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DEPARTMENT OF PROJECT MANAGEMENT

THE EFFECT OF KNOWLEDGE MANAGEMENT ON EMPLOYEE PERFORMANCE: A CASE OF INFORMATION NETWORK SECURITY ADMINISTRATION

BY

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Declaration

I, Yohannes Befekadu, hereby declare that this thesis entitled "Effect of Knowledge Management on Employee Performance: The case of Information Network Security Administration" is my work. All information in this material has been obtained and presented under the ethical conduct of university academic rules. I prepared this paper under the guidance of my adviser Ashenafi Haile(Phd)

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Date _____

Statement of Certification

This is to certify that I has carried out this research project work on the topic entitled *"**Effect of Knowledge Management in Employee Performance: A Case of Information Network Security Administration**"* under advisor supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the requirements of the award of Masters of Art in Project Management.

Dr. Ashenafi Haile (PHD)

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Date _____

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Abbreviations and Acronyms

ANOVA	Analysis of variance
INSA	Information Network Security Administration
KAP	Knowledge Application
KC	Knowledge Creation
KM	Knowledge Management
KPI	Key Performance Indicators
KS	Knowledge Storage
KSH	Knowledge Sharing
MA/MSc	Master of Arts/ Master of Science
OC	Organizational Culture
EP	Employee Performance
SD	Standard Deviation
SEM	Structural Equation Modeling
SME	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences

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Abstract

The Paper seeks to examine the effect of knowledge management on employee performance in Information Network Security Administration. The study specifically sets out to determine a significant relationship between the knowledge management process and organizational performance. It also examines the extent to which knowledge management factors affect the performance of an organization. The target population of this research was 163 employees. The researcher used census sampling technique. The study used descriptive and explanatory survey research design. The approach used in this research is quantitative approach mostly and qualitative also. The study's primary data were collected through a questionnaire, and it is the major resource for this study. Then, descriptive statistical methods, multiple regression, Multicollinearity test and Pearson correlation analysis were used, and results would be presented. The findings of this study show that processes and factors of knowledge management reveal the existence of a significant relationship between the knowledge management process and organizational performance. Therefore, the study concludes that knowledge management processes affect organizational performance. Thus, the researcher recommends that Information Network Security Administration have a knowledge management system that helps the organization create and maintain a strong knowledge management system to achieve sustainable growth. Besides this, the Paper can demonstrate that knowledge management is a crucial driver of employee performance.

Keywords: knowledge management, performance

Chapter One

1. Introduction

This chapter deals with the background of the study that shows a brief description of the study. Then it contains a background of the company, statement of the problem, fundamental research questions, objectives of the study, the significance of the study, the delimitation/scope of the study and definition of terms. In addition to this, it reveals an overall organization of the study.

1.1 Background of the Study

Organizational management's main objective is to confirm effective and economical use of its various resources like labor, capital, materials, energy, and data to realize aggressiveness and increase productivity. In today's rapid technological change, companies constantly struggle to maintain competitive advantage through market differentiation by providing superior products and services. Among various methods, the management in organizations is increasing their focus on employee's know-how, past experiences, and expertise to excel in achieving their goals. Additionally, improving the communication among employees and changing the organizations culture to a share what you know integral in today's organizations. Without any doubt, Knowledge has become a vital asset for production, next to labor, land, and capital.

The Institute Project Management Body of Knowledge guide (PMBOK) defines a project as being a temporary endeavor undertaken to create unique product, service, or result. Project management is defined as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirement. According to the PMBOK, the increase in project management indicates that the application of appropriate knowledge, process, skills, tools, and techniques can have a significant impact on project success (PMI, 2008). The main objective of project management is to ensure a project is to be completed at the required scope defined by the stakeholders, within project budget, on time and delivers a quality product or service as the end result.

Still, intellectual capital shifted from the professional worker to another colleague. Tacit Knowledge gained from personal experience is more challenging to store, reuse, and extract from individuals. It is residing within people, so it does not express by others. When there is skilled employee turnover in the organization, Knowledge in the employees' minds is lost. KM as a strategic management tool that has to do with how organizations map out strategies to effectively work or plan to work with KM.

The ultimate goal of managing knowledge is to increase profit by improving the efficiency of operations, increasing the quality and quantity of innovations, and enhancing competitiveness. However, this desired benefit cannot be achieved without knowledge collected being effectively applied within the organization. Therefore, employees at all levels of an organization need to systematically utilize the knowledge available at different points of their activities, such as decision making. The organization's ability to apply its knowledge to critical business activities serves as the key link between the business goals of a KM program and its actual, realized benefits. Reusing knowledge inevitably requires the active participation of knowledge workers, typically organized in workgroups in an organization.

Mavodza and Ngulube (2011) stated that the essential part of an organization is getting enough awareness about KM operations by considering KM practices. The following are knowledge management practices: knowledge generation, knowledge acquisition, knowledge organization, knowledge storage, knowledge transfer, knowledge sharing, and knowledge retention.

Knowledge has displayed the achievements of the objective. Therefore, it is an essential resource to the organization. Managing knowledge worldwide has a necessary and high-priced input in managing sustainable development programs. Knowledge management systems have a significant effect on the effectiveness of strategic decisions lead to a better employee performance. The organization wanted to interpret precisely the type of knowledge which give a competitive advantage.

The main objective of knowledge management practices in organizations is to confirm company performance. Organizations achieve the practices of KM by protecting critical knowledge at all levels, applying the stored knowledge when there was a related situation happened, unifying internal knowledge with external knowledge to get combined effect, and gaining very important knowledge constantly, eventually by using internal experiences and external environment new KM practices can be developed. An organization must have a definite understanding of what KM means to its operations by considering using KM practices.

Most organizations have a challenge of supporting themselves by seeing the needs of knowledge constrained economies and considering the importance of knowledge and management. The researcher tried to assess if knowledge management has a significant impact on the performance. This paper evaluated to what extent the knowledge management process affected the organization's performance. Based on the findings, the study proposes suggestions for improving the existing knowledge management practices.

1.3 Statement of the Problem

In today's dynamic business environment, organizations find themselves in a need to manage different projects for the success of their strategies or their mere survival. Nowadays Non-Project driven organizations have also embarked in project management since projects have become a common phenomenon for many businesses. However, project management is not without problems. Because projects have different characteristics than ongoing operations, they pose a brand new set of challenges.

When an organization needs a piece of essential information for unique issues in the organization, they find out to retrieve the required information either from the knowledge that exists within the organization or in employees' heads. However, they may be managing their knowledge. Unfortunately, KM sometimes faces a strong barrier. The problem is organizations do not know what they know. In other words, they are often unaware of the knowledge that exists within their organization already.

Employees (knowledge holders) possessing particular skills and expertise could be invaluable to both colleagues and managers within the same organization. Those who could use this knowledge do not even know these knowledge holders and their knowledge exist.

Ann et al. (2013) state that the development of intellectual capital development (knowledge management) is not shown in the organizational financial statement, but it has the power to contribute the profitability and competitiveness of the organization. Organizations fail to improve the knowledge management process if the knowledgeable employees left the organization either intentionally or not, without taking the experts knowledge on the database. The knowledge is in employees' minds, so the organizations have to identify employees who have essential knowledge that is vital to their organization. So, organizations lack a specific benefit from the knowledge resource.

The researcher has observed that there are problems organizations are facing, such as people are not willing to share their jobs knowledge and also indignant towards the company (because of shortage of time, executives don't provide such knowledge culture and make them feel about consequences that will cost them their jobs. Moreover, most employees doing a task are not repetitive, so most of them could not adopt the actual learning which the executives give. Because of the above reasons most newly employed worker faces difficulty to adapt the work flow of the organization.

In addition to this, the common reason is the required knowledge doesn't available within the organization, sometimes members of the organization fail to share what they know, employee turnover, retirement, and mobility of experienced and knowledgeable professionals lead to loss of knowledge since the company doesn't facilitate the sharing of knowledge with others, even professional that stays within the company the full context of their knowledge is not realized and utilized because the company does not create formal and informal opportunities for the individuals to share their knowledge with others in the organization, lack of proper knowledge management (original memory loss and brain drain), professionals who got training that is prepared by external organizations the employee are not sharing what they get from the training when they come back to the organization.

The researcher believes that the study is reliable in addressing gaps in how knowledge is created, shared, documented, communicated, and secured and seeks to improve knowledge management. When key employees depart from the company, the organization hires a new employee who has less knowledge about the logistics market. Furthermore, the experienced employees leave the company and join other competitor's companies. This is a huge problem for the business organization in general and the logistics industry. Therefore, this study attempted to work on such untouched empirical evidence.

1.4 Research Questions

The following research questions which would address in this study are as follows:

1. What is the practice of KM related to information network security?
2. What are the barriers which impede knowledge management in the organization?
3. What are the benefits of knowledge management practice in the organization?
4. What is the Effect of Knowledge Management on Employee Performance?
5. What Information security awareness plays a role in Knowledge management?

