deductions constructed on the organization and management theory.	KM dimensions
3	Resource Based-View (RBV)	Deliberates establishing links between a firm's performance and its resources and capabilities	EP
4	Theory of performance	a model to explain the causal patterns of links between the professional performance and its determinants.	EP
5	Social Cognitive Theory (SCT)	According to Bandura's SCT, individuals learn from observing others and from the outcomes of their own actions. SCT is a theory that posits learning occurs using mental information processing to acquire knowledge and form cognitive structures in memory.	KM dimensions
6	Organizational Learning Theory	Emphasizes the importance of knowledge creation and sharing within organizations for continuous improvement and adaptation.	KM dimensions

2.5 Chapter Summary

Chapter two reported the study's literature review. Conceptual definitions of the two variables were presented first, including the explanation of the importance of the study's variables, followed by the dimensions and theories for both employee performance and KM processes, and their related theories. In addition, a view on having KM in place in the public

sector. Finally, the underpinning theory of the study was highlighted. Chapter three follows to illustrate the conceptual framework and the research methodology.

Chapter Three

Methodology

3.1Introduction

To link the conceptual framework with the empirical results, chapter three covers the study's conceptual framework, the development of hypotheses development, research design, population, sample size, sampling technique, data collection, variable measurements, variables data analysis methods, analysis tool, the statistical approaches to test the study hypotheses. The researcher depended on descriptive and inferential analysis to answer the research questions and hypotheses.

3.2 Conceptual Framework

This study comprises two variables. One independent variable (IV) is KM processes which consists of the following: knowledge creation, knowledge sharing (transferring), knowledge application, and knowledge codification (storing). And one dependent variable DV that is employee performance, which involves: In-role performance as the first dimension and extra-role performance as the second dimension. This purpose of this study is to look into and investigate the links of relationships between the independent and dependent variables. The study's conceptual framework is presented in Figure 3.0 below.

2Figure 3-0: The Conceptual Framework of the Study

Kowledge creation

KM

Kowledge application

Kowledge sharing

Kowledge codification

In- role performance

EP

Extra-role performance

Independent Variable (IV)

Dependent Variable (DV)
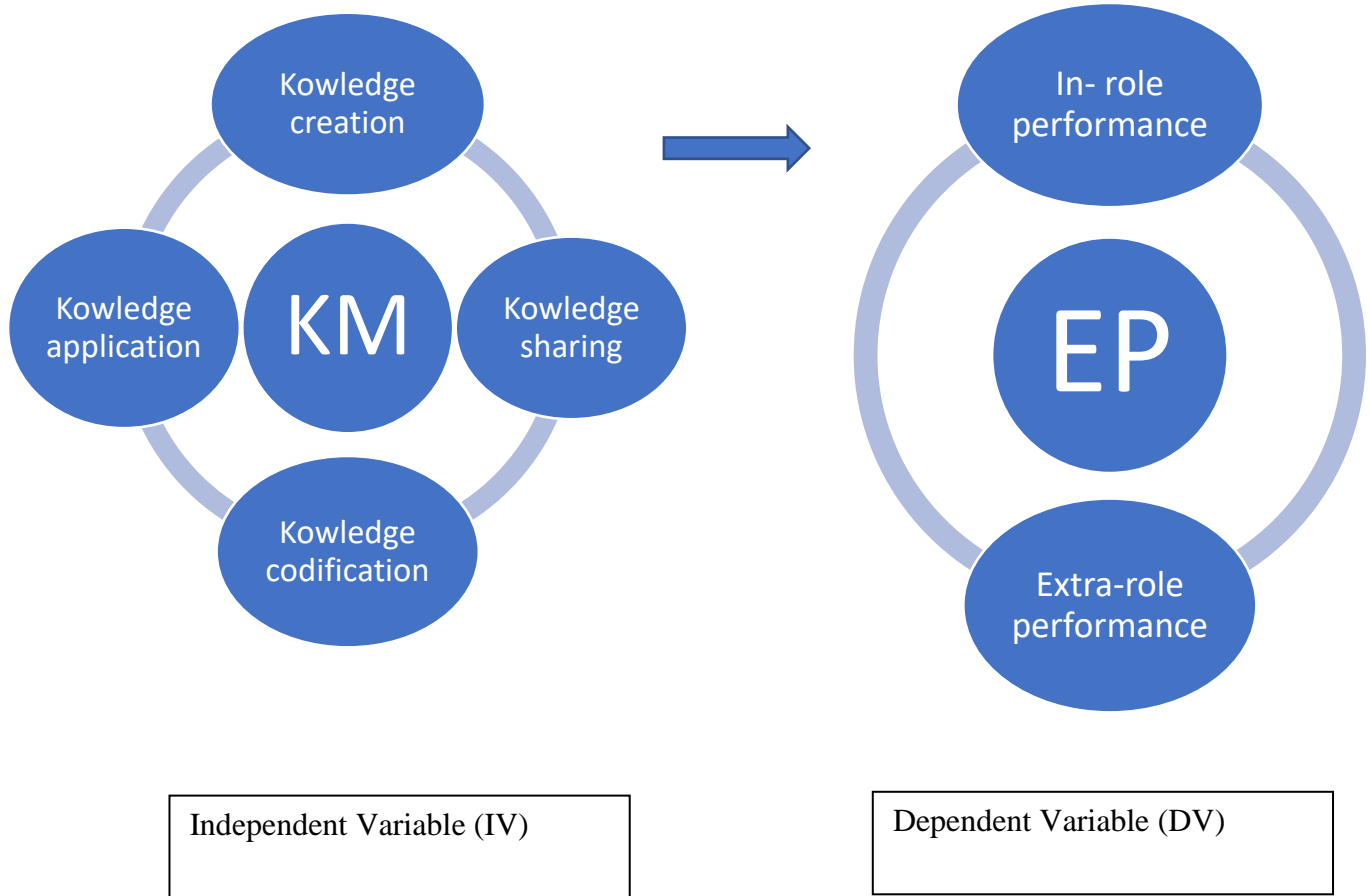
3.3 Relationships Between Variables & Hypotheses Development

Hypotheses are often specific predictions about what will happen in a particular study. They are developed by considering existing evidence and using reasoning to infer what will happen in the specific context of interest (Paul C. Price & R. S. J., 2017). A hypothesis is defined as a tested statement expressing a reasonably predicted correlation between two variables or more (Sekaran & Bougie, 2016).

The study is designed to examine the relationships between the KM processes and employee performance. As explained earlier, Knowledge is essential for the employee performance, which can be enhanced if knowledge practices are improved. Organizational performance (which includes employee performance) depends more and more on knowledge-driven activities. The effectiveness of organizations is positively and significantly impacted by KM processes (Valmohammadi and Ahmadi, 2015; Mehralian et al., 2018).

A study entitled "The effect of total quality management practices on employee performance: The moderating role of knowledge sharing", aimed to identify the effect of TQM practices on their dimensions on employee performance with the moderating share of knowledge. The study encountered a result indicated that TQM practices with its dimensions had effects on employee performance through knowledge sharing (Al- Saffar & Obeidat, 2020).

Mardani et al., (2018), examined in his study the quantitative relationship between knowledge management, performance and innovation. Which aimed to highlight the effects of Knowledge Management activities on the performance and innovation in an organization. According to their research model, there is a positive correlation between knowledge management and performance as well as between knowledge management and innovation, both of which boost the organizational performance.

To illustrate the relationships between KM processes, and employee performance, this study hypothesizes one main hypothesis and six sub-hypotheses; of which are outlined below, along with the proposed correlations between the Independent Variable (IV), the Dependent Variable (DV) and the dimensions of the study:

The main hypotheses:

H1: KM processes have a significant positive impact on employee performance in HM-WWD.

The sub-hypotheses:

H1a: knowledge creation processes have a significant positive impact on employee performance in HM-WWD.

H1b: knowledge sharing processes have a significant positive impact on employee performance in HM-WWD.

H1c: knowledge codification processes have a significant positive impact on employee performance in HM-WWD.

H1d: knowledge application processes have a significant positive impact on employee performance in HM-WWD.

H1e: KM processes have a significant positive impact on the In-role employee performance in HM-WWD.

H1f: KM processes have a significant positive impact on the extra-role employee performance in HM-WWD.

3.4 Research Design

The nature of the current study, its population, the sample size, the sampling technique, and the data collection procedure are all presented in this section.

3.4.1   Nature of the Study

The conceptual framework that guides the research is known as the research design, and it includes the following elements: 1- Designed outline, 2- Measurement and 3- Data Analysis. A specific approach should form the backbone of the research design. Following the subject and problem of the research has been selected and defined, the objectives have been appropriately specified, main ideas and concepts have been also defined, and the hypothesis was established, (Akhtar, 2016).

According to Williams (2011), Creswell (2002) noted that quantitative research is the process of collecting, analyzing, interpreting, and writing the results of a study, while qualitative research is the approach to data collection, analysis, and report writing differing from the traditional, quantitative approaches.

Among the two common types of research approaches of quantitative and qualitative, where quantitative research is popularly associated with the rational and objective, while qualitative research concerns itself with meaning and values (Ashley & Boyd, 2006). For the purpose of investigating the correlations between two or more variables, this study has employed a quantitative technique which is applicable to the current investigation into the relationships between employee performance, and KM processes.

Quantitative research is defined by Gerrish and Lacey (2010) as: 'the broad term used to denote research designs and methods that yield numerical data (Quick & Hall, 2015).

When deductive approach is utilized in a study, it enables the generalization of results by selecting a sample that represents population.

The current study is correlational in nature, considering its' goal to investigate the relationship between knowledge management processes and employee performance in the Palestinian Local Authorities, as water services providers, considering Water and Wastewater Department in Hebron Municipality.

Subsequently; to fulfill the primary goal of the study, that is to find out and understand how the knowledge management processes affect employee's performance, the quantitative study method will be applied to explain how the independent variables affect one another or to establish a relationship between variables by using a survey technique. For this study design, a self-administered, cross-sectional questionnaire was used as the data collection technique therefore, the study is based on the primary data.

3.4.2 Population, Sample & Sampling Technique

The section below details the study's population of the study, selected sample size and the sampling methodology employed.

3.4.2.1 Population

The population of a study is defined as a set of cases, determined, limited, and accessible, that will constitute the subjects for the selection of the sample, and must fulfill several characteristics and distinct criteria (Arias-Gómez et al., 2016). Thus, within the scope of this study, the target population comprises the employees in the WWD in Hebron Municipality,

the administrative and HR employees, and the municipal council members in Hebron Municipality, who are following and managing issues in the WWD.

According to the HR in Hebron Municipality, there are 223 employees directly related to the WWD main functions and operations. Whereas 149 employees are working in the WWD, and 74 employees are providing supporting and administrative functions in HM including the municipal councilors. Employees are distributed in 4 main departments, and 13 sections, Where the main departments and sections are listed in the table 3.0 below

1Table 3.0: Main departments and sections in the WWD.

No	Department	Section
1	Support services	procurement and bidding
		information technology
		Human Resources (HR)
		Finance
		Transport
2	Public Services	Collection services
		Citizen's services
3	Assets management	Project Implementation
		Planning and infrastructure
4	Operation and maintenance	Water Quality
		Electromechanical
		Wastewater
		Water

As referred in the above table, the study targets the employees in the aforementioned sections in addition to the supporting staff in the HM.

In fact, there are more employees who can be related to the WWD, yet they will not be included in the study population considering that guards, logistics, legal and media staff, are not related to the knowledge processes that affects the employee performance in the WWD. In the purpose of achieving the study objectives, only the employees who handle technical and administrative tasks, in the WWD or HM will be targeted

A total number of 223 employees represents the population of the study for the water and waste water services in Hebron.

3.4.2.2 Sample and sampling technique

The most efficient method for selecting a sample that accurately reflects the population is to calculate the sample size that is required to conduct the study. To compute and provide a more precise outcome regarding the sample size, the Stephen Thompson formula was used, equation 1 illustrates the basis to determine the sample size the through Stephen Thompson formula (Thompson, 2012).

$$n = \frac{N \times p(1 - p)}{[N - 1 \times (d^2 \div z^2)] + p(1 - p)} \qquad eq.(1)$$

Where n is the sample size, N represents the population size, p represents the probability value (0.50), d represents the desired margin of error (0.05), and z represents the z-score of significant level 95% (1.96). The Stephen Thompson formula shows that the efficient sample size representing the population in this study is 141 (see eq.2).

$$n = \frac{223 \times 0.5 (1 - 0.5)}{[223 - 1 \times (0.05^2 \div 1.96^2)] + 0.5 (1 - 0.5)} = 141.3 \qquad eq.(1)$$

Two distinct types of sampling procedures exist: non-probability sampling, in which the selection of population elements as sample subjects is not related with any probabilities (Sekaran & Bougie, 2016), and the sampling using probability method where the sample is chosen at random process, meaning that each member of the population has non-zero and known chance of being chosen (Kumar et al., 2013). We can apply probability sampling to the entire population that is being targeted. As a result, probability sampling was used in the current study with the goal to provide data with results that can be generalized to the population with a given degree of confidence. (Applying a systematic random selection method, this study, selected randomly one elementary unit, and then chose other units at every spaced interval until the required number of units was attained. Many scientific researches employ the technique of systematic random sampling, given that it ensures the statistical concept of equal probability is followed. When a list is provided and the study population is reasonably large (100 or more), this technique in sampling can be applied (Morillas et al., 2011; Omair, 2014; Salahat, 2017).

Considering the given context of the current study, the HR manager of HM provided a list of 223 employees who have direct tasks in or with the WWD. For employees from the different departments and divisions. Later, the researcher divided the 223 by 141, to get 1.58 as the interval for the sampling, (the number was estimated to be 1). Subsequently, 141 employees were chosen using an interval of 1, with number two being chosen at random to begin.

3.4.2.3 Instrument Construction and Data Collection

The development of the research questionnaire is bases itself on multiple prior investigations, which were dependent on the variable of their study. The survey was designed in English and translated into Arabic and organized into the following three key sections:

1- **Section One:** comprises inquiries about personal and demographic information like gender, age, and degree of education.

2- **Section Two:** contains the 27 items distributed in four variables (dimensions or factors) used to measure the knowledge management processes (KM)**.** Nine items were for knowledge creation processes (KCR), five items were used to measure knowledge application processes (KA), six and eight were used to measure knowledge codification processes (KCO) and knowledge sharing processes (KS) respectively. Every item has a response on a five-point Likert scale from 1 to 5, with 1 denoting "strongly disagree" and 5 denoting "strongly agree".

3- **Section Three:** part three contains the 24 items distributed in three variables (dimensions or factors) that were used to measure employee performance (EP). Nine items for In-role performance (IRP), and fifteen items were used to measure extra-role performance (ERP). All items have an answer on a five-point Likert scale ranging between 1-5, where 1 represents 'strongly disagree' and 5 represents 'strongly agree'.

3.5 Operational Definitions & Measurement of Variables

3.5.1 Measurement of Employee Performance

In this study, the dependent variable is employee performance. It includes two dimensions: in-role and extra-role performance. Each dimension is explained as follows:

Operationally, in-role performance is identified as "The behaviors recognized by the formal rewarding systems that are part of the job description requirements", (Tastan & Davoudi, 2015). In-role performance as the first DV dimension was operationalized as officially required behaviors and outcomes that serve the organizational goals in a direct way. The in-role performance was measured using nine items. On the other hand, extra-role performance was assessed using 15 items. The items of measurement of in-role performance are listed in table 3.1-A

2Table 3.1-A: Items of Measurement for In-Role Performance

No	In-role Performance Measurement Items
1	I fulfill the job objectives.
2	I meet criteria for performance.
3	I am proficient in tasks related to my job.
4	I meet my job's requirements.
5	I can manage more responsibility than typically assigned to me.
6	I appear suitable for a higher-level role.
7	I am competent in all areas of the job, handle tasks with proficiency
8	I perform well in the overall job by carrying out tasks as expected.
9	I plan and organizes to achieve objectives of the job and meet deadlines

Source: (Salahat, 2017)

Similarly, extra-role performance was operationally characterized as: employee discretionary actions or behaviors that are believed to immediately improve an organization's effective operations, needlessly affecting a persons' output (Salahat, 2017) this might be termed as "Organizational Citizenship Behaviors" (Tastan & Davoudi, 2015), The extra-role performance was measured using fifteen items. Table 3.1-B shows the extra-role performance measuring items.