1.5 Objectives of the Study

1.5.1 General Objective

The general objective of the study is to examine the effect of knowledge management on employee performance in the case of information network security.

1.5.2 Specific Objective

The specific objectives of the study are:-

1. To identify existing KM practice in information network security administration.
2. To determine the barriers of knowledge practice in the organization.
3. To distinguish the benefits of knowledge management practice.
4. To quantify effect of Knowledge management on employee performance.

1.6 Significances of the Study

The researcher believes that this study contributes to the management of knowledge in organization. In addition, it helps the organization under study for retaining the tacit knowledge of experienced employees and developing a detailed knowledge management strategy in different periods based on the result of this research. Moreover, the researcher believes that the study can also be a ground work for other researchers to carry out further work in the area. Thus, the study aims to examine the effect of Knowledge Management (Creation, Storage, Sharing, and Application) on employee Performance.

1.7 Scope of the Study

The main focus of this paper is to investigate the effect of knowledge management on employee performance. This study is based on previous studies and theoretical literature on Knowledge Management Practices (Creation, Storage/retrieval, Sharing, and Application).

1.8 Limitations of the Study

Delimitation of a research study explains how the scope of the study is focused on one specific area. This study is only concentrated on assessing the effect of employee management on employee performance, through the generally accepted project management knowledge areas defined by PMBOK, which enhance the management of projects. However, this research was limited to assessing the existing knowledge management processes in INSA.

1.9 Definition of terms

Knowledge: is a coalition of data and information. Besides this, it adds the opinion, skills, and experience of experts. Knowledge is an important asset that is helpful for decision-making. In organizational terms; generally, knowledge is practical skill or expertise, applied information, information with judgment, or the capacity for effective action. Different types of knowledge are tacit, explicit, individual, and collective. Naturally, knowledge works as a link between people.

Knowledge activities: are the most broadly used by an organization, sometimes called the knowledge life cycle or knowledge value chain. Knowledge activities are identifying, creating, storing, sharing, and applying knowledge.

Explicit knowledge: Knowledge that can be compiled in formal systematic language and shared in discussion or writing. The following are examples of explicit knowledge a telephone directory, an instruction manual, or a report of research findings.

Tacit knowledge: is personalized knowledge that resides in the minds of people. Tacit knowledge is often difficult to put into words or otherwise communicate than explicit knowledge. It can be shared from the experts to their employees through discussion, storytelling, and personal interactions. Dimensions of tacit knowledge are the technical dimension and the cognitive dimension. The technical dimension is a kind of informal personal skills, sometimes called know-how. The cognitive dimension is composed of beliefs, ideals, values, schemata, and mental models ingrained in individuals and often taken for granted.

Knowledge management: is the systematic management that helps people in the organization by identifying individual and collective knowledge resources. The flow of Knowledge resources is the process of identifying, creating by supervisors or top management teams, storing knowledge manuals for accessing easily, applying and managing the stored knowledge for benefit of the organization. Thus, knowledge management combines information management and organizational learning.

Employee performance: comprises the organization's goal and objectives and is measured parallel with the actual output. That is to say, employee performance compared the actual results against the proposed outputs.

1.10 Organization of the Study

This study encompasses different subdivisions. Background of the study and the company included in the introductory part of the paper. Statement of problem section contains the main problem of the study by citing related studies from different sources. There are two sections of objectives enlightened in the study, i.e., general and specific objectives of the study. The limitation and scope of the study are included in these sections. Different knowledge management terms are defined in this study. In addition to this, the significance of studies for different organizations, users, and shareholders explains in this section. The second chapter presents the review of literature, which is relevant to the topic under investigation. Chapter three deals with research design and methodology. Chapter four covers the results and data presentation, analysis, & interpretation, and the last chapter, chapter five, contains a summary of findings, conclusion, recommendation, and suggestion for further research.

Chapter Two

2. Literature Review

2.1 Theoretical Review

2.1.1 Definition of Knowledge

In order to propose a clear definition of knowledge, first different levels of KM should be examined namely data, information, knowledge, and science.

The first level of KM is data which includes special numbers, figures, diagrams, or characteristics derived from observation, experience, or estimation. Data, by themselves, do not carry a specific meaning. Rather, one can regard data as raw material for decision-making. Information forms the second level of KM. It includes data in a specific area. At this level, data is classified, recycled, and organized to be able to carry meaning. When information is analyzed, processed, and inserted into a text, it is converted into knowledge. In fact, knowledge includes inferring and identifying uncommon patterns, underlying trends, and exceptions in data or information. When knowledge is used to make effective decisions, improve decision-making and decision quality, and when productivity and profitability are aimed at, knowledge turns into science.

Data, information and knowledge are interrelated with each other. Further, data and information are useless without any useful knowledge. In order to grasp something out of data and information some relevant and appropriate level of knowledge is required.

Knowledge combines internal & external experience, the organization's values, appropriate information, and professional awareness that form the background for new experience and information. Knowledge invents and is put on in the minds of people who have knowledge. It is express as archived documents, practices of knowledge, and norms.

2.1.2 Knowledge Management

Knowledge Management (KM) has become a central theme in today's business environment and a commonly cited source of competitive advantage. In today's global economy, many economic activities in and among firms are based on the contribution of workers that are geographically dispersed and have loose contractual links with the company. Knowledge creation is integral, as knowledge is the only sustainable competitive advantage resulting from learning.

Knowledge Management has been considered the most important asset of an organization. Furthermore, organizations are now realizing its importance due to its success factors like reuse of past knowledge, experiences and innovations. KM can be defined as the process of sharing, distributing, organizing, creating, storing and understanding of knowledge about organization policies, processes and products. Further, as the size of organization grows it becomes very hard to know each other, share experiences and ideas. Likewise, to find appropriate solutions of the problems and store knowledge for future use, therefore, a proper strategy is needed to store and retain this most important intellectual asset. Besides, organizations are also facing difficulties when an expert leaves an organization because the expert knowledge is lost.

Furthermore, the creation and transmission of knowledge are seen as strategically significant as fundamental processes that determine organizational learning abilities and innovation. Although human knowledge is intangible, dynamic, and challenging to measure, no organization can survive. Accordingly, organizations should introduce incentives for their employees to share what they know and capture and retain that knowledge for organizational future use

KM should have a fertile ground for knowledge creation. On the other hand, knowledge management involves the acquisition, storage, retrieval, application, generation, and review of the knowledge assets of an organization in a controlled way.

2.1.3 Types of Knowledge

Chen and Xu (2009) recognized two main categories of Knowledge: Explicit and Tacit. According to the British philosopher, Polanyi(1958), explicit knowledge mainly refers to structure knowledge expressed by text, images and symbols, which can be taught verbally and learned by textbooks, reference materials, databases, etc. Tacit knowledge only exists in people's minds, which is difficult to express by words, symbols, images media.

Tacit knowledge has been defined by several authors but Polanyi was the first who introduced and defined the term tacit knowledge. According to Polanyi, tacit knowledge is very hard to communicate or share and is personal i.e. deeply rooted in actions. Further, tacit knowledge is very hard to articulate in words and requires some metaphors and drawings. Besides, as tacit knowledge resides in human minds so therefore it is subjective and personal in nature. According to Polanyi, we have more knowledge and know-how than ours ability to convey, shows that often people know more but they cannot express in words which represents the tacit nature of knowledge they have. For example, it is very hard to describe in words how to ride a cycle, how to drive aero plane and how to play cricket. Because all this sort of know how cannot be described in words but requires practical demonstration, training and teaching to learn it.

Explicit knowledge can easily be shared, communicated, stored and understood. From its name it is clear that explicit knowledge is impersonal. Besides, explicit knowledge is thus documented and every one can take benefit out of it i.e. publically available with the help of some Information Communication Technology (ICT) tools. Moreover, explicit knowledge refers to codified knowledge available in form of documents, books, figures, maps, diagrams and manuals.

Frequent attempts have been made to give a systematic description of knowledge. Some attempts have been based on cognitive theories, whereas others have been formulated to serve as a basis for instructional design theories. Still another approach is to characterize knowledge from an epistemological point of view. This implies that elements of the knowledge base are characterized by the function they fulfill in the performance of a target task. Epistemological approaches are task dependent this means that different classifications (ontologies) of knowledge types of contrived for different types of tasks and within one domain, the same element of subject matter may be characterized by different ontological typologies.

Knowledge management is capturing, developing, sharing, retention, and effectively using organizational knowledge. Organizational knowledge has two types Tacit and Explicit. Tacit knowledge is in people's minds and results from past experiences, know-how, expertise, etc., and cannot be captured and shared easily. On the other hand, explicit knowledge is embedded in the organization's processes, routines, books, images, symbols and can be easily accessible and available to whomever is seeking specific knowledge. The management of explicit knowledge is relatively easy; information systems play an integral part in capturing and retaining data and information. Explicit knowledge gets through teaching, training, and it is the basis for innovation because of the relative simplicity of its availability to information/knowledge seekers. On the other hand, tacit knowledge management is relatively complex and requires different techniques for its creation, articulation, capture, dissemination, and retention. Tacit knowledge contains many knowledge cheats such as know-how, experience, perspective, and values, which implies more innovative ideas, which constitute the core competitiveness.