3Table 3.1-B: Items of Measurement for Extra-Role Performance

	Extra-role Performance Measurement Items
1	I help other employees with their work when they are absent.
2	I exhibit punctuality arriving at work on time in the morning and after lunch
3	I voluntarily do tasks that are not officially required by my job.
4	I do not take undeserved work breaks
5	I take initiative to orient new employees to the department despite it is not part of
6	I exhibit above-average attendance at work, such as, taking less off days than that
7	I assist other colleagues as their workload grows.
8	I coast toward the end of the day.
9	I give advance notice if unable to come to work.
10	I do not spend a great deal of time in personal telephone conversations.
11	I am not into taking unneeded leaves from my job.
12	I assist my supervisor to accomplish his responsibilities.
13	I do not take extra breaks.
14	I attend functions that are not formally mandated by the business but contribute
15	I care for and interested in the development of the department

Source: (Salahat, 2017).

3.5.2 Measurement of knowledge Management processes

In his review for the operational definitions of Knowledge management practices, also known as knowledge management processes, Razzaq et al. (2019) referred to different researchers like (Kianto et al., 2016; Kianto, 2008; Andreeva and Kianto, 2011), who indicated that "Since the degree of aggregation of knowledge management practices varies,

there are no widely accepted definitions or components of knowledge management practices. The operational definition of processes that best characterizes knowledge management activities in the targeted data gathering sector and institutions is thus chosen by the research studies. The processes of knowledge creation, knowledge sharing, knowledge application and knowledge codification, are contained within in the operational definition of knowledge management procedures used in the present research. Razzaq indicated that Kianto et al. (2016) collected data from employees with knowledge in a municipal public sector of organization, using this operational concept to measure knowledge management techniques. Since knowledge management practices are thought to be the most significant aspect of knowledge management, the current research concentrated on them. (Andreeva and Kianto, 2011; Gold et al., 2001; Razzaq et al., 2019). The instrument's adaptation is in line with the findings of the study conducted by Kianto et al.'s (2016) concerning the knowledge management in the public sector literature, Razzaq mentioned

This study operationalized knowledge management processes as indicated in the research model, which knowledge, as table 3.1-C illustrates is composed of four dimensions: nine items for knowledge creation, five items for knowledge application, six item for knowledge codification/storing, and eight items for knowledge sharing, as illustrated in table 3.1-C: knowledge Management processes measurement items.

4Table 3.1-C: knowledge Management processes measurement items

Knowledge creation	
1.	The knowledge can be transferred through talk and narrative among the employees
2.	Experienced employees disclose implicit information to their colleagues

3.	the WWD continuously transfers the tacit knowledge to clear explicit knowledge.
4.	The employees can learn from each other by watching, imitating, and practicing.
5.	The employees have knowledge interaction with others to combine their knowledge with themselves
6.	Training programs are provided to continually enhance employees' knowledge and skills
7.	The employee receives continuous opportunities to gain knowledge from experiences
8.	The employees combine and categorize the existing information for producing new
9.	The work environment in the department is supportive for employees to obtain the
	Source: (Mehralian et al., 2018)
	Knowledge and application
1	New knowledge is used to modify work instructions and procedures
2	The department encourages employees to use knowledge, transform it into plans, and apply it at work
3	The Department constantly updates its existing information and knowledge
4	The department employs knowledge and lessons learned to solve problems in an integrated manner between different departments
5	The department adopts an updated system that includes transforming tacit knowledge from employees' experiences into written knowledge for application and benefit
	Source:(Ali & Saleh, 2021)
	Knowledge storing/codification
1	The department uses a classified database that is easy to compile and record, which includes everything related to water and Wastewater projects.
2	The WWD uses electronic codification to store knowledge for all information related to beneficiaries within Hebron Municipality water and wastewater services
3	Access to the database is accessible to the employee according to the level of his job title
4	The WWD documents the knowledge it possesses in forms of documents and bulletins
5	The WWD collects and records Feedback from customers for later use

6	Best practices from lessons learned are recorded.
	Source: (Ali & Saleh, 2021), & (García-Fernández, 2015)
	Knowledge sharing
1	The WWD uses official means of communication designed to communicate between
2	Knowledge is scattered around the organization
3	There is a desire among individuals to share their knowledge with other employees
4	The WWD possesses formal mechanisms ensuring that the best practices are shared
5	Collected Data is analyzed and transferred in a form of reports to the high management.
6	There are clear guidelines (in the form of a catalogue) for employees from which they can
7	Informal information is shared frequently and without obstacles within the firm
8	(Stored data is shared with employees
	Source: (García-Fernández, 2015)

3.6 Data Analysis Methods

The researcher examines the study's hypotheses and questions using both descriptive and inferential statistical tools in this investigation as illustrated below:

- **Descriptive statistics**

  The Statistical Package for Social Sciences (SPSS) version 23 was used for data analyses using descriptive analysis, which aimed to characterize the individualities and responses of the study sample.

  1. Frequencies and percentages were used to describe the characteristics of the study sample.

2. Means and standard deviations were used to describe the sample responses about the study variables. To interpret the sample response five main classes for easier response interpretation were used, the range of class was calculated by calculating the difference between the highest value (5) and lowest value (1) of the scale, then dividing the range by the number of categories required (5), so that the result becomes 0.80 (4/5=0.80), and thus continue to increase the value starting from the lowest value (1). Table 3.2 illustrates the distribution of the mean value into the agreement classes.

5 Table 3.2: Mean score interpretation

Mean score	Interpretation
1.00 – 1.79	Very low
1.80 – 2.59	Low
2.60 – 3.39	Moderate
3.40 – 4.19	High
4.20 – 5.00	Very high

- **Inferential statistics**

Data analyses were performed by using version 4 of the Smart-PLS (Ringle et al., 2012) through structural equation modeling (SEM), also simple and multiple regression analyses were used to answer the study hypothesis.

3.6.1 Structural Equation Modeling (SEM)

Due to the widespread use of first-generation data analysis techniques such as multiple regression analysis, researchers have begun to use second-generation data analysis to test

multivariate and complex models using structural equation modelling, which is more complex than first-generation data analysis.

There are two methods for using structural equation modelling: covariance-based structural equation modelling (CB-SEM) and partial least squares structural equation modelling (PLS-SEM). CB-SEM was used to support or reject the theories tested, whereas PLS-SEM is utilized to create a conceptual model for the investigation. CB-SEM requires different assumptions in the data set, including the normality distribution of the data, the number of indicators (items or observed variables) for constructs (factors or dimensions), and the sample size, whereas PLS-SEM deals with non-normal and small data sets (Hair Jr et al., 2013).

In this study, the distribution of study items is non-normal (see appendix 2), also this study aims to develop a conceptual model, so to evaluate the study model by SEM the PLS-SEM must be used. On the other hand, the sample size is 104 participants -(104 valid questionnaires for analysis)- and according to (Hair Jr et al., 2013) and (Comrey & Lee, 1992), the study sample is small, which confirms using a PLS-SEM.

Hair Jr et al. (2013) describes the PLS-SEM way as a path analysis that represents the study hypotheses and relationships among variables by a diagram containing two parts, the structural part (inner) that includes the relations between dependent (endogenous) and independent (exogenous) variables, while measurement (outer) models include the relationship between construct and their items, this construct represented with their indicators by reflective or formative models. If the reflective construct changes, then reflective indicators (items) change, while the formative indicators represent the indicators that if

58

changed, would lead to a change in the construct (Hair Jr et al., 2013; 2014), figure 3.1 displays the PLS-SEM measurement in formative and reflective kind and structural model.
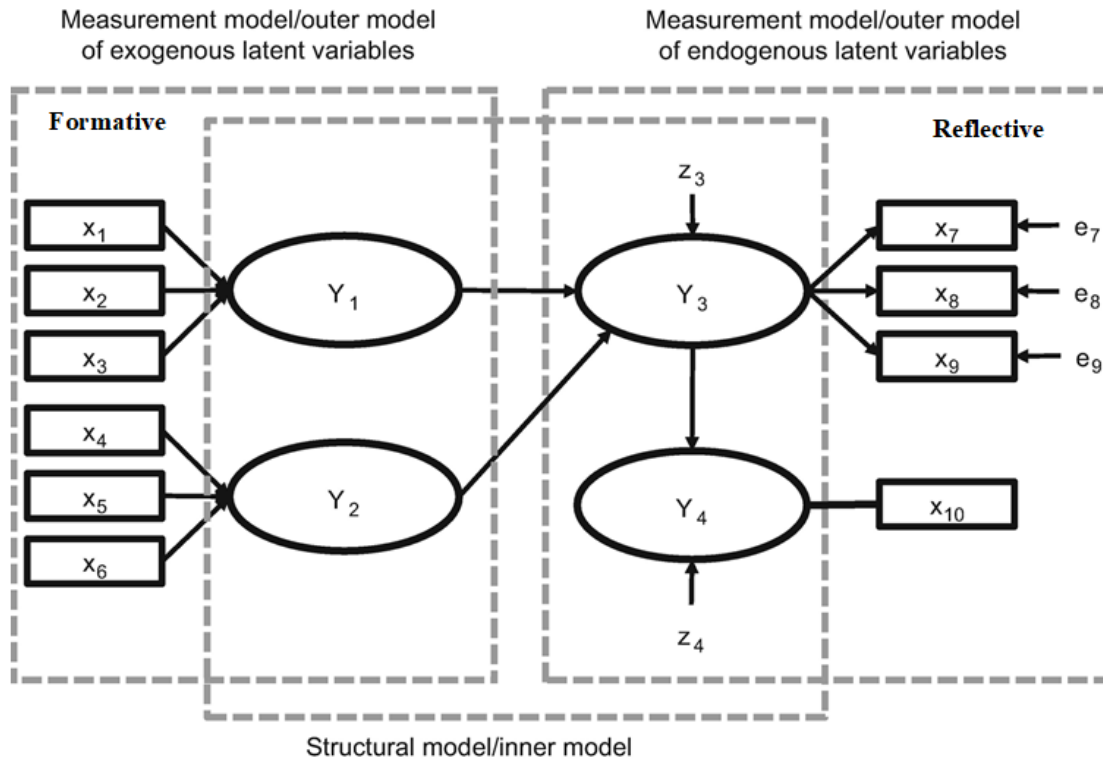
3Figure 3.1: Simple PLS-SEM; Adopt from

    Source:(Hair et al., 2022)**.**

The figure explains the constructs, also known as latent variables, are variables that cannot be measured directly. They are shown as circles or ovals in path models (Y1 to Y4). The variables that hold the raw data and are directly measured are known as indicators, items, or manifest variables. Rectangles (x1 to x10) are how path models depict them. Arrows are used to show relationships between the various constructs and their assigned indicators. The arrows in PLS-SEM are usually single-headed, signifying directional relationships. With substantial theoretical backing, single-headed arrows are regarded as predictive relationships and can be understood as causal links

According to the research hypotheses, the measurement model is reflective, since if any item is deleted from any construct (variable, factor, or dimension), This concept of the construct remains unchanged. Table 3.3 lists the first-order and second-order latent variables of the research model along with their constituent parts. There are six first-order and two second-order latent variables.

6Table 3.3: Study variables

Abbreviations	Constructs	# of indicators	Construct type
KCr	Knowledge creation	9	First-order
KA	Knowledge application	5	First-order
KCo	Knowledge codification	6	First-order
KS	Knowledge sharing	8	First-order
KM	**Knowledge management processes**	**28**	**Second-order**
IPR	In-role performance	9	First-order
EPR	Extra-role performance	15	First-order
EP	**Employee performance**	**24**	**Second-order**

Figure 3.2 represents the PLS-SEM of the study model containing the study items and constructs.
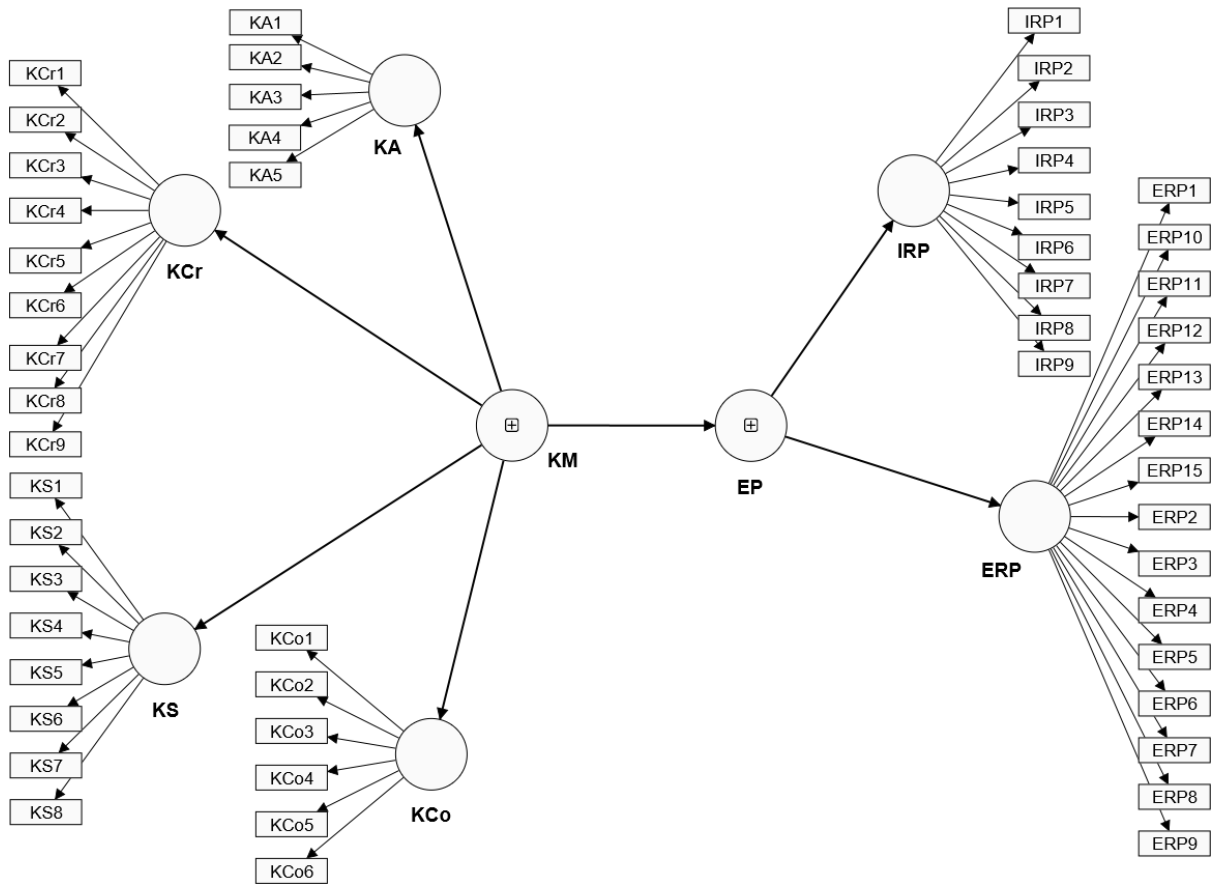
Figure 3.2 PLS-SEM of the study model

3.6.2 PLS-SEM Evaluation

To evaluate the study model, two steps of the analytical procedure were performed, measurement evaluation (validity and reliability of the measures evaluation) and structural model evaluation (study hypothesis evaluation).

3.6.2.1 Measurement Model Evaluation

There are three main stages to evaluate the measurement model: the assessment of internal consistency, convergent validity, and discriminant validity. Table 3.4 represents the measurement model evaluation criteria.

7Table 3.4: Measurement model evaluation criteria

Criteria	Cut off value
1. Internal consistency	
• Cronbach's α coefficient (CA) • Composite Reliability coefficient (CR)	It should be more than 0.70 (Hair Jr et al., 2017).
2. Convergent validity	
• Outer loading	It should be more than 0.50 (Hair Jr et al., 2017)
• Average Variance Extracted (AVE)	It should be more than 0.50 (Fornell & Larcker, 1981).
3. Discriminant validity	
• Cross Loading	Every outer loading of any indicator is the highest for its assigned construct contrasted with the others (Hair Jr et al., 2017).
• Fornell-Larcker criterion	The squared root of AVE for any construct should be greater than any correlation between it and any other construct (Fornell & Larcker, 1981)
• Heterotrait-monotrait ratio of correlations (HTMT)	It should be less than 0.90 Henseler et al. (2015).

3.6.2.2 Structural Model Evaluation

Hair et al. (2017) determined four tests for assessing the structural model of PLS-SEM, table

3.5 represents the structural model evaluation criteria.

8Table 3.5: Structural model evaluation criteria

Criteria	Cut off value
1. Collinearity test	The Variance Inflation Factors (VIF) of the construct should be below 5 (Hair Jr et al., 2017).
2. Coefficient of determination (R^2)	Cohen (1988) suggests that the R^2 value less than 0 is rejected, 0.02, 0.15, and 0.35 are often used as weak, moderate, and strong coefficients of determination respectively.
3. Predictive relevance (Q^2)	It should be greater than Zero (Henseler et al., 2009).

4. Effect size (f^2)	Cohen (1988) suggests that the f^2 value of 0.02, 0.15, and 0.35 are often used for a small effect, moderate effect, and high effect, respectively

3.6.3 PLS Regression Analysis

To answer the study sub-hypotheses Partial least squares regression (PLS regression) was used. However, PLS regression is different from conventional regression in that it uses principal component analysis to create composite factors from the various independent variables while creating the regression model. (Hair Jr et al., 2021). One independent variable's impact on one dependent variable was evaluated using simple PLS regression, whereas the effects of several independent variables on one dependent variable were evaluated using multiple PLS regression.

3.7 Reliability and Validity Evaluation

The first step of study model evaluation is the measurement model evaluation which aims to evaluate the validity and reliability of the study instrument. Three types of validity assessment were used: content validity, convergent validity, and discriminant validity, while internal consistency was used to assess the reliability.

3.7.1 Validity Evaluation

3.7.1.1 Content Validity

To ensure the content validity of the study instrument, it was presented to a group of professional arbitrators (see Appendix 1) with competence and experience. They were asked to state their opinions on the study instrument, and their comments and suggestions were

taken into consideration by the researcher (the study instrument in the final draft is displayed in Appendix 2).

3.7.1.2 Convergent Validity

"The extent to which a measure correlates positively with alternative measures of the same construct" is how Hair Jr et al. (2013) defined convergent validity. The measuring model's convergent validity was evaluated using both outer loading and Average Variance Extracted (AVE).

Outer Loading

The reliability of the outer loading or indicator's shows the relationship between the constructs and indicators (items) (Hair Jr et al., 2017). Table 3.6's result shows that all indicators' outer loadings ranged between 0.503 and 0.930, meaning that all of them are acceptable. (Hair Jr et al., 2017).

9Table 3.6: Outer loading of indicators

Constructs (factors) and indicators (items)		Outer loading
KCr	**Knowledge creation**	
KCr1	The knowledge can be transferred through talk and narrative among the employees	0.874
KCr2	Experienced employees disclose implicit information to their colleagues	0.871
KCr3	The WWD continuously transfers the tacit knowledge to clear explicit knowledge.	0.833
KCr4	The employees can learn from each other by watching, imitating, and	0.860

	practicing.	
KCr5	The employees have knowledge interaction with others to combine their knowledge with themselves	0.900
KCr6	Training programs are provided to continually enhance employees' knowledge and skills	0.886
KCR7	The employee receives continuous opportunities to gain knowledge from experiences outside the organization	0.919
KCr8	The employees combine and categorize the existing information for producing new knowledge	0.861
KCr9	The work environment in the department is supportive for employees to obtain the information necessary to perform tasks	0.769
KA	**Knowledge application**	
KA1	New knowledge is used to modify work instructions and procedures	0.724
KA2	The department encourages employees to use knowledge, transform it into plans, and apply it at work	0.893
KA3	The Department constantly updates its existing information and knowledge	0.778
KA4	The department employs knowledge and lessons learned to solve problems in an integrated manner between different departments	0.869
KA5	The department adopts an updated system that includes transforming tacit knowledge from employees' experiences into written knowledge for application and benefit	0.676
KCo	**Knowledge codification**	
KCo1	The department uses a classified database that is easy to compile and record,	0.819

	which includes everything related to water and Wastewater projects.	
KCo2	The WWD uses electronic codification to store knowledge for all information related to beneficiaries within Hebron Municipality water and waste water services	0.851
KCo3	Access to the database is accessible to the employee according to the level of his job title	0.841
KCo4	The department documents the knowledge it possesses in forms of documents and bulletins	0.656
KCo5	The WWD collects and records Feedback from customers for later use	0.799
KCo6	Best practices from lessons learned are recorded.	0.771
KS	**Knowledge sharing**	
KS1	The Water and Wastewater Department uses official means of communication designed to communicate between employees, such as e-mail and a special communication platform between different departments	0.780
KS2	Knowledge is scattered around the organization	0.745
KS3	There is a desire among individuals to share their knowledge with other employees	0.804
KS4	The WWD possesses formal mechanisms ensuring that the best practices are shared	0.724
KS5	Collected Data is analyzed and transferred in a form of reports to the high management.	0.880
KS6	There are clear guidelines (in the form of a catalogue) for employees from which they can obtain the knowledge necessary to perform their tasks	0.755

KS7	Informal information is shared frequently and without obstacles within the firm	0.643
KS8	Stored data is shared with employees	0.774
IPR	**In-role performance**	
IPR1	I fulfill the job objectives.	0.868
IPR2	I meet criteria for performance.	0.863
IPR3	I am proficient in tasks related to my job.	0.907
IPR4	I meet my job's requirements.	0.855
IPR5	I can manage more responsibility than typically assigned to me.	0.920
IPR6	I appear suitable for a higher-level role.	0.870
IPR7	I am competent in all areas of the job, handle tasks with proficiency	0.929
IPR8	I perform well in the overall job by carrying out tasks as expected.	0.909
IPR9	I plan and organizes to achieve objectives of the job and meet deadlines	0.814
EPR	**Extra-role performance**	
EPR1	I help other employees with their work when they have are absent.	0.757
EPR2	I exhibit punctuality arriving at work on time in the morning and after lunch breaks.	0.850
EPR3	I volunteer to do things not formally required by the job.	0.776
EPR4	I do not take undeserved work breaks.	0.536
EPR5	I take initiative to orient new employees to the department Despite it is not part of his/her job description	0.695
EPR6	I exhibit above-average attendance at work, such as, taking less off days than that of most people or fewer than permitted.	0.545

EPR7	I assist others when their work load grows	0.718
EPR8	I coast toward the end of the day.	0.839
EPR9	I give advance notice if unable to come to work.	0.815
EPR10	I spend a great deal of time in personal telephone conversations.	0.508
EPR11	I do not take unneeded leaves from my job.	0.732
EPR12	I assist my supervisor to accomplish his responsibilities.	0.709
EPR13	I do not take extra breaks.	0.710
EPR14	I willingly attend functions that are not formally mandated by the business but contribute to its image.	0.758
EPR15	I care for and interested in the development of the department	0.782
KM	**Knowledge management processes**	
KCr	Knowledge creation	0.652
KA	Knowledge application	0.791
KCo	Knowledge codification	0.725
KS	Knowledge sharing	0.742
EP	**Employee performance**	
IPR	In-role performance	0.898
EPR	Extra-role performance	0.910

4Figure 3.3 displays the measurement model of the study.
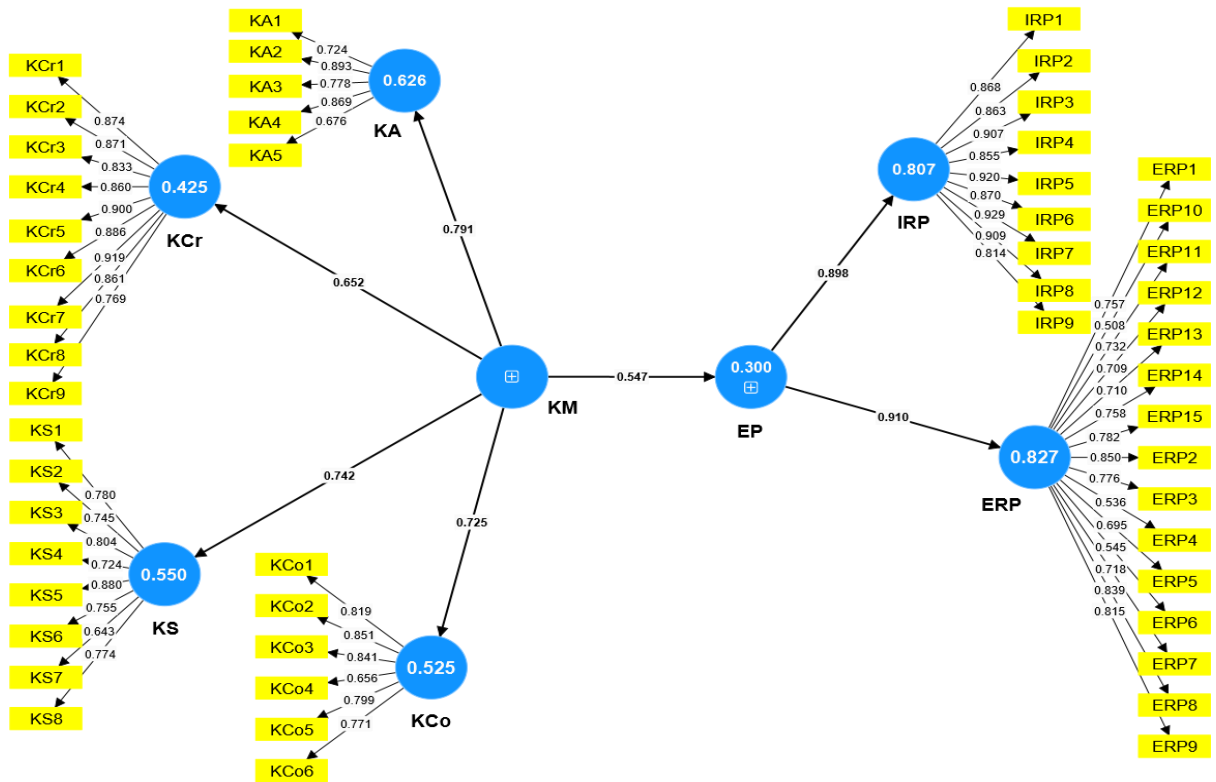
Figure 3.3 Measurement modal; value in the path represents outer loading of the indicator

Average Variance Extracted

The commonly used convergent validity metric is called Average Variance Extracted (AVE), which is calculated by dividing the total squared outer loading of all the indicators in a construct by the entire number of indicators. Table 3.7 demonstrates that all constructs have an average extracted variance greater than 0.50, suggesting strong convergent validity for both first- and second-order constructs. (Fornell & Larcker, 1981).

10 Table 3.7: Result of average variance extracted (AVE)

Abbreviations	Constructs	AVE
First Order Construct		
KCr	Knowledge creation	0.748
KA	Knowledge application	0.628
KCo	Knowledge codification	0.627
KS	Knowledge sharing	0.586
IRP	In-role performance	0.779
ERP	Extra-role performance	0.522
Second Order Construct		
KM	Knowledge management processes *	0.535
EP	Employee performance*	0.817

Note. * Calculated by recommended Sarstedt et al. (2019).

3.7.1.3 Discriminant validity

Discriminant validity quantifies how unique a particular construct is in relation to other constructs. The heterotrait-monotrait correlation ratio (HTMT), the Fornell-Larcker criterion, and cross-loading of indicators are the three criteria that have been put out to assess discriminant validity.

Cross Loading

Cross-loading provides a finding that each indicator's outer loading is the highest for the construct to which it has been allocated relative to the others, therefore it can be concluded that the construct's various indicators cannot be traded (see table 3.8).

11 Table 3.8: Result of cross-loading of indicters

	ERP	IRP	KA	KCo	KCr	KS
ERP1	**0.757**	0.513	0.208	0.186	0.372	0.213
ERP10	**0.508**	0.300	0.218	0.090	0.056	0.141
ERP11	**0.732**	0.378	0.159	0.030	0.248	0.042
ERP12	**0.709**	0.393	0.213	-0.026	0.298	0.061
ERP13	**0.710**	0.528	0.331	0.184	0.407	0.403
ERP14	**0.758**	0.416	0.309	0.149	0.293	0.160
ERP15	**0.782**	0.519	0.281	0.177	0.378	0.264
ERP2	**0.85**	0.641	0.168	0.171	0.415	0.192
ERP3	**0.776**	0.583	0.218	0.244	0.204	0.324
ERP4	**0.536**	0.255	0.082	0.042	-0.066	0.250
ERP5	**0.695**	0.349	0.143	0.056	0.242	0.169
ERP6	**0.545**	0.321	0.130	0.180	0.159	0.297
ERP7	**0.718**	0.410	0.048	0.124	0.268	0.229
ERP8	**0.839**	0.534	0.270	0.183	0.412	0.271
ERP9	**0.815**	0.547	0.196	0.085	0.420	0.164
IRP1	0.532	**0.868**	0.359	0.449	0.310	0.462
IRP2	0.493	**0.863**	0.362	0.460	0.391	0.416
IRP3	0.507	**0.907**	0.269	0.332	0.359	0.372
IRP4	0.588	**0.855**	0.284	0.324	0.400	0.350
IRP5	0.599	**0.920**	0.332	0.393	0.346	0.329
IRP6	0.614	**0.870**	0.274	0.34	0.391	0.413

IRP7	0.534	**0.929**	0.316	0.466	0.347	0.415
IRP8	0.588	**0.909**	0.306	0.446	0.321	0.396
IRP9	0.571	**0.814**	0.228	0.345	0.385	0.302
KA1	0.187	0.156	**0.724**	0.250	0.421	0.25
KA2	0.275	0.327	**0.893**	0.382	0.411	0.451
KA3	0.309	0.353	**0.778**	0.313	0.367	0.292
KA4	0.194	0.301	**0.869**	0.530	0.219	0.590
KA5	0.134	0.205	**0.676**	0.543	0.073	0.437
KCo1	0.111	0.347	0.454	**0.819**	0.074	0.403
KCo2	0.166	0.479	0.353	**0.851**	0.167	0.317
KCo3	0.262	0.587	0.354	**0.841**	0.232	0.394
KCo4	0.086	0.147	0.350	**0.656**	0.101	0.255
KCo5	0.040	0.208	0.422	**0.799**	0.247	0.417
KCo6	0.175	0.322	0.486	**0.771**	0.12	0.574
KCr1	0.351	0.417	0.253	0.092	**0.874**	0.18
KCr2	0.299	0.373	0.254	0.141	**0.871**	0.174
KCr3	0.338	0.342	0.234	0.223	**0.833**	0.164
KCr4	0.438	0.419	0.167	0.103	**0.86**	0.118
KCr5	0.359	0.344	0.392	0.204	**0.900**	0.114
KCr6	0.341	0.317	0.321	0.162	**0.886**	0.054
KCr7	0.334	0.333	0.391	0.217	**0.919**	0.098
KCr8	0.300	0.256	0.357	0.196	**0.861**	0.072
KCr9	0.375	0.383	0.507	0.213	**0.769**	0.193

KS1	0.209	0.302	0.381	0.437	0.130	**0.78**
KS2	0.224	0.349	0.270	0.306	0.085	**0.745**
KS3	0.218	0.261	0.355	0.270	0.086	**0.804**
KS4	0.219	0.310	0.467	0.368	0.187	**0.724**
KS5	0.264	0.362	0.475	0.386	0.062	**0.880**
KS6	0.139	0.289	0.37	0.482	-0.020	**0.755**
KS7	0.148	0.297	0.351	0.336	0.128	**0.643**
KS8	0.337	0.461	0.471	0.486	0.229	**0.774**

Note: The bold number represents the outer loading of its assigned construct. KCo: Knowledge codification; KS: Knowledge sharing; KA: Knowledge application; KCr: Knowledge creation; ERP: Extra-role performance; and IRP: In-role performance.

Fornell-Larcker criterion

The second criterion to assess discriminant validity is the Fornell-Larcker criterion, as table 3.9 illustrates. It states that each construct's square root of average variance extracted (AVE) is larger than its relationship with any other construct.

12Table 3.9: Fornell-Larcker Criterion for the first-order construct constructs

Constructs	ERP	IRP	KA	KCo	KCr	KS
Extra-role performance (ERP)	**0.723**					
In-role performance (IRP)	0.634	**0.882**				
Knowledge application (KA)	0.279	0.344	**0.793**			
Knowledge codification (KCo)	0.179	0.447	0.512	**0.792**		
Knowledge creation (KCr)	0.402	0.409	0.377	0.202	**0.865**	
Knowledge sharing (KS)	0.293	0.435	0.521	0.508	0.151	**0.766**

Note: Diagonals in bold signify the square root of each construct AVE. The off-diagonal indicates the correlation constructs.

Furthermore, table 3.10 displays results, confirms that the square root of each construct (AVE) of the knowledge management processes is higher than the correlation between employee performance and knowledge management processes.

13Table 3.10: Fornell-Larcker criterion for the second-order construct constructs

Constructs	KM	EP
Knowledge management processes	**0.729**	
Employee performance	0.547	**0.904**

Note: Diagonals in bold represent the square root of each construct AVE. Off-diagonal represents the constructs correlation.

Heterotrait-monotrait ratio of correlations (HTMT)

A heterotrait-monotrait ratio of correlations is the final criterion that is used to evaluate the discriminant validity (HTMT). table 3.11's findings shows that every value in the HTMT matrix is less than 0.90, (Henseler et al., 2015).