2.1.4 Knowledge Management Practices

Knowledge management (KM) is a process that helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning and decision making. To improve the effectiveness of knowledgeable experts, information systems groups at several organizations have started creating databases for knowledge, information maps and custom-made applications.

Knowledge Management has been defined as "[...] the capability by which communities capture the knowledge that is critical to their success, constantly improve it, and make it available in the most effective manner to those who need it [...]" (Birkenkrahe, 2002). According to Liebowitz , Knowledge Management is dealing "with the process of creating value from an organization's intangible assets" and is about "the conceptualization, review, consolidation and action phases of creating, securing, combining, coordination and retrieving knowledge".

Information Security, on the other hand, is usually outlined as the "preservation of confidentiality, integrity and availability of information" while "other properties such as authenticity, accountability, non-repudiation and reliability can also be involved" (ISO / IEC, 2005). There are a number of alternative definitions, but in any case, confidentiality, integrity and availability of information play an outstanding role and can thus be identified as the core of Information Security. Information Security can thus be defined as the management of activities being aimed at the confidentiality, integrity and availability of organization-internal information.

Early in the industrial era, organizations improved their efficiency, effectiveness and hence, their competitive edge by automating manual labor and reducing redundancy. However, now, in the age of the knowledge worker, many organizations have gone through massive restructuring to eliminate redundant workers and jobs. This movement has been swept up by business process re-engineering that resulted in leaner organizations. However, organizations are facing increasingly global competition and a more sophisticated consumer. To stay competitive, companies must still be innovative in reducing their costs and expanding their markets. Thus, organizations are stream lining their processes. KM enters the picture at this point.

Organizational knowledge has four types of modes.

1. **Socialization (Tacit to tacit):** The knowledge which is created by converting tacit knowledge to tacit knowledge between individuals through sharing experiences. Further, in this process individuals try to gain experience and learn know how through observation, imitation and practice e.g. training and showing how to operate a machine.

In socialization process tacit knowledge i.e. mental models, technical skills are mainly shared and therefore mainly focused on communities and collaboration i.e. social interaction. Moreover, as the aim of tacit knowledge is to learn and gain experience from others, so therefore knowledge is created by learning during discussions, meetings, training and team work.

2. **Externalization(Tacit to explicit):** The knowledge which is created by converting tacit knowledge to explicit knowledge between individuals or groups by clearly articulating. Further, it is impossible to fully convert tacit knowledge into explicit because there are always some aspects of knowledge which cannot be made explicit in full. As Polanyi said that "we can know more than we can tell" so therefore it is hard to express and convert tacit knowledge into explicit knowledge in full. Likewise, tacit knowledge is deeply rooted in actions and it is very hard to express in words. Further, tacit knowledge can be expressed through use of metaphors and therefore metaphors play a vital role in externalization process. Additionally, in order to increase the degree of explicitness of knowledge when converting from tacit to explicit first understand it and then transfer it so that everyone can easily learn and can then be codified e.g. discussion or dialog with other or when writing an instruction manual. Moreover, externalization takes place through documenting individual's thoughts, expert opinions, learned stories and then making it accessible and available to all members through some shared repository.

3. **Combination (Explicit to explicit):** The knowledge which is created by converting explicit knowledge to explicit knowledge between individuals or group by integrating or reformulating the existing explicit knowledge in to a new is called combination. Combination can take place as a result of arranging the existing knowledge repositories by adding/sorting or categorizing the repositories or enhancing the search criteria by subject. In addition, the aim of combination process is to collect all of the distributed knowledge and store it into one place in a structured way. Moreover, the individuals or groups transfer and share knowledge through email, meetings, telephonic conversations, documents, and discussions.

4. **Internalization (Explicit-to-tacit):** The knowledge which is created by converting explicit knowledge to tacit knowledge is called internalization. In this process individuals reads the explicit knowledge stored in repositories in the form of documents, manuals and past stories which helps them to increase their experience. Further, internalization helps individuals to gain re-experience because they increase their experience from what others learned previously. Additionally, this is not an easy task as they have to deal with large repositories but in order to cope with it they need to read repositories from multiple sources. Internalization is somehow the processes of learning by doing because individuals read, absorbs the knowledge and then apply/practice the knowledge e.g. learn from a report. Moreover, internalization occurs very rapidly across organizations because more individuals are involved in this process who reads repositories, gain experience from past lessons which then enhance and increase their skills and competence.

2.1.5 Dimensions of Knowledge Management

2.1.5.1 Top Management Commitment

Organizations often regard deployment of their KM cycles as one of the key strategic initiatives, which can potentially provide the necessary basis for sustainable competitive advantage. There are numerous methodological approaches for KMD employment, predominantly driven from KM software vendors or consulting firms promoting their services. The lack of an end to end holistic approach for KM deployment that is grounded in a sound methodological foundation is clearly evident in the current KM market place.

Top management commitment becomes a reality when a manager of a company or division accepts the responsibility for the successful implementation of the business plan. The manager should get involved and add the expertise and special talent that made him president. You need to be surprised how much common sense prevail and how much of it has.

Organizational and managerial issues in KM come up with managerial processes for capturing and distributing knowledge. Besides, these processes need to be improved continuously to become more effective and efficient. The organization's structure need to have knowledge management systems that are flexible and adaptive. "It has to be designed for flexibility instead of rigidity so that they encourage sharing and collaboration across boundaries within the organization and across the supply chain"(Gold et al., 2001).

The term top manager usually refers to the chief executive and those reporting to him or her. Top management commitment includes activities such as communicating company's quality value, reinforcing quality messages meeting with the work force and the customers giving formal and informal recognition, receiving training and training others. Top managers develop and facilitate the achievement of the mission and vision, develop values required for long term success and implement these via appropriate action and behaviors, and are personally involved in ensuring that the organizations management system is developed and implemented. Another important responsibility of top management is establishment of an environment in with performance is rewarded.

Consider following factors as top management activities to support KM implication success:

A. *Economics and Strategic Planning*

For an organization to anticipate its future technology needs, it is extremely important to do long range strategic planning found that most enterprises pursue one or more of the following Knowledge Management strategies:

-Knowledge strategy as business strategy

-Intellectual asset management strategy

-Personal knowledge asset responsibility strategy

-Knowledge creation strategy

-Knowledge transfer strategy

The choice of which KM strategy to pursue is typically based on other strategic thrusts and the value discipline that the enterprise pursues, challenges it faces, and opportunities it wishes to act upon.

A. *Training*

It is safe to claim that "people" should be the main driver of KM. If a KM system is anywhere on the organization's horizon, human resources should being training knowledge engineering. In terms of human resource training, the focus is placed on developing people who are capable of tapping internal and external information and turning it into useful organizational knowledge.

B. *Compensation and Reward*

Domain experts must be recognized and rewarded in ways that make them feel it is worth their time to cooperate. The compensation and reward system focuses on promoting knowledge exchange and group collaboration.

C. *Performance Appraisal*

The performance appraisal apart from providing the input to KM activities, also aims at bringing organizational improvement through effective directing of the employee's behavior.

2.1.5.2 Knowledge culture

Knowledge culture in knowledge management is a topic that managers need to discuss more. Despite the significant contributions that information technology has made to organization success, the key to knowledge management is held by humans, not computers. The collective "know-how" that supports major business decisions and ongoing business processes are referred to as organizational skills. Such competencies ultimately determine competitiveness because they are required for establishing and then executing market-winning strategies. Organizations must first identify and then develop the appropriate set of competencies.

The use of superior abilities in light of superior knowledge results in a competitive advantage. And becoming a long-term market leader necessitates an organization developing new knowledge and then efficiently applying it to adapt to change. Thus, deliberate knowledge creation is the highest embodiment of an organization's competencies and the fruit of a knowledge culture. But what are the characteristics of a knowing culture?

Culture is exhibited in the visible aspects of the organization, like its mission and espoused values. Besides, culture shows how people act, expect each other and share their information. Although culture is a conglomeration of essential organizational elements that serve as a foundation, and nurturer staffs intention to share their information and knowledge requires changes in corporate culture.

2.1.5.3 Information Communication

Knowledge understands based on experience and belief that encompasses implicit and explicit restrictions placed upon objects, relationships, and operations, along with general or specific heuristics with inferred procedures involved in the situation being modeled. Wiig(1989) defined knowledge as the body of understandings, generalizations, and abstractions that people apply to the management and interpretation of their world. It has also been defined as the information that has been organized and analyzed to make it understandable and applicable to solve problem or to make decision.