14Table 3.11: Heterotrait-monotrait ratio result

Constructs	ERP	IRP	KCo	KCr	KA	KS
Extra-role performance (ERP)						
In-role performance (IRP)	0.655					
Knowledge application (KA)	0.316	0.377				
Knowledge codification (KCo)	0.210	0.479	0.59			
Knowledge creation (KCr)	0.419	0.427	0.417	0.217		
Knowledge sharing (KS)	0.324	0.464	0.58	0.555	0.173	

Internal Consistency Reliability

Internal consistency was evaluated using Cronbach's α coefficient (CA) and Composite Reliability coefficient (CR). The results shown in Table 3.12 demonstrate that the constructs' internal consistency was excellent, with the CA values ranging from 0.863 to 0.943. (Hair et al., 2010). A composite reliability value of 0.70 or higher is considered satisfactory (Hair Jr et al., 2017), and all constructs' CR values were 0.700 or above, satisfying the limit of cutoff.

15Table 3.12: Result of Cronbach's alpha and the Composite Reliability coefficients

Abbreviations	Constructs	CR	CA
First Order Construct			
KCr	Knowledge creation	0.959	0.957
KA	Knowledge application	0.865	0.848
KCo	Knowledge codification	0.887	0.880
KS	Knowledge sharing	0.903	0.898
IRP	In-role performance	0.965	0.964
ERP	Extra-role performance	0.942	0.932
Second Order Construct			
KM	Knowledge management processes *	0.819	0.927
EP	Employee performance*	0.899	0.956

Note. * Calculated by recommended Sarstedt et al. (2019).

3.8 Chapter Summary

Through the presented chapter three, the study's conceptual framework, the relationships between the variables and the formation of the hypotheses, the research design, the study population, the sample size, the sampling strategy, and the data collection process were all

covered. Subsequently, sections addressed the operational definitions, variable measurement,

questionnaire design, content validity, reliability, and data analysis.

Chapter Four

4   Data Analysis & Results

4.1 Introduction

Chapter four represents the findings of the study, which further tests the study hypotheses and reviews the primary questionnaire results derived from the numerous constructs (dimensions or variables) and items (statements or indicators). A descriptive examination of sample answers to the study factors opens this chapter. Next, the main conclusions from the structural model evaluation are reported, followed by the PLS-SEM evaluation of the study model quality. The study outcomes for the study hypotheses are finally presented by the researcher.

4.2 Descriptive Statistics

4.2.1 Sample Characteristics

Five variables were included in this study based on the researcher's observations of specific demographic traits of the study participants. Table 4.1 lists the frequency and percentage of each variable based to the surveyed categories.

According to the sample characteristics, 87.5% of participants were male, and 12.5% were female. In addition, 58.6% of participants had a bachelor's degree, 33.7% had a diploma or less, and only 7.7% had a higher education degree. Regarding the age category, 37.5% of participants were aged between 30 and 39 years, 29.8% were between 40 and 49 years, 18.3% were less than 30 years, and 14.4% were 50 years or more. Furthermore, the results indicate that 42.3% of the participants have an experience between 6 and 10 years in the water sector, 38.5% have more than 15 years, 11.5% have an experience between 11 and 15

years, and only 7.7% have one year or less. Regarding the experience in the water and wastewater department, 41.3% have experience of more than 15 years, 27.9% have experienced between 6 and 10 years, 17.3% have experienced between 2 and 5 years, 12.5% and 1% have experienced between 11 and 15 years and one year or less.

In addition, 44.2% of participants are technicians, 14.4% are the heads of the division, 12.5% are supervisors, 12.5% are engineers, 8.7% and 7.7% are the head of section and department respectively. Also, 28.9% of participants are working in the assets management department, 25% are working in the operating and maintenance department, 22.1% of them are working in support services, 12.5% and 11.5% are working in municipal management or councilors, and the customer services department respectively.

Furthermore, 34.8% of employees in support services department are working in tenders and procurement section, 50% of employees in customer services department are working in collection section and 50% of then are working in citizen's services section. 53.3% of employees in assets management department are working in planning and infrastructure, and 30.8% of employees in operating and maintenance department are working in electromechanical.

16 Table 4.1: Results of analyzing the sample characteristic

Variables	Options	Frequency	Percentage (%)
	Head of section	9	8.6
	Head of the department	10	9.6
Position	Head of the division	24	23.1
	Supervisor	13	12.5
	Technicians	35	33.7
	Engineers	13	12.5

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Gender	Male	91	87.5
	Female	13	12.5
Academic degree	Diploma or less	35	33.7
	Bachelor's	61	58.6
	Post graduated	8	7.7
Age	Less than 30 years	19	18.3
	30 – 39 years	39	37.5
	40 – 49 years	31	29.8
	50 years or more	15	14.4
Years of experience water and wastewater department	1 year or less	1	1.0
	2 – 5 years	18	17.3
	6 – 10 years	29	27.9
	11 – 15 years	13	12.5
	More than 15 years	43	41.3
Years of experience in the water sector	1 year or less	8	7.7
	2 – 5 years	0	0
	6 – 10 years	44	42.3
	11 – 15 years	12	11.5
	More than 15 years	40	38.5
Work department	Support services	23	22.1
	Customer services	12	11.5
	Assets Management	30	28.9
	Operating and maintenance	26	25
	Municipal Management or councilors	13	12.5
Section*	Support services	Tenders and Procurement	8	34.8
		IT	4	17.4
		Human resource	5	21.8
		Finance	3	13.0
		Transportation	3	13.0

Customer services	Collection	6	50.0
	Citizens services	6	50.0
Assets Management	Projects execution	14	46.7
	Planning and Infrastructure	16	53.3
Operating and maintenance	Water quality	7	26.9
	Electromechanical	8	30.8
	Wastewater	4	15.4
	Water	7	26.9

Note: * the percentage calculated from their department

4.2.2 Study Variables Analysis

This study contains six first-order variables (factors or dimensions) to comprehend how the processes of knowledge management affects the employee performance. To determine the main statements that the HM-WWD was applying in each variable, means, standard deviation, and percentage weight were calculated, and the statement was arranged descending according to the mean score.

4.2.2.1 Knowledge Management Processes Analysis

Knowledge management processes is measured by using four dimensions which are knowledge creation (KCR), knowledge application (KA), knowledge codification (KCO), and knowledge sharing (KS). To describe the knowledge management processes dimensions, means, standard deviation, and percentage weight were calculated. According to the result in table 4.2, the mean and standard deviation scores of sample responses about knowledge management processes implementation are 3.25 and 0.57 respectively with a percentage of 65%, which indicates a moderate level of knowledge management processes implementation in Hebron municipality-water and wastewater department. Also, the highest implementations of knowledge management processes were knowledge codification processes with a high

level of practice (mean=3.60), followed by knowledge sharing processes (mean=3.37) with a moderate level, knowledge application processes (mean=3.36) with a moderate level, and knowledge creation processes (mean=2.85) with a moderate level respectively.

17Table 4.2: Mean, standard deviation and percentage weight of knowledge management processes dimensions analysis

	Dimensions	Mean	Std.	Percentage weight	Level of agreement
KCO	Knowledge codification	3.60	0.65	72.0	High
KS	Knowledge sharing	3.37	0.57	67.4	Moderate
KA	Knowledge application	3.36	0.58	67.2	Moderate
KCR	Knowledge creation	2.85	1.18	57.0	Moderate
Overall score of the knowledge management processes		**3.25**	**0.57**	**65.0**	**Moderate**

To determine the main statements that Hebron Municipality-Water and Wastewater Department (HM-WWD) was implementing, means, standard deviation, and percentage weight were calculated, and the statement was arranged descending giving to the mean score of statements (items).

4.2.2.1.1 Knowledge Creation Processes Analysis

Results indicated in table 4.3 shows the mean and standard deviation of the knowledge creation dimension, that is 2.85 and 1.18 respectively by percentage of a 57%, which indicates a moderate level of implementation. Likewise, the majority of the elements utilized to measure the dimension of knowledge creation reached a moderate level. The statement

"The employees can learn from each other by watching, imitating, and practicing" has the highest percentage of implementation (63.6%), followed by the statement "The knowledge can be transferred through talk and narrative among the employees" has the practicing percentage of 63%, and the statement "Experienced employees disclose implicit information to their colleagues" has the implementation percentage of 61.4%. However, the statement "The employees have knowledge interaction with others to combine their knowledge with themselves" has the lowest percentage of implementation (51%).

18Table 4.3: Descriptive statistics for items on the knowledge creation processes

No.	Items	Mean	Std.	Percentage weight	Level of agreement
KCr4	The employees can learn from each other by watching, imitating, and practicing.	3.18	1.40	63.6	Moderate
KCr1	The knowledge can be transferred through talk and narrative among the employees	3.15	1.44	63.0	Moderate
KCr2	Experienced employees disclose implicit information to their colleagues	3.07	1.42	61.4	Moderate
KCr3	The WWD continuously transfers the tacit knowledge to clear explicit knowledge.	2.90	1.43	58.0	Moderate
KCr9	The work environment in the department is supportive for employees to obtain the information necessary to perform tasks	2.87	1.25	57.4	Moderate

KCr6	Training programs are provided to continually enhance employees' knowledge and skills	2.65	1.36	53.0	Moderate
KCr7	The employee receives continuous opportunities to gain knowledge from experiences outside the organization	2.63	1.33	52.6	Moderate
KCr8	The employees combine and categorize the existing information for producing new knowledge	2.61	1.35	52.2	Moderate
KCr5	The employees have knowledge interaction with others to combine their knowledge with themselves	2.55	1.28	51.0	Low
Overall score of the knowledge creation		**2.85**	**1.18**	**57.0**	**Moderate**

4.2.2.1.2 Knowledge Application Processes Analysis

Table 4.4 presents the knowledge application dimension's mean and standard deviation, which are 3.36 and 0.58, respectively, representing 67.2% of the sample., indicating a moderate implementation level. The statement "The Department constantly updates its existing information and knowledge" reached to (73.2%) with the highest percentage and a high level of implementation, then the statement "The department employs knowledge and lessons learned to solve problems in an integrated manner between different departments" followed with the percentage of 71.4% and a high level of implementation. However, the statement "The department adopts an updated system that includes transforming tacit

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knowledge from employees' experiences into written knowledge for application and benefit"

has the lowest percentage (57.2%).

19Table 4.4: Descriptive statistics for items on the knowledge application

No.	Items	Mean	Std.	Percentage weight	Level of agreement
KA3	The Department constantly updates its existing information and knowledge	3.66	0.71	73.2	High
KA4	The department employs knowledge and lessons learned to solve problems in an integrated manner between different departments	3.57	0.79	71.4	High
KA1	New knowledge is used to modify work instructions and procedures	3.39	0.83	67.8	Moderate
KA2	The department encourages employees to use knowledge, transform it into plans, and apply it at work	3.38	0.88	67.6	Moderate
KA5	The department adopts an updated system that includes transforming tacit knowledge from employees' experiences into written knowledge for application and benefit	2.86	0.43	57.2	Moderate
Overall score of the knowledge application		**3.36**	**0.58**	**67.2**	**moderate**

4.2.2.1.3 Knowledge Codification Processes Analysis

As shown in the results of table 4.5, there is a high level of codification, with a percentage of 72% and mean and standard deviation of 3.60 and 0.65, respectively, for the knowledge codification dimension. Also, the majority of items utilized to measure the knowledge codification dimension reached to a high level of codification. The statement "Access to the database is accessible to the employee according to the level of his job title" has the highest codification percentage of 78%, followed by the statement "The WWD uses electronic codification to store knowledge for all information related to beneficiaries within Hebron Municipality water and waste water services" have a percentage of 77.4%. However, the statement "The department documents the knowledge it possesses in forms of documents and bulletins" has the lowest percentage of codification (62.4%).

20Table 4.5: Descriptive statistics for items on the knowledge codification

No.	Items	Mean	Std.	Percentage weight	Level of agreement
KCo3	Access to the database is accessible to the employee according to the level of his job title	3.90	0.76	78.0	High
KCo2	The WWD uses electronic codification to store knowledge for all information related to beneficiaries within Hebron Municipality water and waste water services	3.87	0.78	77.4	High
KCo1	The department uses a classified database	3.75	0.84	75.0	High

	that is easy to compile and record, which includes everything related to water and Wastewater projects.				
KCo6	Best practices from lessons learned are recorded.	3.60	0.82	72.0	High
KCo5	The WWD collects and records Feedback from customers for later use	3.36	0.82	67.2	Moderate
KCo4	The department documents the knowledge it possesses in forms of documents and bulletins	3.12	0.90	62.4	Moderate
Overall score of the knowledge codification		**3.60**	**0.65**	**72.0**	**High**

4.2.2.1.4 Knowledge Sharing Processes Analysis

Table 4.6 results specifies the mean and standard deviation of the knowledge sharing dimension, that are 3.37 and 0.57 respectively, with 67.4% percentage, this shows a moderate level of sharing. As well, most of the items utilized to measure the knowledge sharing dimension reached to a moderate level. The statement "The WWD uses official means of communication designed to communicate between employees, such as e-mail and a special communication platform between different departments" has the highest percentage of 74.2%, followed by the statement "Knowledge is scattered around the organization" have a percentage of 73.2% with high level, and the statement "Collected Data is analyzed and transferred in a form of reports to the high management." have a percentage of 72.4 % with

high level. However, the statement "There is a desire among individuals to share their knowledge with other employees" has got the lowest percentage (57.8%) with moderate.

21Table 4.6: Descriptive statistics for items on the knowledge sharing processes

No.	Items	Mean	Std.	Percentage weight	Level of agreement
KS1	The WWD uses official means of communication designed to communicate between employees, such as e-mail and a special communication platform between different departments	3.71	0.78	74.2	High
KS2	Knowledge is scattered around the organization	3.66	0.78	73.2	High
KS5	Collected Data is analyzed and transferred in a form of reports to the high management.	3.62	0.74	72.4	High
KS7	Informal information is shared frequently and without obstacles within the firm	3.52	0.82	70.4	High
KS8	Stored data is shared with employees	3.40	0.90	68.0	High
KS6	There are clear guidelines (in the form of a catalogue) for employees from which they can obtain the knowledge necessary to perform their tasks	3.23	1.02	64.6	Moderate
KS4	The WWD possesses formal mechanisms	2.94	0.44	58.8	Moderate

	ensuring that the best practices are shared				
KS3	There is a desire among individuals to share their knowledge with other employees	2.89	0.48	57.8	Moderate
Overall Score of the knowledge sharing		**3.37**	**0.57**	**67.4**	**High**

4.2.2.1.5 The Employee Performance Analysis

Employee performance is measured by using both in-role performance and extra-role performance. Calculations were made for means, standard deviation, and percentages, to describe employee performance. Table 4.7's results show that sample responses about employee performance had mean and standard deviation scores of 3.85 and 0.57, respectively, with a percentage of 77%, indicating high employee performance in the water and wastewater department. Also, the implementation level of in-role performance is very high (mean=4.22), and the implementation of extra-role performance is high (mean=3.84).

22Table 4.7: Mean, standard deviation and percentage weight of employee performance dimensions analysis

	Dimensions	**Mean**	**Std.**	**Percentage weight**	**Level of agreement**
IRP	In-role performance	4.22	0.69	84.4	Very high
ERP	Extra-role performance	3.84	0.60	76.8	High
Overall score of the employee performance		**3.85**	**0.57**	**77.0**	**High**

To determine the main statements that HM-WWD is applying, calculations of means, standard deviations, and percentage weights were performed, and the statement (items) were well-ordered in descending order based on the mean score of statements.

4.2.2.1.6 In-role Performance Analysis

Table 4.8 presents the in-role performance dimension's mean and standard deviation, which are 4.22 and 0.69, respectively. The percentage of 84.4% shows an exceptionally high-performance level. The statement "I am proficient in tasks related to my job" has the highest percentage of 87.4% with a very high level of performance, then the statement "I fulfill the job objectives" have a percentage of 85.4% with a very high level of performance, and the statement "I meet my job's requirements" have a percentage of 84.6% with a very high level of performance. However, the statement "I appear suitable for a higher-level role" has the lowest percentage (82.6%) with a very high level of performance.

23Table 4.8: Descriptive statistics for items on the in-role performance

No.	Items	Mean	Std.	Percentage weight	Level of agreement
IRP3	I am proficient in tasks related to my job.	4.37	0.67	87.4	Very high
IRP1	I fulfill the job objectives.	4.27	0.79	85.4	Very high
IRP4	I meet my job's requirements.	4.23	0.75	84.6	Very high
IRP5	I can manage more responsibility than typically assigned to me.	4.22	0.80	84.4	Very high
IRP2	I meet criteria for performance.	4.21	0.78	84.2	Very high

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IRP7	I am competent in all areas of the job, handle tasks with proficiency	4.18	0.80	83.6	High
IRP9	I plan and organizes to achieve objectives of the job and meet deadlines	4.17	0.76	83.4	High
IRP8	I perform well in the overall job by carrying out tasks as expected.	4.16	0.79	83.2	High
IRP6	I appear suitable for a higher-level role.	4.13	0.87	82.6	High
Overall score of the in-role performance		**4.22**	**0.69**	**84.4**	**Very high**

4.2.2.1.7 Extra-role Performance Analysis

Table 4.9 represents the mean results and standard deviation rsults of the extra-role performance dimension, that is 3.62 and 0.65 respectively, and a percentage of 72.4%, which shows a high level of performance. The statement "I exhibit punctuality arriving at work on time in the morning and after lunch breaks" has the highest percentage of 80.4% with a high level of performance, then the statement "I give advance notice if unable to come to work" which has the percentage of 78.8% with a high level of performance, and the statement "I help other employees with their work when they are absent" which has the percentage of 78% with a high level of performance. However, the statement "I do not take undeserved work breaks" has got the lowest percentage (61%) given a moderate level.