Communication refers to the process of information sharing between individuals/employees of the organization. To achieve organization's objectives, the practice of effective communication must be there between Managers and practitioners to support employees. Different researchers wrote that effective communication influences the organization to move systematically towards employee participation, customer satisfaction and improve organization performance.

Cultural factors such as collaboration and trust are essential operations for managing knowledge effectively in a firm. Developing cultural factors is necessary for a firm's ability to manage its knowledge effectively. The basic assumption was that there was a statistically significant difference in perception of KM for two groups of respondents for at least one KM process, namely KM culture.

2.1.5.3 Education and Training

Knowledge management can also develop and combine into educational institutions' structures and processes to improve their performances. Five areas benefit knowledge management in educational institutions: research, curriculum development, student and Alumni services, administration, strategic planning, and traditional classroom enhancement.

Kidwell et al., (2001) argued that some of the application areas of knowledge management in the curriculum development process are Curriculum design & revision efforts, knowledge of teaching and learning (with technology), Pedagogy and assessment techniques, student evaluations, etc. Some of the benefits identified are enhancing the quality of the curriculum, improving responsiveness to student evaluations, leveraging the best practices, improving teaching and learning, and monitoring outcomes.

The aim of knowledge management is to support learning organizations that provide all employees with access to corporate memory so that both the individuals and organizations as a whole improve. Re-use of knowledge is one all the time during knowledge sharing, interaction and it benefits an individual who sought the advice of a more experienced colleague. Also, re-use of knowledge provides long-term advantages; thus, necessary systems are critical for harnessing knowledge.

2.1.6 KM and Employee Performance

It is now recognized that knowledge plays a dominant role in our everyday lives and in the business world. Information has consistently been significant for humankind and its evolution, as well as for organizational management. The era of knowledge plays an essential role in the economic growth and development of all enterprises. With the arrival of globalization, knowledge has become an intangible resource generator of permanent competitive advantage.

Organizations need to use knowledge in order to improve their performance and to ensure long term viability in the current business environment. Employee performance suggests employee productivity and efficiency as a result of employee growth. Sinha defined employee performance as depending on the willingness and the openness of the employee to do the job. According to Chien (2015), a successful organization requires employees who are willing to do more than their usual job scope and contribute performance that exceed goal's expectations. In order to produce a good performance today knowledge is trusted as a valuable asset to improve performance, especially employee performance.

In order to help organizations including academic ones (e.g., Universities)to correctly choosing the strategies for investing in knowledge resources, an empirical study was conducted in different universities, presented that knowledge management resources such as knowledge application is positively affecting OP while other resources such as knowledge conversion are not.

It is likely to address that KM strategy could include knowledge transfer concentration, open mindedness orientation, skill sharing and integrated value knowledge. The most significant positive relationships from the whole KM processes performance indicators are factor strategy and leadership, among knowledge management enablers. Similar previous studies were conducted to reveal the influence of KM resources on employee performance with the same dimensions. The results were supported along with knowledge application and weren't the case with knowledge conversion. We can induce that not all KM resources contribute directly or positively to OP. Each resource is not linked to performance.

It has been found that a non-expected percentage of employees have no interest in knowledge sharing and retrieving. Most of them prefer to depend on their knowledge and intuition. Since the culture can be considered a KM practice besides processes, human capital, and strategy, there is a strong need to construct the culture to ease sharing of knowledge between employees. Other researchers also address that well-constructed culture support the knowledge management process and thus improve employee performance.

Other factors affect employee performance, such as competence, competitive advantage, operation improvement, and potential growth. Knowledge management strategy significantly affected the last factors in clothing manufacturing in Thailand and thus it affects OP positively. Although they found that, there is no significant relationship between KM practices and financial performance, researchers have also found that they can generalize another rule; there is an existence of a direct significant relationship between KM practices and employee performance which includes the financial performance.

When we focus on the engineering field; indicated that knowledge management systems significantly affect the effectiveness of strategic decisions that would lead to better employee performance. While focus on the banking sector we argue that organizations need to develop their knowledge management processes to reach better decision creations and thus better employee performance. The knowledge management system impacts decision-making related to knowledge management practices, including what we have mentioned previously (IT infrastructure, HR, shared knowledge, and culture).

2.2. Empirical Review

Many researchers have attempted to explain why certain firms behave better than others by linking different organizational elements with performance measures. These studies include linking performance with strategy, structure, environment, learning capabilities, market orientation, resources, and employees' abilities. As KM involves valuable processes which can influence the productivity, financial performance, staff performance, innovation, work relationships and customer satisfaction and finally employee performance, studying the influence of KM practices on employee performance in organization is important.

Roland in his study indicated that performance depends on a firm's ability to integrate knowledge into the value creation process and into core competency based strategies. Furthermore, his findings revealed that to achieve and maintain a high level of performance, an organization must develop efficient mechanisms for creating, transferring, and integrating knowledge.

Mohamad et al., (2013) state that structural equation modeling (SEM) for small and medium enterprises examines the influence of knowledge management practices on employee performance. Besides this, employee performance impacts are innovation, work relationships, staff performance, productivity, financial performance, and customer satisfaction. The conclusion of the study recommends that knowledge management practices directly influence the employee performance of SMEs.

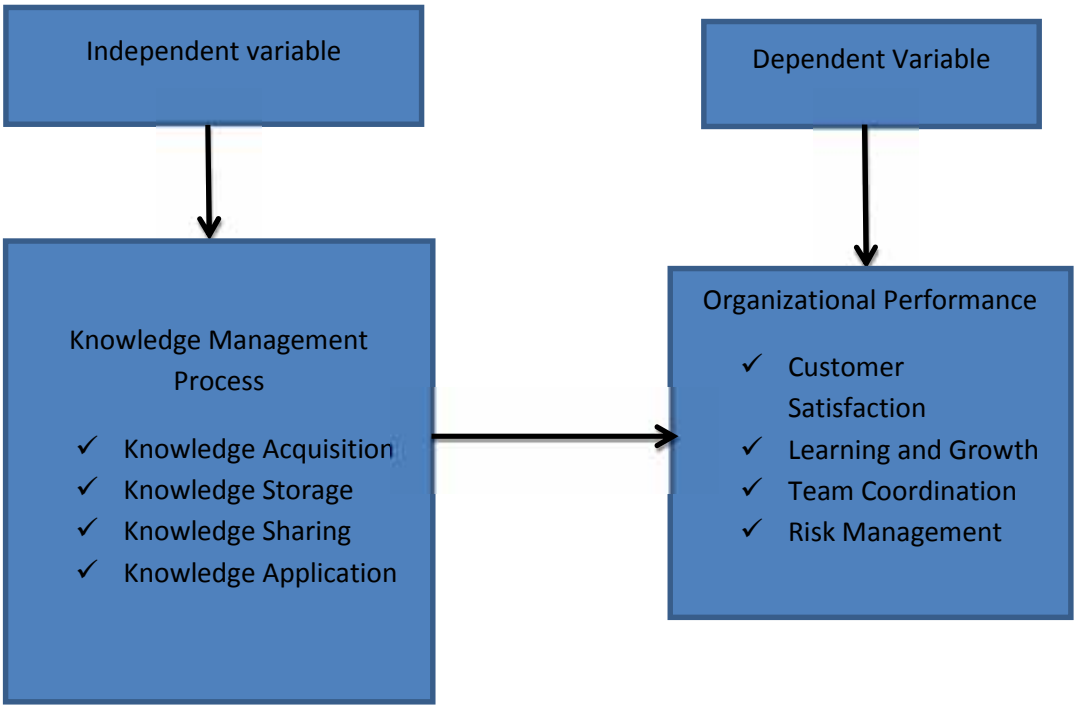
Zwain et al.,(2012) conducted a study on the impact of knowledge management processes on higher-education institutions' academic performance. The two analysis methods, correlation, and regression data analyses, would test the hypothesis result. The conclusion suggested that higher-education institutions can get benefit from KMS. Furthermore, the study suggests that decision-makers should acquire in-depth knowledge about the impact of knowledge management processes.

Williametal.,(2012) carried out research trying to fill the research gap surrounding that particular knowledge management process called knowledge identification. The findings show that organizations perceive knowledge identification to be important, but the practice of knowledge identification has not reached mainstream adoption yet. The survey findings also reveal two opposing approaches organizations take in practicing knowledge identification: Proactive Knowledge Identification and Reactive Knowledge Identification.

Finally, Martin (2012) examined the knowledge acquisition strategies and company performance in Young High Technology Company in Germany, using quantitative and qualitative data. Four types of knowledge acquisition strategies in the study are (low- key, mid-range, focus, and explorer). This strategy shows differ in their relation to company performance due to their configuration of knowledge acquisition activities and the type of knowledge acquired.

2.3. Conceptual framework of the study

This paper defines a research framework and presents a conceptual model to analyze effect of knowledge management on employee performance.



Source: previous studies and self-prepared

Chapter Three

3. Research Methodology

3.1 Introduction

This chapter focuses on the design and methodology of the research. The study area description, research design and approach, population, sample size, sampling techniques, sources of data, data collection methodology, data compilation and cleaning, , data analysis techniques, research instrument and ethical consideration are discussed in this chapter.

3.2 Study Area description

Information Network Security Administration was re-established as an autonomous federal government administration having its legal personality. The administration had its head office in Addis Ababa and has a right to open branch offices elsewhere if it is necessary. INSA is re-established under Proclamation No. Of 808/2013. It has objectives to ensure information and computer-based key infrastructures' security, the performance of national peacekeepers, democratization, and security of development programs. The Administration has powers and duties in the following issues: develop and implement research, secure information assets, identify, deliver, and protect computer-based critical infrastructure security equipment, and services, and draft national policies, laws, standards, and strategies to ensure information and computer-based key infrastructures security. INSA has the mandate to design and provide education and training programs regarding information and computer-based critical infrastructures security in its training center or collaboration with concerned bodies (Proclamation No. 808/2013, 2014).

Besides its mission and vision the organization actively engages in grand national technology projects. Those projects include software development, hardware programming and network security projects. The agency undertook above 200 projects in the last 5 years. Some of the grand projects undertaken by INSA includes Commercial bank of Ethiopia core banking system, Condominium lottery system, Grand renaissance dam Electrical and computer system, Federal police biometrics system, installation of secured network and develop websites for different governmental organizations, and e.t.c

The Agency has the powers and duties to:

- Develop and implement research and study based information and computer based criticalinfrastructure's security products and services;
- Draft national policies, laws, standards and strategies that enable to ensure information and computer based key infrastructures security, and oversight their enforcement upon approval;
- Support public and private institutions to formulate their own policies and standards in compliance with the national information security policy and standard frameworks, and monitor their implementation;
- Take all necessary counter measures to defend any cyber or electromagnetic attacks on information and computer based infrastructures or systems or on citizens' psychology;
- Conduct information or computer based critical infrastructures security audit at any time and provide, for those that meet the criteria, security standards approval certificate or delegate other bodies to perform such functions;
- Organize and administer a national computer emergency responding center;

According to former director of INSA, Major General Shumete Gizaw, press release to the media indicates that INSA's different projects have failed during the past years. During document analysis and observation in the project office, some problems were identified and he said that we are looking to overcome these identified problems. These problems are believed to be due to lack of following some project management practices.

3.3 Research Design and Approach

A research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure. Research design is a plan and structure of the research investigations of a study in a time and purpose-wise parameter. The study had a descriptive research design. The descriptive design described the existing knowledge creation, sharing, storage, and application on employee performance. Using descriptive research design provides a wider chance to gather enough information through different data collection techniques and it gave a complete understanding of the study area since it uses a combination of qualitative and quantitative research approaches. Thus, in the qualitative approach, this study has investigated knowledge creation, sharing, storage, and application effects on employee performance. Accordingly, this study applied a concurrent triangulation research design.

3.3.1 Research approach

The approach engaged in this research is quantitative approaches. The quantitative method is used to interpret the information obtained from the questionnaire.

3.3.2 Research design/type

The research design employed is descriptive and explanatory research design, as it helps to show the relationship between variables. The study's dependent variable was employee performance, while the independent variables were knowledge management processes. Descriptive aims accurately and systematically describe a population, situation or phenomenon while explanatory seeks to answer “why” the cause and effect of the element studied. The quantitative type of data used to get detailed information on the study.

3.4 Sampling design

3.4.1 Target Population

The populations of this study are employees of Information Network Security Administration. Currently, at the time of the study, the company has a total of 163 employees. From these, all employees were considered using census in this study. The researcher used a Simple random sampling technique applied for questionnaire distribution.

3.4.2 Sampling Frame

The population of this study includes all professional employees working under different departments in Information Network Security Administration.

3.4.3 Sampling technique

The researcher used probability sampling technique which is simple random sampling for distributing questionnaire because it gives all the individuals in the population equal chances of being selected under each and every department of Information Network Security Administration.

3.4.4 Sample size

We use census for this research as the population is less than 200. There are some questions for which an experiment can't help us find the answer. For example, suppose we wanted to know what percentage of Ethiopian smoke cigarettes or what percentage of supermarket chicken is contaminated with salmonella bacteria. There is no experiment that can be done to answer these types of questions. We could test every chicken on the market, or ask every person if they smoke. This is a census, a count of each and every item in a population. It seems like a census would be a straightforward way to get the most accurate, thorough information.

3.5 Sources of Data

To gather appropriate information, the researcher used both primary and secondary data sources. The primary data are first-hand information collected from respondents of the company's employees on the effect of knowledge management on employee performance. It is collected through well-structured questionnaires. The questionnaires are printed physically and distributed to the respondent's employees who have not to mail access, and for the rest respondents the researcher collected all the questionnaires through mail delivery channel.

Further, the secondary data obtained from books, files, monthly Magazine, a weekly and monthly report about Information Network Security Administration, written journals, related literature, and the like.

3.6 Quantitative and qualitative data analysis

3.6.1 Quantitative analysis

The term analysis refers to the computation of certain measures along with searching for patterns of relationships that exist among data groups. Thus, "in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions.

Thus, both descriptive and inferential statistics such as percentage, frequency, correlation, regression analysis, independent sample T-test, and ONE Way ANOVA tests are applied. The qualitative analysis was conducted through thematic data analysis. Independent sample T-test, and ONE Way ANOVA tests were tested using sex, age, education level, current position, and experience demographic variables. Before the regression analysis was made, regression assumptions through skewness, Kurtosis, histogram test, Tolerance, VIF, Test of Homoscedasticity through scatter plot and P-P Plot, and Durbin Watson were tested.

Multiple liner Regression model for employees' performance

$$Model = Y = X_1x_1 + X_2x_2 + ... + X_kx_k + x.$$

Y= denotes the dependent (or study) variable (Employees performance)

X1, X 2... X4 are explanatory variables

X1= Knowledge creation

X2= Knowledge sharing

X3=Knowledge storage

X4=Knowledge application

$x_1, x_2 \ldots x_k$ are the regression coefficients associated with X1, X2,….X4 respectively x is the random error. This model is mainly used for knowledge creation, sharing, storage, and application effect on employee performance to identify the independent variable explanatory status. This model uses to identify knowledge creation, sharing, storage, and application effect on employee performance through regression coefficients.

3.6.2 Qualitative analysis

Interview data were summarized and categorized and interpreted in a meaningful manner and the interviewee responses of the same type were put together, analyzed thematically, and correlated to the quantitative data results to summarize and conclude the final result of the study.

3.7 Research instrument

For this study, the researcher collected data through questionnaires. The researcher applied closed-ended questionnaires, organized in a Likert type from Strongly Disagree (1) to Strongly Agree (5). Measuring the two main Effects of KM: knowledge management process and knowledge management factors using a 5 - point Likert scale. The label is given for respondents to express their level of agreement for each item among the scales. In addition, employee performance was measured by using a performance measurement questionnaire. The questionnaire was prepared to answer research questions stated in chapter one and to meet the research objectives. It is comprised of four parts. Part I questionnaires are to collect the respondent's basic personal information like their gender, age, and level of their education, part II covers the process of knowledge management, while the last part focused on questionnaires to evaluate the effects of knowledge management on company performance.

3.8 Validity

Validity refers to the meaning, relevance, and effectiveness of inferences the researchers made as per the collected data. It refers to how the evidence supports any inference the researchers make based on data they collect using a questionnaire instrument. The questionnaires were drafted from relevant research studies. Suggestions and comments were requested from my advisor and colleagues with Master's degrees to check the validity of the questionnaire. And, the required changes were made as per the comments secured.

3.9 Reliability

In this study, Cronbach alpha calculation was performed, and it used as a checking mechanism whether the reliability of the questionnaires is acceptable or not. Internal consistency (reliability) measured by Cronbach alpha. Zikmud et al., (2012) stated that it measures the internal consistency of items to the concept. Very good reliability has an alpha value coefficient between 0.8 and 0.95. An alpha value between 0.6 and 0.7 indicates fair reliability. In this research, Cronbach's reliability test is used to check the reliability of both the dependent and independent variables. Below is a summary of the result.

Table 3.1 Summary of Cronbach's alpha Values

Item-Total Statistics

Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
8.935	.652	.771
9.377	.630	.778
8.663	.587	.797
9.281	.660	.769
10.728	.563	.801

3.10 Method of Data Analysis

The collected data processed and analyzed by quantitative techniques. The presentation and organization

of findings were easy to comprehend and draw conclusions based on findings. The data obtained from the questionnaire responses were assessed and analyzed using SPSS version21.

After organizing, coding, and defining variables, responses of the cases were entering into the software. Then, descriptive statistical methods, regression, and correlation analysis were used and results would be presented.