24Table 4.9: Descriptive statistics for items on the extra-role performance

No.	Items	Mean	Std.	Percentage weight	Level of agreement
ERP2	I exhibit punctuality arriving at work on time in the morning and after lunch breaks	4.02	0.89	80.4	High
ERP9	I give advance notice if unable to come to work.	3.94	0.81	78.8	High
ERP1	I help other employees with their work when they are absent.	3.90	0.92	78.0	High
ERP8	I coast toward the end of the day.	3.84	0.75	76.8	High
ERP3	I voluntarily do tasks that are not officially required by my job.	3.78	0.95	75.6	High
ERP15	I care for and interested in the development of the department	3.72	0.82	74.4	High
ERP11	I am not into taking unneeded leaves from my job.	3.67	0.95	73.4	High
ERP12	I assist my supervisor to accomplish his responsibilities.	3.59	0.84	71.8	High
ERP13	I do not take extra breaks.	3.58	0.90	71.6	High
ERP7	I help others when their work load grows	3.55	0.87	71.0	High
ERP14	I attend functions that are not formally	3.55	0.90	71.0	High

	mandated by the organization but contribute to its image.				
ERP5	I take initiative to orient new employees to the department despite it is not part of my job description	3.48	0.98	69.6	High
ERP6	I exhibit above-average attendance at work, such as, taking less off days than that of most people or fewer than permitted	3.46	0.98	69.2	High
ERP10	I do not spend a great deal of time in personal telephone conversations.	3.15	1.10	63.0	Moderate
ERP4	I do not take undeserved work breaks.	3.05	1.08	61.0	Moderate
Overall score of the extra-role performance		**3.84**	**0.60**	**76.8**	**High**

4.3 Structural Model Evaluation

Following the establishment of the constructs' validity and reliability, comes the examination of the hypothesis of the study, and the structural model assessment. Prior to testing the study hypotheses, the structural model was evaluated using four distinct tests: the effect size (f^2), coefficient of determination (R^2), predictive relevance (Q^2), and collinearity test.

4.3.1 Collinearity Test

A collinearity test is the first step in evaluating the structural model. Table 4.10's results show that there was no collinearity in the structural model because each construct's Variance Inflation Factor (VIF) was less than 5 (Hair Jr et al., 2017).

Table 4.10: Collinearity assessment

Paths	VIF
Employee performance -> Extra-role performance	1.000
Employee performance -> In-role performance	1.000
Knowledge management processes -> Employee performance	1.000
Knowledge management processes -> Knowledge codification	1.000
Knowledge management processes -> Knowledge sharing	1.000
Knowledge management processes -> Knowledge application	1.000
Knowledge management processes -> Knowledge creation	1.000

4.3.2 Coefficient of Determination and Predictive Relevance

One frequently employed measurement for evaluating structural models is the coefficient of determination (R^2). It shows the extent to which exogenous construct explains variation in the endogenous construct. Higher values of the coefficient, which goes from zero to one, indicate higher levels of prediction accuracy. Based on the outcome displayed in Table 4.11, the independent variables represented by knowledge management processes can explain 30% of the variation in employee performance.

26 Table 4.11: Result of coefficient of determination

Path	R^2	Degree of explanation
Knowledge management processes -> Employee performance	0.300	Moderate

The predictive relevance (Q^2) test was introduced by Geisser (1974) and Stone (1974), as a measure to designate the relevance level within the structural model, particularly with the complex model using the blindfolding process, predictive relevance of endogenous construct

(dependent construct) greater than zero indicate that the exogenous construct is predictively relevant for endogenous construct. Table 4.12 shows that the predictive relevance values of employee performance greater than zero, meaning that knowledge management processes are predictively relevant for employee performance.

27 Table 4.12: Result of predictive relevance

Endogenous variable	SSO	SSE	Q² (=1-SSE/SSO)
Employee performance	2496	2172.011	0.130

Note: SSO= Total Sum of Square; SSE= Sum of Square due to error

4.3.3 Effect size

When a given exogenous construct is removed from the structural model, its impact on an endogenous construct is measured using the effect size (f^2) (Chin, 1998). The effect size for our structural model is displayed in Table 4.13, and the findings indicate that eliminating knowledge management processes has a high effect on employee performance, which indicates the importance of knowledge management processes to explain the variation in employee performance.

28 Table 4.13: Result of effect size

Paths	f^2	Effect Size
Knowledge management processes -> Employee performance	0.428	High

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4.4 Study Hypotheses Assessment

As last stage in evaluating the structural model, path coefficient test was utilized, to test the hypothesized correlations as Hair Jr et al. (2017) proposed, the bootstrapping techniques (5000 subsamples). Figure 4.2 displays the result of the main hypothesis of this study.
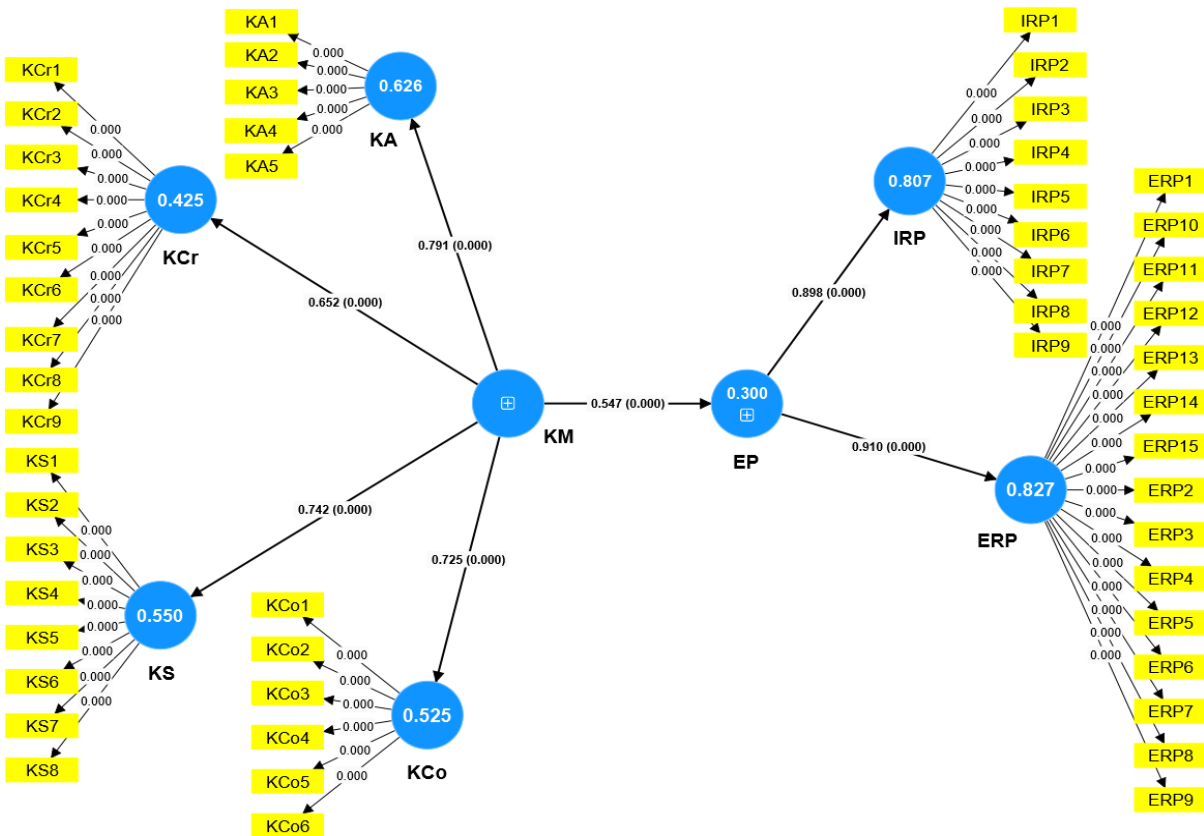
5Figure 4.1 Result of path analysis; values in the inner model represent path coefficient (p-value); values in the outer model represent p-value

4.4.1 Result of the Effect of Knowledge Management Processes on Employee Performance

This section displays the result of the main hypothesis which states **"KM processes have a significant positive impact on employee performance in HM-WWD"**

Referring to results indicated in table 4.14, there exists a statistically significant impact of knowledge management processes on employee performance in HMWWD that is supported

H_1, since the p-value of this hypothesis (0.000) is lower than the significant level of 0.05. Also, the employee performance level will increase by 0.547 degrees, if the implementation level of the knowledge management processes in Hebron municipality-water and wastewater increases by one degree.

29 Table 4.14: Result of the main hypothesis

No.	Hypothesis	Coefficient (β)	Std.	t value	p value	Result
$H_{1.a}$	KM -> EP	0.547	0.113	4.831	0.000**	Supported

Note. KM: Knowledge management processes; EP: employee performance; ** indicates p-value less than 0.05.

4.4.2 Result of the Effect of Knowledge Management Processes Dimensions on Employee Performance

Follows is the displayed result concerning the first four sub-hypotheses, that evaluate the effect of knowledge management processes dimensions on employee performance which state:

1. **"Knowledge creation processes have a significant positive impact on employee performance in HM-WWD".**

2. **"Knowledge sharing processes have a significant positive impact on employee performance in HM-WWD".**

3. **"Knowledge codification processes have a significant positive impact on employee performance in HM-WWD".**

4. **"Knowledge application process have a significant positive impact on employee performance in HM-WWD".**

To answer these sub-hypotheses, multiple linear regression was applied. Referring to result in Table 4.15, there exist a statistically significant positive impact of knowledge creation processes on employee performance (p-value=0.000<0.05), which supported the first sub-hypotheses $(H_{1,1})$ that states "knowledge creation processes have a significant positive impact on employee performance in HM-WWD". Also, the result indicates if the knowledge creation processes increase in HM-WWD by one degree the employee performance increases by 0.387 degrees. In addition, there is a statistically significant positive impact of knowledge sharing processes on employee performance (p-value=0.006<0.05), which supported the second sub-hypotheses $(H_{1,2})$ that states "knowledge sharing processes have a significant positive impact on employee performance in HM-WWD". Also, the result indicates if the knowledge sharing processes increase in HM-WWD by one degree the employee performance increases by 0.287 degrees. Regarding the third sub-hypotheses $(H_{1,3})$ that states "knowledge codification processes have a significant positive impact on employee performance in HM-WWD", there is no statistically significant positive impact of knowledge codification on employee performance (p-value=0.212>0.05), which does not support the third sub-hypotheses $(H_{1,3})$, and the result indicates there is no statistically significant impact of knowledge application processes on employee performance (p-value=0.880>0.05), which does not support the fourth sub-hypotheses $(H_{1,4})$ that states "knowledge application process have a significant positive impact on employee performance in HM-WWD".

30Table 4.15: Result of the effect of knowledge management processes dimensions on employee performance

No.	Hypotheses	β	SE	t value	p value	Result
$H_{1.1}$	KCr -> EP	0.387	0.089	4.339	0.000**	Supported

$H_{1.2}$	KS -> EP	0.287	0.102	2.804	0.006**	Supported
$H_{1.3}$	KCo -> EP	0.128	0.102	1.257	0.212	Not supported
$H_{1.4}$	KA -> EP	-0.016	0.108	0.151	0.880	Not supported

Note: ** and * represent statistical significance at 5% and 10% levels respectively; β: Regression coefficient; SE: Stander error; KCo: Knowledge codification; KS: Knowledge sharing; KA: Knowledge application; KCr: Knowledge creation.

Furthermore, the result in figure 4.3 indicates that knowledge management process dimensions can explain 32.8% of the variation in employee performance.

6Figure 4.3: Result of the effect of knowledge management processes dimensions on employee performance

4.4.3 Result of the Effect of Knowledge Management Processes on the In-role Employee Performance

The result of the fifth sub-hypothesis which states **"KM processes have a significant positive impact on the in-role employee performance in HM-WWD"** is presented below:

To answer the fifth sub-hypothesis, simple linear regression was applied. The result in table 4.16 indicates that there is a statistically significant positive impact of the knowledge management process on the in-role employee performance in HM-WWD (p-value=0.000<0.05), which supported the fifth sub-hypotheses ($H_{1,5}$) of this study, also the result indicates the knowledge management process can explain 32.9% of the variation on the in-role employee performance in HM-WWD.   On the other hand, if the knowledge management processes increase in HM-WWD by one degree the in-role employee performance increases by 0.574 degree

31 Table 4.14: Result of the fifth hypothesis

No.	Hypothesis	β	SE	t value	p value	Result	R^2
$H_{1.a}$	KM -> IRP	0.574	0.081	7.078	0.000**	Supported	0.329

Note. KM: Knowledge management processes; IRP: In-role employee performance; β: Regression coefficient; SE: Stander error; ** indicates p-value less than 0.05.

Figure 4.4 displays the result of multiple linear regression to assess the impact of knowledge management processes dimensions on the in-role employee performance which indicates that there is a statistically significant impact of knowledge codification processes, knowledge creation processes, and knowledge sharing processes on the in-role employee performance, since the p-value of these impact less than 0.05 (p-value=0.007, 0.000 and 0.006 respectively). There is no statistically significant impact of the knowledge application process on the in-role employee performance since the p-value of this impact is more than the significant level of 5%. If the knowledge codification processes, knowledge creation processes, and knowledge sharing processes increase in HM-WWD by one degree the in-role employee performance increases by 0.271, 0.338, and 0.282 degrees respectively.
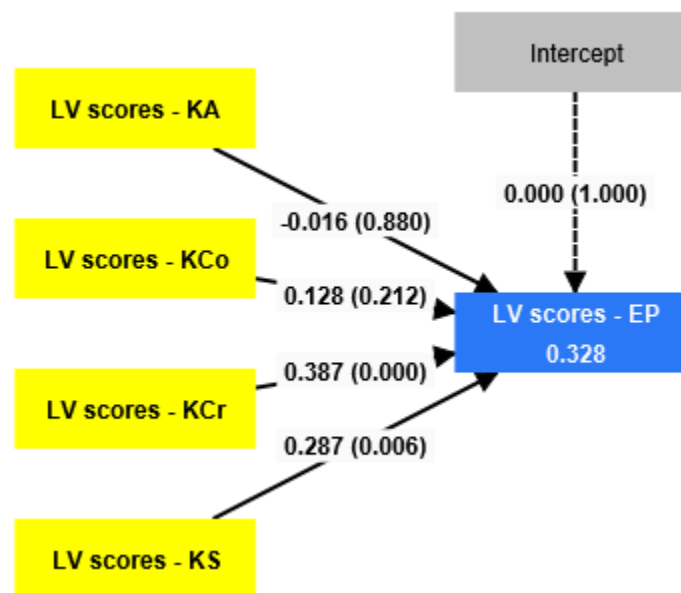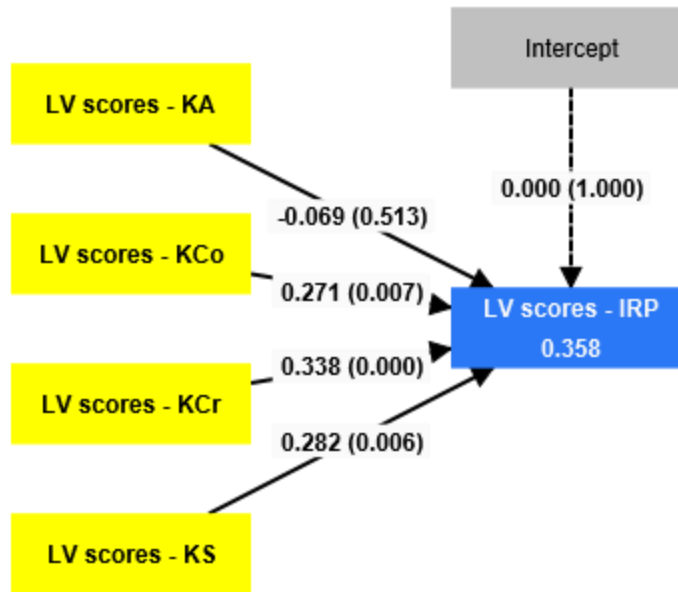
7Figure 4.4: Result of the effect of knowledge management processes dimensions on the in-role employee performance

4.4.4 Result of the Effect of Knowledge Management Processes on the Extra-role Employee Performance

This section displays the result of the sixth sub-hypothesis which states **"KM processes have a significant positive impact on the extra-role employee performance in HM-WWD"**

To answer the sixth sub-hypothesis, simple linear regression was applied. The result in table 4.15 indicates that there is a statistically significant positive impact of the knowledge management process on the extra-role employee performance in HM-WWD (p-value=0.000<0.05), which supported the sixth sub-hypotheses ($H_{1,6}$) of this study, also the result indicates the knowledge management process can explain 17.4% of the variation on the extra-role employee performance in HM-WWD. On the other hand, if the knowledge management processes increase in HM-WWD by one degree the extra-role employee performance increases by 0.417 degrees.

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32 Table 4.15: Result of the sixth hypothesis

No.	Hypothesis	β	SE	t value	p value	Result	R^2
$H_{1.a}$	KM ->ERP	0.417	0.090	4.636	0.000**	Supported	0.174

Note. KM: Knowledge management processes; ERP: Extra-role employee performance; β: Regression coefficient; SE: Stander error; ** indicates p-value less than 0.05.

Figure 4.5 displays the result of multiple linear regression to assess the impact of knowledge management processes dimensions on the extra-role employee performance which indicates that there is a statistically significant impact of knowledge creation processes and knowledge sharing on the extra-role employee performance, since the p-value of both of them less than 0.05 (p-value=0.000 and 0.035 respectively). There is no statistically significant impact of knowledge codification processes and knowledge application process on the extra-role employee performance since the p-value of both of them is more than the significant level of 5%. If the knowledge creation processes and knowledge sharing processes increase in HM-WWD by one degree the extra-role employee performance increases by 0.359 and 0.236 degrees respectively.
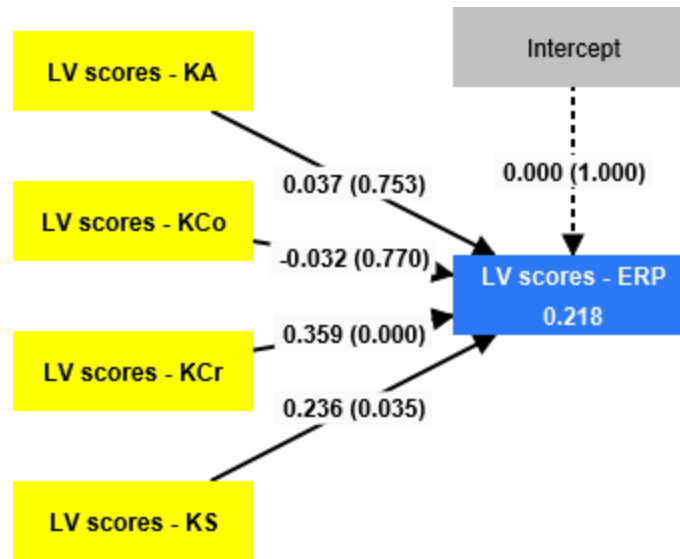
8Figure 4.5: Result of the effect of knowledge management processes dimensions on the extra-role employee performance

4.5 Result summary of study hypotheses

According to the result in table 4.16, the main hypothesis was supported and confirmed the positive impact of KM processes on employee performance in HM-WWD. Regarding the sub-hypotheses, the first, second, fifth, and sixth were supported, while the third and fourth did not support them. The result confirmed there is a positive impact of KM processes on both in-role and extra-role employee performance in HM-WWD. However, the impact size of KM processes on in-role employee performance (Regression coefficient=0.574) is greater than the impact size of KM processes on extra-role employee performance (Regression coefficient=0.417) in HM-WWD.

On the other hand, the knowledge creation and knowledge sharing have a positive impact on employee performance in HM-WWD, while knowledge application and knowledge codification do not have an impact on employee performance in HM-WWD.

33Table 4.16: Result of the study hypothesis

No.	Hypotheses	Coefficient (β)	Std.	t value	p value	Result
H_1	KM -> EP	0.547	0.113	4.831	0.000**	Supported
$H_{1.1}$	KCr -> EP	0.387	0.089	4.339	0.000**	Supported
$H_{1.2}$	KS -> EP	0.287	0.102	2.804	0.006**	Supported
$H_{1.3}$	KCo -> EP	0.128	0.102	1.257	0.212	Not supported
$H_{1.4}$	KA -> EP	-0.016	0.108	0.151	0.880	Not supported
$H_{1.5}$	KM -> IRP	0.574	0.081	7.078	0.000**	Supported
$H_{1.6}$	KM ->ERP	0.417	0.090	4.636	0.000**	Supported

Note. KM: Knowledge management processes; EP: employee performance; RP: Extra-role employee performance; IRP: In-role employee performance; KCo: Knowledge codification; KS: Knowledge sharing; KA: Knowledge application; KCr: Knowledge creation ** indicates p-value less than 0.05.

Chapter Five

DISCUSSION, RECOMMENDATIONS & CONCLUSION

5.1 Introduction

This chapter begins with an overview of the results and a discussion; recommendations are then presented, along with the study's contributions. It further describes the limitations of the research and concludes with recommendations for further investigation and studies.

5.2 Overview of Research Findings

Given the purpose of addressing the research main and sub-research questions; a structural model concerning the variables under investigation was formed, to meet the following study objectives:

The main research objective is:

1- To examine the impact of KM processes on the Employee Performance in HM-WWD.

The sub-research objectives are:

1_a: To investigate the impact of knowledge creation process on EP in the HM-WWD.

1_b: To investigate the impact of the knowledge-sharing process on EP in the HM-WWD.

1_c: To investigate the impact of knowledge application process on EP in the HM-WWD.

1_d: To investigate the impact of knowledge codification process on EP.

1_e: To assess the impact of KM on the employee in-role performance in the HM-WWD.

1_f: To assess the impact of KM on the employee extra-role performance in the HMWWD.

PLS-SEM was used to do extensive analysis on the data collected in order to evaluate the measurement and the structural model.

5.3 Discussion and Recommendations

5.3.1 Discussion

The (main and sub) objectives of the research were established to examine the impact of KM processes: Knowledge creation, knowledge sharing, Knowledge application and knowledge codification on HD-WWD employees' performance. Where findings of the study indicated that KM path coefficients and their dimensions (knowledge creation and knowledge sharing) significantly impacted employee performance in HM-WWD. This result supports the Knowledge creation theory as the research exhibited, that was pinned as the supporting theory.

Results of the study suggests that an effective implementation of KM processes in the HM-WWD (particularly, the first two measured processes), is capable of improving the WWD employee's performance. Generally, we can say that the Enhancing knowledge management (KM) processes can have a substantial impact on various aspects of organizational performance, including but not limited to productivity, financial performance, staff performance, innovation, work relationships, and customer satisfaction. (Johnsen & McMahon, 2005; Lenny Koh et al., 2007; Gholami et al. (2013). The aforementioned results are consistent with the research conducted by Mulyaningsih et al. (2014), which observed

that knowledge management is a crucial aspect of human resource management and has a direct correlation with worker performance. (Asiimwe & Barigayomwe, 2024).

In addition, the results show that employee performance was found to be significantly improved by two of the KM processes that were examined. Hence, the research objective(s) concerning (main and first two sub objectives) were accomplished. Also, Table 4.16 in chapter four shows that knowledge creation, followed by knowledge sharing are the most impactful processes on employee performance. However, the analysis results did not support the third and fourth sub-hypotheses, concerning knowledge codification and knowledge application.

As previously stated, knowledge creation was found to significantly impact employee performance. In fact, out of all the processes that were examined at, this particular one had the greatest influence. This outcome is consistent with the findings of earlier studies. The production of new knowledge is essential to enhancing the performance of employees and preserving the success of public sector organizations.

Employee performance was found to be highly impacted by knowledge-sharing, making it the second most important KM process. This finding is consistent with earlier studies. When used systematically and strategically as capacity-building exercises that motivate people to perform above expectations, knowledge-sharing initiatives can benefit the organization as well as the personnel. The third KM process of Knowledge Application (KA) resulted in no significant impact on employee performance. This result seemed to contradicts the previous studies, (as was exhibited throughout chapter two), yet if we consider a deeper look in the other studies findings, we conclude that knowledge application has a significant impact on employee and firm performance only when used, which agrees with other studies findings

like Abualoush et al. (2018) who clarified that in order to maximize the benefits of application knowledge, the organization's environment must be set, the study indicated that knowledge management (process of knowledge application) and information systems had no effect on workers' performance, which runs counter to numerous other research in this field. However, these intangible assets have an indirect effect on performance since there is a mediator variable in the form of employee empowerment (Abualoush et al., 2018). The result in this study is considered as an enrichment to the KA literature and supports the debate that KA requires attention to other factors.

Other studies like (Ode & Ayavoo, 2020) supported that KA has a moderating role toward employee performance, demonstrate that the relationship between information development, diffusion, storage, and company creativity is mediated by knowledge application.

The fourth KM process of knowledge codification resulted in no significant impact on employee performance. The result does not support the 4th hypothesis, this creates the debate on the positive relations indicated in chapter 2, yet, according to other research, knowledge storage is only beneficial if the company can create information from this knowledge base and apply it to decisions, services, products, or behaviors (Zaim, Keceli, et al., 2018).

This links the fourth result with the result of the third finding, which means that the effect of Knowledge creation and Knowledge Sharing is maximized when Knowledge application and knowledge codification is applied effectively.

 Knowledge Codification result can be referred to the fact that it would more affect the administrative staff in high managerial positions, and can be reflected in the organizational performance level, which will directly influence the decision-making and strategic thinking.

The purpose of the fifth sub-research objective is to examine how KM practices affect the in-role performance of employees in the HM-WWD. The results showed that the dimensions of KM processes and their path coefficients (particularly KC, KS, KCo) have a statistically significant impact on the in-role employee performance.

The sixth sub research objective, which was established to examine the KM processes impact on the extra-role employee performance in the HM-WWD. The findings indicated that KM processes (particularly KC and KS) have a statistically significant impact on extra-role employee performance.

5.3.2 Recommendations:

After all, it seems to be unaware of the paybacks that the processes of knowledge management may provide to increase employee performance, leading to improved organizational performance, and citizens' satisfaction for the public sectors institutions. Nevertheless, whether intentionally or unintentionally, KM processes have always been combined in government tasks, inseparable from planning, strategies, consultation, meetings, and implementation.

It was revealed that government entities are often bureaucratic and hierarchical, which makes information sharing challenging. People also appear hesitant to share knowledge since they "keep knowledge close to their heart as they move through the ranks by the knowledge is power paradigm" (Liebowitz and Chen, 2003, p.422; Syed-Ikhsan & Rowland, 2004), this needs special attention to create supportive environment to encourage knowledge sharing.

According to the afore mentioned findings and discussed points of views, and within this research context, the researcher proposes the following recommendations:

1- It is suggested that when the local governmental unit (municipality) invests in developing the KM processes of knowledge creation and knowledge sharing, subsequently the employees will probably reciprocate such investment positively for the public organization (service provider), through being in a learning and cooperative environment considering knowledge sharing and access to information, with the opportunity to gain new knowledge and experience from older experienced colleagues; the employees will appreciate the opportunity of career development, skills development and the participation in decision-making in the organization. In return, the employees will do their best to foster their performance to meet the organizational goals and objectives, which will be reflected in better citizen satisfaction for the service provided.

2- Municipalities (as service providers) should employ more knowledge-creation activities to enhance employee performance. HM-WWD should adopt continuous learning initiatives like adopting a supportive environment and strengthen socialization links between employees to enhance information sharing needed to perform tasks and encouraging employees to disclose their implicit knowledge. Also, to implement more formal and informal procedures to create knowledge, like training programs, and participate in external activities to gain the opportunity to absorb knowledge from experiences outside the organization, and to implement activities that assist the employees in combing and categorizing the existing information for producing new knowledge.

3- The HR team in cooperation with the high management and the most experienced employees, must develop a practical training and knowledge-gaining plan, to be implemented by older employees. Such activities will support knowledge creation among employees and make older employees feel their value to act as trainers. Most importantly, this way will ensure the process of extracting the implicit knowledge from the minds of the experienced employees into written materials, which can be developed into catalogs and manuals from one side and boost the knowledge and skills of other employees on the other side.

4- HM-WWD should continue implementing the knowledge-sharing activities among the employees and between the different departments using formally set procedures, especially, the collected and analyzed data and reports, which can highlight the problems, the solutions, and the way to avoid repetitive mistakes.

5- HM-WWD must conduct educational workshops to create the opportunity for the employees to socialize and create trust links and good relations to develop a supportive environment and team working spirit that fosters the willingness to share knowledge among all employees.

6- HM-WWD should be careful while encouraging knowledge sharing, as the employee can be reluctant to share his/her knowledge for the sake of retaining his/her position, or for the sake of a potential promotion into a higher position, so the management should use motivations and rewards for the knowledge sharing initiatives.

7- The IT department in the HM-WWD must perform organized efforts to transfer the collected and codified data and information into applicable forms and clear reports that help the employees to utilize this information. In fact, this requires a supportive

environment and culture, and a mature management insight into the importance of utilizing the available knowledge in the department, which will then be able to lead to improved performance.

8- Hm-WWD must keep up the codification process which was reflected to be the highest implemented process of knowledge management processes in the Hm-WWD, while considering the development of a road map to utilize and apply the codified information, in a way that supports the employee performance.

9- HM-WWD must put procedures and tools for the employees to ensure their knowledge gaining through KM processes, as the extra role performance can lead to motivation and creative thinking in the WWD.

10- Decision makers in the Hm-WWD should develop a plan to develop soft infrastructure needed for KM application, in cooperation with the IT department, considering the usage of information sharing platform like the SharePoint, to be accessible by all employees, including the continuous data updating and training for employees for the platform usage.

11- Managers of all department should develop integrally a procedural plan to magnify the KM dimensions application in the HM-WWD.

5.4 Conclusion:

The knowledge Management role is considered a relatively neglected area of research and practice in the public sector, especially when referred to municipalities as water service providers on the national scale, and in developed countries and the Middle East on the regional scale. This study observes that knowledge management is required to improve employee performance in the HM-WWD as a public sector institution and a services

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provider. The study's findings demonstrated that applying knowledge creation and sharing processes as part of knowledge management can lead to improved employee performance, in-role performance, and extra-role performance. Therefore, it is important for public sector organizations to invest in the KM processes of knowledge creation and knowledge sharing, to enhance employee performance, which will result in enhanced service provision and subsequently citizens satisfaction. However, the study results found that knowledge application and knowledge codification processes have no impact on the employee performance. Finally, the results demonstrated a higher-level impact of knowledge creation processes on employee performance, in-role and extra-role performance among the other KM investigated processes.

5.5 The Study Contribution

The significance of the current study is indicated below:

5.5.1 The "research Gap" - Contribution

Many studies were conducted to examine multiple characteristics of KM concerning private or business firms, Nevertheless, relatively few research was directed to address the public sector organizations. In addition, when public sector organizations were targeted in the conducted research, most of them were in the educational and health sectors, yet very few research targeted the LGUs (as service providers). Knowing that the researcher's initial first goal was to investigate the performance realities of Palestinian local authority institutions, as an under-studies sector. The reason behind choosing the LGUs is that they represent the main artery of providing the water services for the Palestinian population, whilst the water service is one of the most vital sectors directly linked to life, prosperity, environment, and economy.

In addition, the LGUs as service providers, must assure the performance of their employees as they are in direct contact with the citizens. Employees are of the highest value element to be studied, to achieve an improved organizational performance and citizens satisfaction. That said, this study was conducted to leverage this population gap through the study's theoretical and practical findings.

5.5.2 KM Processes' Theoretical-Practical Gap – Contribution

Theoretical research states that KM practices, including two of the four studied dimensions; knowledge creation processes and knowledge sharing processes do significantly improve employee performance. However, the other two studied dimensions: knowledge codification processes, and knowledge application processes, do not considerably increase performance of employees; in fact, the HM-WWD administrative personnel noted several obstacles and problems with the implemented KM processes (as per the initial interview findings). Therefore, the researcher pointed out the KM practices applied in the public sector in general and in Palestinian water sector in particular, which was the study's second motive. The current study added to the researches of studies in KM practices within the public sector, through investigating the application of the four investigated dimensions and their impact on the employees' performance in the HM-WWD. KM practices were found to have significant effects on the performance of WWD staff, as the study's results showed a strong correlation between two of the four variables examined.

5.5.3 Practical significance

LGU in Palestine face several challenges in providing their services in general and the water service in particular due to the special context of the water sector, Therefore, practically speaking, the study's conclusions can provide public sector organizations with guided information, direction, and insights., and LGUs in particular as service providers, for a distinguished way to enhance their employees' performance through strengthening the implementation of KM processes, which can improve the competitive advantage, and lead to enhanced organizational performance, effectiveness, and citizen satisfaction.