3.11 Ethical Consideration

Ethics had relevance in research work, and the researcher considered ethical issues critically as much as possible. To avoid any issues, all employees that fill out the questioner requested their willingness, and insight which give on the purpose of the questioners. It is been giving consent to respondents that their responses do not disclose to anybody without their permission.

Chapter Four

4. Data Presentation, Analysis and Interpretation

In this chapter, as per the primary data collected, the researcher attempted to analyze and examine the effects of knowledge management on employee performance: the case of Information Network Security Administration. The study deals with the presentation, analysis, and interpretation of data obtained from the questionnaire survey. Statistical analyses were conducted by using SPSS version21. The researcher applied the descriptive statistical analysis for the measurement of frequency and percentage. The effect of an independent variable on dependent variables inspected by correlation and regression analysis.

4.1 Response Rate of the Respondents

The researcher prepared and distributed 163 closed ended questionnaires to employees of Information Network Security Administration. From the total distributed questionnaires 142(87.12%) data were collected and 21(12.89%) were not responded.

Table4.1Response rate of distributed questionnaires

Target Population	**Total Questionnaire Distributed**	**Questionnaire Returned**	**Not Responded**	**Response Rate**	**Non response rate**
163	163	142	21	87.12%	12.89%

Source own survey2023

4.2 Demographic Characteristics of Respondents

This chapter provides a demographic profile of Information Network Security Administration employees, which was essential to gain an overall insight into the questionnaire. The demographic analysis was conducted by using frequencies and percentages in the following table.

Indicator and Category		Frequency	percentage
Gender	Female	59	41.55
	Male	83	58.45
	Total	**142**	**100%**
Age	From 18-25years	17	11.97
	From 26-34years	63	44.37
	From 35-44years	29	20.42
	From 45-54years	22	15.5
	Above55years	11	7.75
	Total	**142**	**100%**
Education Level	Certificate/Diploma	15	10.56
	BA/BSC Degree	74	52.11
	MA/MSC Degree	48	33.8
	PHD	2	1.41
	Others	3	2.11
	Total	**142**	**100%**
Position Level	Junior level	22	15.49
	Middle level	39	27.46
	Senior level	61	43
	Manager/Director	20	14.1
	Total	**142**	**100%**
Experience	Below 2 years	18	12.68
	From 3-5years	44	31
	From 5-10years	47	33.1
	Above10years	33	23.24
	Total	**142**	**100%**
Department	Marketing	18	12.68
	Operation Administration	24	16.9
	Operation	33	23.24
	Finance	26	18.31
	HR	9	6.34
	Packing and moving	4	2.8
	Training and development	15	10.6
	Transport section	5	3.5
	IT	7	4.93
	Other	1	0.7
	Total	**142**	**100%**

Table4.2Demographicprofile oftherespondent

Source own survey2023

As shown from table 4.2 above, 83(58.45%) of the total Information Network Security Administration respondents were male, while 59(41.55%) were female. From analysis result the number of male respondents was greater than female respondents.

Refer to the above table, 109(76.76%) of the respondents were under the age of 44 years. Therefore, most of the respondents were young. Besides, employees of Information Network Security Administration were well qualified. From the above data, 74(52.11%) are first degree holders, 48(33.8%) have a master's degree, 15(10.56%) have a diploma or certificate,2(1.4%) have PHD and 3(2.1%) have other qualification. Most of the respondents in Information Network Security Administration 122(85.95%) were in non-managerial job positions. Furthermore, refer from the table majority of the employees were experienced. The respondents have been working in Information Network Security Administration below 2 years 18(12.68%), between 3to 5 years 44(31%), 5 to 10 years which is 47 (33.1%), and above10 years 33(23.24%).

4.3 Descriptive analysis

Descriptive analysis has been adopted for the study of the data. In doing so, tables, percentages, mean and standard deviation were used. Descriptive statistics is used to compare different factors in the study. This section presents the responses of employees on the provided survey questionnaires. The scale used in the statements was 1- strongly disagree, 2- disagree, 3- neutral,4-agree, and 5-strongly agree.

4.3.1Descriptive statistics for process of knowledge management

This section presents the responses of employees on the process of knowledge management in the organization. The knowledge management process has five units: knowledge creation, Knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application. The researcher tries to describe five sections one by one.

4.3.1.1 Descriptive statistics for knowledge creation

This section discussed the perception of the respondents about the practice of knowledge creation at Information Network Security Administration. The consistency of knowledge creation in the organization is evaluated concerning the below five questions. The results of the analysis are presented in table4.3 as depicted under

Table 4.3 Descriptive statistics Knowledge creation

Knowledge Creation variables	SA		Agree		Neutral		Disagree		SD	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Knowledge creation mechanism	58	40.8	58	40.8	15	10.6	9	6.3	2	1.4
Knowledge creation methods	53	37.3	44	31	23	16.2	14	9.9	8	5.6
Organizational idea-sharing encouragement and process	50	35.2	53	37.3	25	17.6	12	8.5	2	1.4
Information about different projects	49	34.5	50	35.2	23	16.2	13	9.2	7	4.9
Idea collection development	49	34.5	57	40.1	18	12.7	10	7	8	5.6

The above table 4.3 result shows that 116(81.6%) of the respondents agreed about the existence of a knowledge management mechanism while the rest 15(10.6%) of the respondents preferred to be neutral and 11(7.7%) of them showed their disagreements. The above table result reveals that 97(%) of the respondents show their agreement about knowledge creation methods nevertheless the rest 23(16.2%) preferred to be neutral and 22(%) disagreed about its existence. The result concerning organizational idea-sharing encouragement and process indicates that the majority of 103(%) respondents an agreement whereas the rest 25(17.6%) remained neutral and 14(9.9%) disagreed.

The result regarding information about different projects shows that 99(%) of the respondents agreed while the rest 23(%) were neutral and 20(%) disagreed. The outcome indicates that 106(%) of the respondents agreed that the idea-collection development nonetheless 18(12.7%) remained neutral and 18(12.6%) of them disagreed.

Alavi and Leidner, (2001) identified knowledge management production accepted as a critical and strategic component for learning and innovation. The Authors reveal that knowledge management without creating knowledge is impossible. Nonaka and Toyama (2015) identified knowledge as the process to capacitate organization through new learning spread and epitomizing the process of organization tasks. Similarly, Alkhabra, Haron, and Abdullah (2017) confirmed knowledge creation is realized when groups collaborate, exchange, metaphors, coordinate, document, experiment, and learn together. The current study also shows knowledge creation mechanisms, methods, idea-sharing encouragement and process, information, incentive or reward, and idea collection development are the critical variables that contributed to the knowledge creation process. Thus, the knowledge creation process requires interactivity, documented created knowledge, and documentation. Bratianu(2015) identified the knowledge management process as a complex integration and it is a conversion of tacit and explicit knowledge in a social context. Knowledge management is created when organizations and employees learn and innovate. In knowledge creation model, knowledge creation is a continuous transfer, combination, and conversion of the different types of knowledge, as individuals practice, interact, and learn. Similarly, the current result concerning knowledge creation mechanism, methods, encouragement, reward, information collection, and idea development is the source of knowledge creation in the Information Network Security Administration. Hence, the knowledge creation process requires interactivity, data collecting, reusing, validation, and continuous transfer across members of the organization.

Concerning the above result, the key interviewees replied that the knowledge creation process in Information Network Security Administration is at the infant stage due to the following major reasons. Knowledge creation requires task-focused training, books, additional education, and supporting advanced technology. Hence, shortage of these resources, dearth of knowledge creation continuity, lack of continuous assessment, absence of partnership with knowledge development-related organizations and internal collaboration, and absence of appropriate utilization of required resources by the employees are the major bottleneck problems that hinder the knowledge creation process in Information Network Security Administration. Thus, according to key interviewees knowledge creation is found at the infant stage within the Administration (INSA).

Among the key interviewees, interviewee one stated in her statement "there are some initials about knowledge creation. There are different platforms to create knowledge motivation and environments such as rewards and recognitions. I believe experts are highly motivated to create knowledge when they are recognized and rewarded. Thus, reward and recognition are the driving forces to create knowledge within the administration"

The key interviewee added knowledge creation process required emphasis from the top management and recognized individual ideas. Moreover, it requires a knowledge-creation mechanism. Hence, Information Network Security Administration is currently trying to come up with knowledge-creation principles to govern and manage the existing dynamic cyberspace trends. To do this knowledge café is one of the mechanisms that are applied to create knowledge through different interest group discussions.

4.3.1.2 Descriptive statistics for knowledge Sharing

This section discussed the respondents' perception of knowledge sharing practice of Information Network Security Administration. The consistency of knowledge sharing in the organization evaluated concerning the below five questions. The results of the analysis are presented in table 4.4 as depicted under.

Table 4.4. Knowledge share

Knowledge share variables	SA		Agree		Neutral		Disagree		SD	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Knowledge sharing sessions	33	23.2	67	47.2	27	19	9	6.3	6	4.2
Encourages informal discussions	35	24.6	66	46.5	23	16.2	11	7.7	7	4.9
Employee interaction across the organization	26	18.3	70	49.3	33	23.2	9	6.3	4	2.8
The organization provides a supportive environment	42	29.6	60	42.3	24	16.9	13	9.2	3	2.1
Latest knowledge-sharing system	36	25.4	70	49.3	19	13.4	12	8.5	5	3.5

Table 4.4 Result shows that the majority of the respondents 100(70.4%) of the respondents agreed about the existence of knowledge-sharing sessions while the rest 27(19%) respondents were neutral and 15(10.5%) respondents disagreed with the existence of knowledge-sharing sessions. The result indicates that 101(71.1%) of the respondents agreed with the presence of informal discussion encouragement whereas the rest 23(16.2%) respondents were neutral and 18(12.6%) disagreed with informal discussions that can share knowledge across experts. The above table result designates that 96(67.6%) respondents agreed about employee interaction across the organization concerning knowledge share nevertheless 33(23.2%) of the respondents preferred to be neutral and 13(9.1%) replied with their disagreement. The result reveals that the majority of 102(71.9%) respondents agreed while the rest 24(16.9%) were neutral and 16(11.3%) disagreed that the organization provides a supportive environment for knowledge share activities.

The current study also indicated that knowledge-sharing sessions, encouraging informal discussions, employee interaction across the organization, a supportive environment, respecting different opinions and ideas, and the organization employing the latest knowledge-sharing system are the core practice that is conducted to share cyber security knowledge and skills. Thus, there is a similar knowledge-sharing mechanism across the different organizations and study areas.

Hajiric (2018) indicates both tactical and strategic sides of knowledge-sharing mechanisms that emphasize the knowledge existence forms and the right place where created knowledge is shared. Botha, Kourie, and Snyman (2018) indicated the importance of sharing experiences within the knowledge creation and sharing process. Abeyrathna and Priya darshana (2020) identified knowledge self-efficacy, enjoyment, management support, organization rewards, OC, and technology usage factors as enablers of the knowledge-sharing process. In addition, Kucharska and Bedford (2019) indicated that knowledge sharing by higher-skilled employees brings organizational culture and satisfaction.

Concerning the above result, key interviewees retorted that knowledge-share practices were separately practiced in different cyber security departments through self-development schedules. Experts share their knowledge through the knowledge café, Birhana knowledge share platform, and self-development (RassienMabekat) platforms. Likewise, other different departments had their knowledge-share mechanism nevertheless there are no administration-level organized knowledge-share platforms that empower employees at a general level.

> *Among interviewees, Interviewee three replied, "Knowledge share culture is low in Information Network Security Administration but there are some limitations such as conferences, forums, knowledge café, and self-development programs".*

The interviewees raise those intranets, social interaction cultures in departments, Knowledge cafés, the community of interest, and self-development platforms are some of the knowledge-share mechanisms that are currently implemented in the Information Network Security Agency nonetheless these knowledge-share practices are not communicated across different departments.

4.3.1.3 Descriptive statistics for knowledge Application

This section discussed the respondents' perception about the knowledge application practice of INSA. The consistency of knowledge application is evaluated concerning the below seven questions. The results of the analysis are presented in table4.5 as depicted under.

Table 4.□. Knowledge application

Knowledgeapplication variables	SA		Agree		Neutral		Disagree		SD	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Applying knowledge learned from experience	41	28.9	65	45.8	19	13.4	12	8.5	5	3.5
Applies knowledge to critical needs and quickly links sources of knowledge in problem-solving	35	24.6	63	44.4	31	21.8	10	7	3	2.1
Has several methods for analysing and evaluating knowledge	49	34.5	61	43	16	11.3	13	9.2	3	2.1
Employed the latest knowledge application systems	33	23.2	60	42.3	24	16.9	17	12	8	5.6

The above table 4.5 result contained knowledge application results. The result concerning applying knowledge learned from experience shows that 106(74.7%) of the respondents confirmed that they applied past experiences within their knowledge application process whereas the rest 19(13.4%) chose to be neutral and 17(11%) disagreed that they are not applied past experiences.

The result indicates that 98(69%) of the respondents agreed on the existence of employees' encouragement to apply useful proposal ideas into practice while the rest 31(21.8%) were neutral and 13(9.1%) of them disagreed with the existence of employees encouragement to apply valuable proposal ideas for knowledge application practices.

The above table 4.5 result shows that 100(77.5%) of the respondents agreed while the rest 16(11.3%) were neutral and 16(11.3%) of the respondents were disagree about applying and having several methods to analyse and evaluate knowledge. The last result regarding employing the latest knowledge application systems reveals that 93(65.5%) of the respondents agreed nevertheless 24(16.9%) remained neutral and 25(17.6%) disagreed.

According to Markus (2001), knowledge application is the process to apply stored, retrieved, and shared knowledge by individuals, groups, and organizational-level knowledge storage mechanisms. Oshri (2008) and Markus (2001) emphasized stored and retrieval knowledge application in different tasks. Thus, the above authors' findings and the current study result confirmed different knowledge applications practiced in Information Network Security Administration such as encouragement of employees, applying different knowledge management methods and mechanisms, using experience, and encouraging employees to use useful proposal ideas in the process of knowledge application.

The key interviewees replied that different departments encourage experts to apply practical knowledge to different tasks, individuals encourage applying their knowledge to practical spheres, and contrary due to scattered or fragmented knowledge documentation systems, the knowledge application process is not practiced well.

> *Among seven interviewees, interview four responded that "There is different knowledge and concept accumulated in different cyber security departments however there is no favorable knowledge application system that serves the administration and different departments."*

4.3.1.4 Descriptive statistics for knowledge Storage

The consistency of knowledge stored in the organization evaluated concerning the questions. The results of the analysis are presented in table 4.6 as depicted under.

Table 4.6. Knowledge storage

Knowledge store variables	SA		Agree		Neutral		Disagree		SD	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
Uses information technology applications to store knowledge	36	25.4	58	40.8	28	19.7	13	9.2	5	3.5
Uses various written documents to store knowledge	42	29.6	37	26.1	34	23.9	23	16.2	6	4.2
Has a mechanism to store the knowledge for patent and copyright	35	24.6	36	25.4	38	26.8	24	16.9	9	6.3
Responds to employees' ideas and documents for further development	38	26.8	41	28.9	32	22.5	23	16.2	8	5.6

The result indicates that the majority of 94(66.2%) of the respondents agreed about the utilization of information technology for knowledge storage however the rest 28(19.7%) of the respondents were neutral and 18(12.7%) them disagreed the utilization of information technology to store knowledge.

Table 4.4 result shows that 79(55.7%) of the respondents confirmed their agreement about the utilization of various written documents to store knowledge while the rest 34(23.9%) were neutral and 29(20.4%) disagreed with the existence of different written documents to store knowledge. The result in the table reveals that 71(50%) of the respondents had an agreement that they have the mechanism to store the knowledge for patent and copyright whereas the rest 38(26.8%) remained neutral and 33(23.2%) disagreed.

With the above result, the key interviewee retorted that the current status of Knowledge storage in INSA is found at a low level. There is no central depository system, it is difficult to manage, and externalize knowledge in the current knowledge store practice within the administration. They revealed that practical cyber security knowledge lacks emphasis to store in a well-mechanized system. Due to this different cyber security product and services lacks version-level documentation and improvements.

In previous studies conducted by Alavi and Leidner (2001) results indicated that knowledge sharing is supported by knowledge-storing mechanisms including employees' culture, values, and beliefs that align with organizational physical knowledge store systems. Gottschalk (2011) identified written documentation, structured data stored in electronic databases, codified human knowledge stored in expert systems, documented organizational procedures and processes, and tacit knowledge-sharing mechanisms. Kidwell, Vander Linde, and Johnson (2000) believed that knowledge stores critically support decision-makers. The current study also used and shared the above authors' findings. Hence, there is a knowledge management storing mechanism similarity in a different organization that aligns with employees' performance.

> *Among key interviewees, interviewee two replied "Knowledge storage practice within the administration is fragmented; there is no advanced storage system that extracts knowledge from different departments, and knowledge stored at personal levels rather than Administration level."*

4.4 Descriptive statistics for employee performance

In this section, to attest to the respondents' perception about company performance, there are questions asked. The results of the analysis are presented in table4.7 as depicted under.

Table 4.7 Employees' performance

Employeesperformance variables	SA		Agree		Neutral		Disagree		SD	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
My performance is better than similar other qualification	33	23.2	73	51.4	23	16.2	10	7	3	2.1
Satisfied with my performance	42	29.6	57	40.1	28	19.7	11	7.7	4	2.8
Currently working at my best performance	29	20.4	77	54.2	22	15.5	11	7.7	3	2.1
Complete assignments on time	41	28.9	71	50	26	18.3	3	2.1	1	0.7
I handle teamwork effectively in the face of change	34	23.9	75	52.8	22	15.5	8	5.6	3	2.1
Usually, help my coworkers when needed	28	19.7	68	47.9	31	21.8	13	9.2	2	1.4
Participate in group discussions and work meetings actively	35	24.6	66	46.5	27	19	11	7.7	3	2.1

4.5 Relationship between knowledge management dimensions and employee performance

One of the objectives of this research is to study the relationship of the organization's performance with the knowledge management process and knowledge management factors. To evaluate this relationship, Pearson correlation was computed with the result shown in the matrix below. This coefficient is usually represented by 'r' and can take only the value from -1 to +1 which have r- value (.480) and significance at 0.00 level even at 0.01 level of significance.