Moreover, knowledge management application may assist the public sector to adopt sustainable practices, like effective utilization of resources, reduced work duplication, and enhanced environmental sustainability. Additionally, the process of knowledge management may encourage an environment that values innovation, creativity, and ongoing development, which will boost and enhance provided services quality, which in turn may contribute to the prosperity of the Palestinian local communities.

A special practical contribution can be for the HM-WWD, due to the fact that it will be upgraded soon to a water utility, with expanded services and more employees. If the knowledge and experience embedded in the employees' minds were not shared, and applied, much information, and years of experience will be lost. Sharing and maintaining knowledge between employees and departments is vital for the expected upgrade.

5.6 Limitations and recommendation for future research

This study acknowledges the following limitations:

1. The study was conducted in HM-WWD which confines the generalization of findings only to similar institutional context in Palestine, considering that might necessitate repeating the research in different public (LGUs) organizations.

2. The study is cross-sectional, which collected data during limited time period at once. Cross-sectional studies' findings do not present cause-effect relations, so it might be hard to explain because they basically show relations between variables. So, to avoid the likelihood for incorrect interpretation of variables' relationships, researchers often conduct further research to examine the findings accurately.

3. The study adopted a mid-point scale for the measurement which enable the participants to select such a response as a convenient means to get out.

Eventually, the researcher recommends the following future research:

1. Other KM processes can be examined in the public sector organizations like knowledge retention.

2. Future researched can consider moderating factor that can influence the KM processes impact on the employee's performance, like organization culture, quality management, organizational commitment, leadership styles)

3. A wider range of sample size of public sector (LGUs) in Palestine should be measured, to enable the researcher of establishing a broader understanding of the examined relationships.

4. Future research that targets the knowledge application and knowledge codification on the employee performance are required, due to the fact that most studies focus more on the knowledge creation and knowledge sharing dimensions.

5. Conduct future in-depth interviews with all key employees in the HM-WWD and other managerial bodies in the water sector like the PWA and the Water Sector Regularity Council, to discuss the findings and recommendation, as a way forward to put future development plan for the water service providers.

5.7 Chapter Summary

This chapter discusses the research findings and clarifies its relation to literature and past studies. Later, recommendations were listed for the WWD, Also, it explained the contributions of the study; the contribution of the "sector gap," the theoretical-practical gap of KM Processes, and the practical significance. It finalized by outlining the study's limitations and offering suggestions for further research investigations.

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1Appendix I- Primary assessment interview tool

The questionnaire collected information from 3 key employees in the WWD whom are:

WWD Technical Manager (acting executive manager at the interview time), HR manager,

and the head of projects execution department.

Dear Sir/Madame,	الأخ الفاضل ....، الأخت الفاضلة........
Greetings،	
The researcher is preparing a study entitled: "Developing Water Sector Management in the City of Hebron: An introduction of Knowledge Management" in fulfillment of the requirements for obtaining a Master's degree in Business Administration in Hebron University. The study aims to propose solutions that lead to wise and rational management of a sustainable water service for the residents of the city of Hebron. To achieve this goal, you are kindly requested to answer the following interview questionnaire which forms the primary assessment to diagnose the problems in the HM-WWD from the management perspective, as a first step of achieving the objectives of the study.	تحية طيبة وبعد،،،
	تقوم الباحثة بإعداد دراسة بعنوان " تطوير إدارة قطاع المياه في مدينة الخليل" . وذلك كمتطلب لنيل درجة الماجستير في إدارة الأعمال من جامعة الخليل. و تهدف الدراسة الى تطويرمقترحات للتطوير الاداري في دائرة المياه والصرف الصحي في الخليل التي من شأنها أن تؤدي الى ادارة حكيمة رشيدة لخدمة مياه مستدامة لسكان مدينة الخليل"
	"ولتحقيق الهدف صممت أسئلة هذه المقابلة لتشكل التقييم الاولي و تشخيص المشكلات الموجودة في دائرة المياه والصرف الصحي- بلدية الخليل من وجهة نظر الإدارة
Your answer will be used for scientific research	علما إنّ كلّ ما يرد في إجابتكم سيكون موضع احترام وسيتم التعامل معه بسرية تامة ولن يستخدم إلا لأغراض البحث العلمي فقط"

purposes only, and to ensure privacy and confidentiality, you are not required to indicate your name. Thank you for your kind cooperation With respect	أشكر لكم تعاونكم و تقبلوا فائق التقدير والاحترام

1- How do you evaluate the main water supply sources available to serve the Hebron city considering the availability and sustainability?

كيف تقيم مصادر تزويد المياه الرئيسية المتوفرة لخدمة منطقة الصلاحية التابعة لدائرة خدمات المياه والصرف الصحي في

كفايتها وديمومتها بلدية الخليل؟

2- Considering a future look and taking into account the population density, factories, and economic prosperity in the city of Hebron, are there alternative or additional resource plans to meet the city's needs? What are they? What solutions do you see in the future?

بنظرة مستقبلية و مع الاخذ بعين الاعتبار الكثافة السكانية و المصانع و الازدهار الاقتصادي في مدينة الخليل، هل يوجد خطط

مصادر بديلة او اضافية لسد احتياجات المدينة ؟ و ما هي ؟ و ما الحلول التي ترونها في المستقبل ؟

3- Is there a strategic plan for the Water and Sanitation Department? Is it updated periodically? Are employees from different departments involved in its preparation?

هل يوجد خطة استراتيجية خاصة بدائرة المياه و الصرف الصحي؟ و هل يتم تحديثها دوريا ؟ و هل يتم اشراك جميع مدراء

الاقسام و الدوائر في اعدادها ؟

4- What are the most important factors affecting the quantities of water supply and the ability of WWD to provide sustainable water services to citizens?

ماهي اهم العوامل المؤثرة على كميات تزويد المياه وعلى قدرة دائرة خدمات المياه والصرف الصحي في بلدية الخليل في توفير

خدمات مياه مستدامة للمواطنين؟

5- From your point of view, what are the possible administrative solutions to overcome the geopolitical problems that affect the sustainability of water service in the city of Hebron?

من وجهة نظرك، ما هي الحلول الادارية الممكنة لتخطي المشاكل الجيوسياسية التي تؤثر على خدمة مياه مستدامة في مدينة

الخليل؟

6- Does the department use technology to manage water distribution؟

هل تستخدم الدائرة التكنولوجيا في ادارة توزيع المياه

7- What are the challenges in applying and using distribution systems through electronic programs and remote control؟

ما هي التحديات في تطبيق واستخدام انظمة التوزيع من خلال برامج الكترونية والتحكم عن بعد

8- What are the most important administrative challenges that hinder the provision of sustainable water services in the city of Hebron and at the national level?

ما هي اهم التحديات الإدارية والتي تعيق توفير خدمات مياه مستدامة على مستوى مدينة الخليل وعلى المستوى الوطني

9- How do you evaluate the capabilities of HM-WWD in identifying administrative problems?

كيف تقيم قدرات دائرة خدمات المياه والصرف الصحي في بلدية الخليل في تحديد المشاكل الإدارية

10- How do you evaluate the capabilities of the WWD in understanding the common interests with the relevant parties and stakeholders in providing sustainable water services at the level of the city of Hebron؟

كيف تقيم قدرات دائرة خدمات المياه والصرف الصحي في بلدية الخليل في فهم المصالح المشتركة مع الأطراف ذات العلاقة

بتوفير خدمات مياه مستدامة على مستوى مدينة الخليل

11- How to evaluate the capabilities of the WWD in developing appropriate solutions to provide sustainable water services in Hebron city?

كيف تقييم قدرات دائرة خدمات المياه والصرف الصحي في بلدية الخليل في وضع حلول مناسبة لتوفير خدمات مياه مستدامة في

مدينة الخليل

12- How to evaluate the capabilities of the WWD in developing strategies and procedures to achieve the sustainable water services in Hebron city؟
كيف تقييم قدرات دائرة خدمات المياه والصرف الصحي في بلدية الخليل في وضع استراتيجيات واجراءات تحقق توفير خدمات
مياه مستدامة في مدينة الخليل ؟
13- How to evaluate the capabilities of the WWD in monitoring and evaluating citizens' satisfaction of the provision of sustainable water services in Hebron city?
كيف تقييم قدرات دائرة خدمات المياه والصرف الصحي في بلدية الخليل في متابعة وتقييم رضى المواطنين عن توفير خدمات
مياه مستدامة في مدينة الخليل
14- How do you evaluate the performance of employees in terms of the tasks required within their job title?
كيف تقيم أداء الموظفين من حيث المهام المطلوبة ضمن مسماهم الوظيفي
15- How do you evaluate the performance of employees in terms of their readiness to perform new tasks not listed in their job description?
كيف تقيم أداء الموظفين من حيث استعدادهم لعمل مهام جديدة او غير مطلوبة حسب مسماهم الوظيفي؟
16- Is there a spirit of team work and cooperation prevail among the WWD's employees?
هل تسود روح التعاون بين الفريق والعمل الجماعي بين موظفي الدائرة
17- Is there a clear organizational structure for employees in the WWD? When was it last updated؟
هل يوجد هيكل تنظيمي واضح للموظفين في دائرة خدمات المياه والصرف الصحي في بلدية الخليل، متى تم اخر تحديث له؟
18- Have the division of work, specialization, number of organizational levels, scope of supervision, hierarchy of authority, etc. been taken into consideration in the WDD
هل تم الاخذ بعين الإعتبار تقسيم العمل والتخصص وعدد المستويات التنظيمية ونطاق الإشراف وتسلسل السلطة وغيرها
19- Is there a clear job description for each employee؟

هل يوجد وصف وظيفي واضح لكل موظف	
20- Are there HR development plans for the employees in the WWD؟ هل يوجد خطط تطويرية للموارد البشرية في الدائرة ؟	
21- When was the last training performed for the administrative team in the WWD? متى كان اخر تدريب تلقاه الفريق الاداري	
22- Was the training designed based on a real need assessment? هل كان التدريب مصمم بناء على تقييم احتياج حقيقي؟	
23- Does the technical staff receive advanced trainings periodically? هل يتم تقديم تدريبات متقدمة للطواقم الفنية بشكل دوري؟	
24- Does the HR do exit interviews with employees ending their work in the WWD? هل يقوم قسم الموارد البشرية بإجراء مقابلات نهاية الخدمة مع الموظفين الذين أنهوا عملهم في الدائرة؟	
25- Is implicit knowledge transferred to written information before employees retire? هل يتم نقل المعرفة الضمنية الى معلومات مكتوبة قبل تقاعد الموظفين	
26- Does the department have a code of conduct? هل يوجد مدونة سلوك لدى الدائرة ؟	
27- Does the WWD or municipal council invite citizens to attend meetings related to the Water and Sanitation services to inform and discuss the related decisions and procedures applied هل تقوم الدائرة او المجلس البلدي بدعوة المواطنين لحضور اجتماعات خاصة بدائرة المياه و الصرف الصحي للاطلاع على القرارات و الاجراءات المطبقة	
28- Are regular periodic surveys conducted to measure citizen's satisfaction for the water service?	

هل يتم عمل استطلاعات دورية منتظمة لقياس رضى المشتركين عن خدمة المياه؟

29- Is the information collected from citizen's services and complaints analyzed and regular reports are prepared?

هل يتم تحليل المعلومات المجموعة من خدمات المواطنين والشكاوي وعمل تقارير منتظمة؟

30- Is the collected knowledge and lessons learned shared and disseminated among different projects and departments?

هل يتم تعميم المعرفة المجموعة من خلال المشاريع المختلفة ومشاركة الدروس المستفادة بين الاقسام

31- How do you evaluate the WWD's implementation of the response and effectiveness in providing citizen service and maintenance?

كيف تقيم تطبيق دائرة المياه والصرف الصحي للاستجابة والفاعلية في تلبية خدمة المواطن والصيانة

32- How do you evaluate the WWD's implementation of the monitoring and evaluation and learning?

كيف تقيم تطبيق دائرة المياه والصرف الصحي للرقابة والتقييم و التعلم

33- How do you evaluate the WWD in the implementation of the operational processes?

كيف تقيم تطبيق دائرة المياه والصرف الصحي للعمليات التشغيلية

34- Are modern devices and equipment used to detect malfunctions? Are technicians proficient in using modern equipment?

هل يتم استخدام الاجهزة و المعدات الحديثة للكشف عن الأعطال وهل يجيد الفنيين استخدام المعدات الحديثة؟

35- How to evaluate the capabilities of detecting, identifying and evaluating problems and receiving malfunction reports

كيف تقيم القدرات في كشف وتحديد وتقييم الاعطال ووصول تقارير الاعطال

36- How do you evaluate knowledge sharing among employees?

كيف تقيم مشاركة المعرفة بين الموظفين

37- Are there clear written procedures and manuals for employees that are easy to access?

هل يوجد اجراءات وادلة مكتوبة واضحة للموظفين وسهلة الوصول؟

Appendix II- Survey tool (Questionnaire) -English version

Dear Sir/Madame,

Greetings,

The researcher is preparing a study entitled: "Developing Water Sector Management in the City of Hebron: An introduction of Knowledge Management" in fulfillment of the requirements for obtaining a Master's degree in Business Administration in Hebron University. To achieve this goal, I kindly ask you to answer the following sections of the questionnaire accurately for the purpose of achieving the objectives of the study.

Please note that this questionnaire consists of four sections, and the estimated time to answer it ranges from 10-15 minutes. Please answer the questions according to the instructions in each section.

For your information, your answer will be used for scientific research purposes only, and to ensure privacy and confidentiality, you are not required to write your name.

Thank you for your kind cooperation

With respect

Section One: Personal Information

Gender:
o Male
o Female

Academic Degree:
o Diploma or less
o Bachelor
o high studies

Age:------
Please insert your job title……………
Please choose your department:

1. Department	2. section
Support services	Tenders and Procurement
	IT
	Human resource
	Finance
	Transportation
Customer services	Collection
	Customer services
Assets Management	Projects execution
	Planning and infrastructure
Operating and maintenance	Water quality
	Electromechanical
	Waste water
	Water
Municipal Management or councilors	
Others	

Years of experience in the Water and Wastewater Department - Hebron Municipality:
o 1 year or less
o 2-5 years
o 6-10 years
o 11-15 years
o More than 15 year

Years of Experience in the water sector:
o 1 year or less
o 2-5 years
o 6-10 years
o 11-15 years
o More than 15 year

Section Two: Processes of knowledge management

Instruction: Please read the following items about the knowledge management processes/practices, and according to your view, indicate the degree of your agreement or disagreement with each statement according to the scale below.

1 = Strongly agree. 2 = agree. 3 = sort of agree. 4 = Disagree. 5 = Strongly Disagree

	Knowledge creation	1	2	3	4	5
1.	The knowledge can be transferred through talk and narrative among the employees					
2.	Experienced employees disclose implicit information to their colleagues					
3.	The WWD continuously transfers the tacit knowledge to clear explicit knowledge.					
4.	The employees can learn from each other by watching,					

	imitating, and practicing.					
5.	The employees have knowledge interaction with others to combine their knowledge with themselves					
6.	Training programs are provided to continually enhance employees' knowledge and skills					
7.	The employee receives continuous opportunities to gain knowledge from experiences outside the organization					
8.	The employees combine and categorize the existing information for producing new knowledge					
9.	The work environment in the department is supportive for employees to obtain the information necessary to perform tasks					
	Knowledge application					
1	New knowledge is used to modify work instructions and procedures					
2	The department encourages employees to use knowledge, transform it into plans, and apply it at work					
3	The Department constantly updates its existing information and knowledge					
4	The department employs knowledge and lessons learned to solve problems in an integrated manner between different departments					
5	The department adopts an updated system that includes transforming tacit knowledge from employees' experiences into					

	written knowledge for application and benefit					
	Knowledge codification					
1	The department uses a classified database that is easy to compile and record, which includes everything related to water and Wastewater projects.					
2	The WWD uses electronic codification to store knowledge for all information related to beneficiaries within Hebron Municipality water and waste water services					
3	Access to the database is accessible to the employee according to the level of his job title					
4	The WWD documents the knowledge it possesses in forms of documents and bulletins					
5	The WWD collects and records Feedback from customers for later use					
6	Best practices from lessons learned are recorded.					
	Knowledge sharing					
1	The WWD uses official means of communication designed to communicate between employees, such as e-mail and a special communication platform between different departments					
2	Knowledge is scattered around the organization					
3	There is a desire among individuals to share their knowledge with other employees					

4	The WWD possesses formal mechanisms ensuring that the best practices are shared					
5	Collected Data is analyzed and transferred in a form of reports to the high management.					
6	There are clear guidelines (in the form of a catalogue) for employees from which they can obtain the knowledge necessary to perform their tasks					
7	Informal information is shared frequently and without obstacles within the firm					
8	Stored data is shared with employees					

Section Three: Employee performance

Instruction: Please read the following items about your performance. And according to your view, indicate the degree of your agreement or disagreement with each statement according to the scale below:

1 = Strongly agree. 2 = agree. 3 = sort of agree. 4 = Disagree. 5 = Strongly Disagree

	In-role performance	**1**	**2**	**3**	**4**	**5**
1	I fulfill the job objectives.					
2	I meet criteria for performance.					
3	I am proficient in tasks related to my job.					
4	I meet my job's requirements.					
5	I can manage more responsibility than typically assigned to me.					
6	I appear suitable for a higher-level role.					
7	I am competent in all areas of the job, handle tasks with proficiency					
8	I perform well in the overall job by carrying out tasks as expected.					
9	I plan and organizes to achieve objectives of the job and meet deadlines					
	Extra-role performance	**1**	**2**	**3**	**4**	**5**
1	I help other employees with their work when they are absent.					

2	I am punctual; I do arrive on time at work, both in the early morning and after lunch time.					
3	I voluntarily do tasks that are not officially required by my job.					
4	I do not take undeserved work breaks					
5	I take initiative to orient new employees to the department despite it is not part of his/her job description					
6	I exhibit above-average attendance at work, such as, taking less off days than that of most people or fewer than permitted.					
7	I assist other colleagues as their workload grows.					
8	I coast toward the end of the day.					
9	I give advance notice if unable to come to work.					
10	I do not spend a great deal of time in personal telephone conversations.					
11	I am not into taking unneeded leaves from my job.					
12	I assist my supervisor to accomplish his responsibilities.					
13	I do not take extra breaks.					
14	I attend functions that are not formally mandated by the business but contribute to its image.					
15	I care for and interested in the development of the department					

Appendix III- Survey tool (Questionnaire) -Arabic version

عزيزي الموظف المحترم/ عزيزتي الموظفة المحترمة

تحية طيبة وبعد،

تقوم الباحثة بإعداد دراسة بعنوان: " تطوير إدارة قطاع المياه في مدينة الخليل: مدخل ادارة المعرفة" و ذلك استكمالا لمتطلبات نيل درجة الماجستير في إدارة الأعمال. ولإنجاز هذه الغاية، فإنني أرجو من حضرتكم التكرم بالإجابة على أقسام الاستبيان المرفقة بدقة لغرض تحقيق أهداف الدراسة.

يرجى العلم ان هذا الاستبيان مكون من أربعة اقسام، والوقت المقدر للإجابة عليه يتراوح من 10-15 دقيقة. يرجى الاجابة عن الاسئلة وفق الارشادات الموجودة في كل قسم.

وللعلم فان اجابتك ستستخدم لأغراض البحث العلمي فقط، وللتأكيد على الخصوصية والسرية فانت غير مطالب بكتابة اسمك.

شاكرة لكم حسن تعاونكم

مع الاحترام

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القسم الأول: البيانات الشخصية

الارشادات: يرجى الاجابة عن الاسئلة التالية بموضوعية وشفافية:

1. الجنس   1- ☐ ذكر   2- ☐ انثى

2. مستوى التعليم   1- ☐ دبلوم فأقل   2- ☐ بكالوريوس

   3- ☐ دراسات عليا

3. العمر ━━━━━━━━ سنة.

4. المسمى الوظيفي _____

5. يرجى اختيار الدائرة والقسم الذي تعمل فيه

القسم	الدائرة
المشتريات والعطاءات	الخدمات المساندة
تكنولوجيا المعلومات	
الموارد البشرية	
المالية	
النقل	
الجباية	خدمات المشاركين
خدمات الجمهور	
تنفيذ المشاريع	إدارة الأصول
التخطيط والبنية التحتية	
جودة المياه	التشغيل والصيانة
الكهروميكانيكية	
الصرف الصحي	
المياه	

6. سنوات الخبرة في دائرة المياه والصرف الصحي-بلدية الخليل:

1- أق□من سنة.   2-□ 5 سنوات   3-   □ – 10 سنوات

4-   م□11 – 15 سنة.   5 -   ال□ من 15 سنة.

7. خبرتك في قطاع المياه:

1.   □ من سنة.   2-   □ 5 سنوات   3-   □ 10 سنوات

4.   □11 – 15 سنة.   5 -   □ من 15 سنة.

القسم الثاني:ممارسات إدارة المعرفة

الارشادات: يرجى قراءة الاسئلة التالية حول ادائك، ومن ثم الاجابة عليها بحسب وجهة نظرك بالموافقة او عدم الموافقة وفق المقياس ادناه.

1 = غير موافق بشدة. 2 = غير موافق. 3 = نوعا ما 4 = موافق 5 = موافق بشدة

5	4	3	2	1	إنشاء المعرفة	
					يتم نقل المعرفة الضمنية (من الخبرة) بين الموظفين ضمن نقاشات وحوارات بين الموظفين	1
					يفصح الموظفون ذوي الخبرة عما لديهم من معلومات ضمنية لزملائهم	2
					تقوم دائرة المياه و الصرف الصحي بتحويل المعرفة الضمنية لمعرفة صريحة واضحة ومكتوبة باستمرار.	3
					يمكن للموظفون التعلم من بعضهم البعض من خلال المشاهدة والتقليد والممارسة في دائرة المياه	4
					لدى الموظفين تفاعل معرفي مع الآخرين لدمج معرفتهم مع بعضهم	5
					يتم توفير برامج تدريبية لتعزيز مهارات الموظفين باستمرار	6
					الموظف يتلقى فرصاً مستمرة لنيل المعرفة من تجارب خارج المؤسسة	7
					يجمع الموظفون المعلومات الموجودة ويصنفونها لإنتاج معرفة جديدة	8
					بيئة العمل في الدائرة داعمة للموظفين للحصول على المعلومات اللازمة لأداء المهام	9
5	4	3	2	1	تطبيق المعرفة	

					تستخدم المعارف الجديدة في تعديل التعليمات والإجراءات التي تخص العمل	1
					تشجع الدائرة الموظفين على استخدام المعارف وتحويلها الى خطط و تطبيقها في العمل	2
					تقوم الدائرة بتحديث المعلومات والمعارف الموجودة لديها باستمرار	3
					الدائرة توظف المعرفة والدروس المستفادة لحل المشكلات بصورة متكاملة بين الأقسام المختلفة	4
					تعتمد الدائرة نظاما محدثا يتضمن تحويل المعرفة الضمنية من خبرات الموظفين الى معرفة مكتوبة لتطبيقها والاستفادة منها	5

5	4	3	2	1	تدوين المعرفة وتخزينها	
					تستخدم الدائرة قاعدة بيانات مصنفة يسهل تجميعها و تدوينها تتضمن كل ما يتعلق بمشاريع المياه والصرف الصحي .	1
					تستخدم الدائرة التخزين الإلكتروني للاحتفاظ بالمعرفة لجميع المعلومات المتعلقة بالمستفيدين ضمن نطاق خدمة بلدية الخليل	2
					الدخول الى قاعدة البيانات متاح للموظف حسب درجة مسماه الوظيفي	3
					تقوم الدائرة بتوثيق المعارف التي تملكها في نماذج وثائق ونشرات	4
					يتم تدوين التغذية الراجعة من الزبائن	5
					يتم تدوين أفضل الممارسات بناء الدروس المستفادة	6

					مشاركة المعرفة	
					تستخدم دائرة المياه والصرف الصحي وسائل تواصل رسمية معدة للتواصل بين الموظفين مثل البريد الالكتروني ومنصة تواصل خاصة بين الأقسام المختلفة	1
					يوجد تبادل معلومات دائم بين الاقسام المختلفة بطريقة غير رسمية (نشر المعرفة)	2
					يوجد رغبة لدى الأفراد في مشاركة معرفتهم مع الموظفين الاخرين	3
					تمتلك الدائرة آليات رسمية تضمن مشاركة أفضل الممارسات	4
					تقوم الدائرة بعمل تحليل للبيانات المجمعة وتقديمها على شكل تقارير إلى الإدارة العليا.	5
					يوجد أدلة واضحة (بشكل كتالوج) للموظفين يمكن من خلالها أخذ المعرفة اللازمة لأداء مهامهم	6
					تتم مشاركة المعلومات بطريقة غير رسمية بشكل متكرر ودون عوائق داخل الدائرة	7
					تقوم الدائرة بمشاركة المعلومات المخزة مع جميع الموظفين	8

القسم الثالث: أداء الموظفين

الارشادات: يرجى قراءة الاسئلة التالية حول ادائك، ومن ثم الاجابة عليها بحسب وجهة نظرك بالموافقة او عدم الموافقة وفق المقياس ادناه.

1 = غير موافق بشدة. 2 = غير موافق. 3 = نوعا ما. 4 = موافق. 5 = موافق بشدة

5	4	3	2	1	الاداء الاساسي	
					احقق الاهداف التي يتطلبها عملي.	1
					ألبي معايير الاداء الموضوعة من قبل **الدائرة** لوظيفتي.	2
					امتلك الخبرة اللازمة في تأدية المهام المتعلقة بعملي.	3
					أستوفي جميع متطلبات اجراءات عملي.	4
					استطيع القيام بمسؤوليات اكبر من المخصصة لي عادة.	5
					ابدو مناسبا لشغل مهام ذات مستوى اعلى.	6
					أنا مختص في جميع مجالات عملي، واتعامل مع المهام بكفاءة.	7
					أؤدي عملي عموما بشكل مناسب، من خلال تنفيذ المهام كما هو متوقع.	8
					انا اخطط وانظم عملي سعيا لتحقيق اهداف الوظيفة والوفاء بالمواعيد النهائية.	9
5	4	3	2	1	الاداء الاضافي	
					أساعد الموظفين الآخرين في عملهم في حالة غيابهم.	1
					أظهر الالتزام بمواعيد الوصول الى العمل في الوقت المحدد في الصباح وبعد استراحة الغداء.	2
					أتطوع لفعل أشياء غير مطلوبة رسميا في وظيفتي.	3
					أتجنب الحصول على استراحات في العمل غير مستحقة.	4
					ابادر في توجيه وارشاد الموظفين الجدد في القسم على الرغم من أن هذا ليس جزءا من الوصف الوظيفي الخاص بي.	5
					ايام الدوام الخاص بي اعلى من المعدل، على سبيل المثال، اخذ اجازات اقل من معظم الزملاء واقل من المسموح به.	6

					أساعد الآخرين عندما يزداد عبء العمل لديهم.	7
					اقضي يوم العمل بمنتهى الجد والمثابرة.	8
					في حال تعذر قدومي للعمل، اقوم بإشعار الدائرة مسبقا عن ذلك.	9
					لا أقضي الكثير من الوقت في المكالمات الهاتفية الشخصية.	10
					اتجنب الحصول على "مغادرات" اذا كانت غير ضرورية.	11
					أساعد رئيسي المباشر في إنجاز واجباته إذا لزم الأمر.	12
					خلال يوم العمل، لا اخذ اوقات راحة اضافية.	13
					اشارك بحضور الانشطة التي تحسن من الصورة العامة للدائرة، وإن لم يكن ذلك من مهامي الوظيفية.	14
					أهتم بامر الدائرة وأبحث عن كيفية تطويرها	15

Appendix IV- Survey tool (Questionnaire) arbitration

The names of arbitrators of the survey tool.

No	Name	Title	Institution
1	Dr. Mohammad Jabari	Dean of the Graduate Studies Facility	Hebron University
2	Dr. Mahmoud Salahat	President Assistant of Administrative Affairs	Palestine Ahliya University
3	Dr. Yousef Abu Fara	Associate Professor, And part time lecturer in Hebron university	Al Quds open university, Hebron University
4	Dr. Abdul Latif Abu Shukor	Retired Economy lecturer from Al Najah University, and part time lecturer in Hebron and Al Najah University	Hebron University, Al Najah University
5	Dr. Moath Abu Sa'da	Technical Advisor for the Palestinian Water Authority	Palestinian Water Authority
6	Mrs. Majeda Alawneh	Acting General Director of Water Resources and Control Directorate	Palestinian Water Authority

Annex V- Task Facilitation letter

HEBRON UNIVERSITY

جامعة الخليل

Ref.

بسم الله الرحمن الرحيم

الرقم :

Date

التاريخ : 2024/2/4

لمن يهمه الامر

تحية طيبة وبعد،

<u>الموضوع / دراسات عليا</u>

يفيد برنامج الماجستير في ادارة الاعمال في جامعة الخليل بأن الطالبة **روان عبد الحي عبد الرؤوف شاور** ورقمها الجامعي (21829041) هي احدى طالبات برنامج الماجستير في ادارة الاعمال (MBA) وهي في طور جمع المعلومات.

نرجو من حضرتكم التعاون مع الطالبة في توزيع الاستبانة على موظفي دائرة المياه والصرف الصحي والاقسام ذات العلاقة في بلدية الخليل مع العلم ان الاجابات ستستخدم لأغراض البحث العلمي فقط.

يرجى مساعدتها في تسهيل مهمتها لإعداد الرسالة الموسومة (**تطوير إدارة قطاع المياه في مدينة الخليل**).

مع الاحترام و التقدير،

د. محمد الجعبري

عميد كلية التمويل والإدارة
رئيس لجنة الدراسات العليا

Appendix VI

The normality results of the study indicators (items)

Items	N	Missing	Kurtosis	Skewness	Kolmogorov-Smirnov	
					Statistic	Sig.
KCr1	104	0	-1.248	-0.494	0.299	0.000
KCr2	104	0	-1.327	-0.389	0.282	0.000
KCr3	104	0	-1.418	-0.091	0.220	0.000
KCr4	104	0	-1.126	-0.485	0.269	0.000
KCr5	104	0	-1.360	0.088	0.203	0.000
KCr6	104	0	-1.422	0.044	0.205	0.000
KCr7	104	0	-1.381	0.066	0.197	0.000
KCr8	104	0	-1.497	0.035	0.219	0.000
KCr9	104	0	-1.328	-0.433	0.259	0.000
KRA1	104	0	0.019	-0.827	0.319	0.000
KRA2	104	0	0.654	-1.076	0.318	0.000
KRA3	104	0	1.818	-1.110	0.376	0.000
KRA4	104	0	1.360	-1.269	0.382	0.000
KRA5	104	0	9.357	-3.106	0.517	0.000
KCo1	104	0	2.343	-1.367	0.386	0.000
KCo2	104	0	3.535	-1.536	0.405	0.000
KCo3	104	0	5.582	-1.891	0.416	0.000
KCo4	104	0	1.041	-1.226	0.379	0.000
KCo5	104	0	3.134	-1.610	0.407	0.000
KCo6	104	0	1.876	-1.506	0.410	0.000
KS1	104	0	1.572	-1.287	0.413	0.000
KS2	104	0	1.981	-1.301	0.387	0.000
KS3	104	0	2.953	-0.828	0.433	0.000
KS4	104	0	5.284	-1.019	0.447	0.000

KS5	104	0	1.349	-1.282	0.400	0.000
KS6	104	0	-0.687	-0.650	0.314	0.000
KS7	104	0	1.787	-1.442	0.374	0.000
KS8	104	0	0.394	-0.813	0.295	0.000
IRP1	104	0	5.387	-1.841	0.309	0.000
IRP2	104	0	3.104	-1.379	0.298	0.000
IRP3	104	0	1.454	-0.979	0.280	0.000
IRP4	104	0	3.561	-1.383	0.293	0.000
IRP5	104	0	4.244	-1.583	0.295	0.000
IRP6	104	0	1.540	-1.159	0.289	0.000
IRP7	104	0	4.457	-1.630	0.323	0.000
IRP8	104	0	4.576	-1.628	0.331	0.000
IRP9	104	0	3.637	-1.400	0.323	0.000
ERP1	104	0	1.120	-1.030	0.320	0.000
ERP2	104	0	3.450	-1.544	0.338	0.000
ERP3	104	0	0.866	-0.973	0.322	0.000
ERP4	104	0	-1.245	-0.284	0.291	0.000
ERP5	104	0	0.321	-0.906	0.328	0.000
ERP6	104	0	0.153	-0.980	0.362	0.000
ERP7	104	0	0.899	-1.056	0.352	0.000
ERP8	104	0	3.753	-1.537	0.403	0.000
ERP9	104	0	3.222	-1.456	0.384	0.000
ERP10	104	0	-1.267	-0.176	0.290	0.000
ERP11	104	0	1.558	-1.379	0.404	0.000
ERP12	104	0	0.812	-0.972	0.352	0.000
ERP13	104	0	1.138	-1.091	0.344	0.000
ERP14	104	0	1.001	-1.159	0.365	0.000
ERP15	104	0	3.489	-1.720	0.412	0.000