4.5.1 Pearson Correlation Analysis

This study implements Pearson correlation analysis, which investigates the strength of the relationships between the studied variables and provides evidence of convergent validity in the research paper. Pearson correlation coefficients reveal the magnitude and direction of the relationship (-1.0 + 1.0). The associations between two or more variables are measured by correlations.

The associations between two or more variables are measured by correlations. Pearson correlation is +1 in the case of a perfect increasing (positive) linear relationship (correlation), -1 and 1 in all other cases indicating the degree of linear dependency between variables. To determine the relationship between the two knowledge dimensions using employee performance, Pearson correlation was computed.

The independent variable could not influence the dependent variable when the p-value is greater than 0.05. If the p-value less than 0.05, the independent variables influence the dependent variable. The r-value measures the strength of the relationship between variables. The range of r value is between -1 and 1. when the r-value is zero. There is no relationship between variables. The meaning of -1 and 1 is negative correlation and perfect positive correlation. The following guideline is assumed by Pallant (2010), i.e., the result of r value between 0.1 to 0.29, 0.3 to 0.49,and0.50 to 1.0 is weak, moderately strong, and strong.

Table 4.8 knowledge management and employee performance association

Correlations

		Knowledge Creation	Knowledge Sharing	Knowledge Storage	Knowledge Application	Employee Performance
Knowledge Creation	Pearson Correlation	1	.560**	.496**	.492**	.480**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	142	142	142	142	142
Knowledge Sharing	Pearson Correlation	.560**	1	.447**	.502**	.466**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	142	142	142	142	142
Knowledge Storage	Pearson Correlation	.496**	.447**	1	.543**	.350**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	142	142	142	142	142
Knowledge Application	Pearson Correlation	.492**	.502**	.543**	1	.510**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	142	142	142	142	142
Employee Performance	Pearson Correlation	.480**	.466**	.350**	.510**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	142	142	142	142	142

**. Correlation is significant at the 0.01 level (2-tailed).

The above table presents the Pearson correlation results that are the association between all the independent variables with employee performance.

From the above table, the correlation between knowledge creation and employee performance (r-value is .480) implies that it is highly correlated, i.e., a positive and strong relationship between knowledge creation and employee performance. Besides, if $p<0.05$ means knowledge creation influences employee performance. The p-values are 0.000.

The correlation between knowledge storage and employee performance (r-value is .350)implies that it is highly correlated, i.e., a positive and strong relationship between knowledge storage and employee performance. Besides, if $p<0.05$ means knowledge storage influences employee performance. The p-values are 0.000.

The correlation between knowledge sharing and employee performance (r-value is .466) implies that it is highly correlated. i.e., a positive and strong relationship between knowledge sharing and employee performance. Besides, if $p<0.05$ means knowledge sharing influences employee performance. The p-values are 0.000.

The correlation between knowledge application and employee performance (r-value is .510) implies that it is weakly correlated. i.e., a positive and weak relationship between knowledge application and employee performance. But, if $p<0.05$ means knowledge application significantly influences employee performance. The p-values are 0.000.

In general, knowledge application has a stronger, positive, and significant correlation with employee performance than the other knowledge management process. However, knowledge storage was a relatively weak correlation to the performance of the company.

4.6 Regression Analysis

Regression is a technique that can be used to investigate the effect of one or more independent variables on a dependent variable. Regression analysis was conducted to understand by how much knowledge management process explains the dependent variable (employee performance).

4.6.1 Multicollinearity test

Multicollinearity exists when; one independent variable is in a regression model is highly correlated with another independent variable, and one independent variable correlated with a linear combination of two or more independent variables (Kumar & Paul, 2004). Tests for multicollinearity are done by using variance inflation factor (VIF) and Tolerance. As a rule of thumb suggested by Liu(2010), if the VIF of a variable exceeds 10, there is a serious Multicollinearity problem. The VIF indicates whether a predictor has a strong linear relationship with the other predictor(s). Andy (2006) suggests that a tolerance value less than 0.1 almost certainly indicates a serious collinearity problem.

Table 4.9Test for Multicollinearity through VIF and Tolerance

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Knowledge Creation	.591	1.693
	Knowledge Sharing	.608	1.643
	Knowledge Storage	.626	1.598
	Knowledge Application	.600	1.666

a. Dependent Variable: Employee Performance

In this study, all of the predictors were found to have a tolerance of more than 0.1 and a VIF value of less than 10. Knowledge creation has (.591 tolerance and 1.693 VIF) value, Knowledge storage (.626 tolerance and 1.598 VIF), Knowledge sharing (.608toleranceand1.643VIF), Knowledge application(.600 tolerance and 1.666 VIF), which indicates that multicollinearity is not an issue in this study and since the result of all variables meet the criteria, it can be concluded that the variables are correlated.

4.6.2 Multiple Regression Analysis

Multiple regression analyses were conducted to measure the impacts between the independent variables and the dependent variable. Multiple regression analysis was employed in this study to examine the relationship between knowledge management dimensions (knowledge creation, knowledge storage, knowledge sharing, knowledge application) and employee performance.

4.6.2.1 Model Summary

The multiple regression models consist of a table that provides the R, the R-square, the Adjusted R square and the standard of error of the estimate, which can be used to determine how well a regression model fits the data. R Square is a key output of regression analysis.

Table 4.10 Model summary of Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593[a]	.351	.332	.611

a. Predictors: (Constant), Knowledge Application, Knowledge Creation, Knowledge Storage, Knowledge Sharing

As presented in Table 4.10 above, the results of multiple regressions above show the coefficient of determination, i.e., adjusted R square computed to be 0.332=33.2%. That implies 33.2% of the variation of performance can be predicted by the independent variables process of KM (knowledge creation, storage, sharing, application). That is a dimension of knowledge management at Information Network Security Administration that has a 33.2% influence on the organization's performance. Other variables can explain the remaining 66.8% of the variation on performance.

4.6.2.2ANOVA table

The ANOVA table 4.11 Shows that accepting at least one of the dimensions of knowledge management of Information Network Security Administration (Knowledge application, Knowledge sharing, Knowledge creation, knowledge storage) had a significant relationship with employee performance measures since the p-value in the ANOVA table is (0.000). It is less than the significance level of 0.05. It can be concluded that the dimensions of knowledge management strongly affect the employee's performance.

Table4.11Anova

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.723	4	6.931	18.540	.000[b]
	Residual	51.214	137	.374		
	Total	78.937	141			

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), Knowledge Application, Knowledge Creation, Knowledge Storage, Knowledge Sharing

4.6.2.3Coefficients

The below depicted Table 4.12 Coefficients also indicates that knowledge creation, knowledge storage, had significant relation to employee performance. But knowledge creation, knowledge sharing and knowledge application influence to performance since their p-values>0.05 (p- values.167, .145 and .244).

These finding imply that knowledge creation, knowledge sharing, knowledge application are positively related to employee performance while knowledge storage is negatively related to employee performance.

Table 4.12 Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.937	.250		7.756	.000
	Knowledge Creation	.167	.065	.231	2.574	.011
	Knowledge Sharing	.145	.068	.187	2.125	.035
	Knowledge Storage	-.012	.056	-.018	-.208	.836
	Knowledge Application	.244	.069	.313	3.519	.001

a. Dependent Variable: Employee Performance

To further assess the effect of knowledge management on employee performance, multiple linear regression analysis was conducted and indicated as follows.

The multivariate regression model is applied to determine how knowledge management affects the performance of the organization. The following model used eight predict or variables that are X_1,X_2, X_3, X_4.

Y is employee performance, X_1 is knowledge creation, X_2 is knowledge sharing, X_3 is knowledge storage, , X_4 is knowledge application.

From the significant and insignificant knowledge management dimensions to employee performance can construct the model as follows.

Multivariate Regression Analysis Model is formulated as:

$y = b_1x_1 + b_2x_2 + \ldots + b_nx_n + c.$

b's are the coefficients of regression

OP=1.937+.167(KC)+.145(KSH)-0.12(KS) + .244(KAP)

Chapter Five

5. Summary of Findings, Conclusion & Recommendations

5.1 Introduction

The purpose of this study was to examine the effect of knowledge management on employee performance in INSA. The researcher has summarized the major findings, conclusions and recommendations based on the information collected and analyzed.

5.2 Summary of Findings

One hundred sixteen questionnaires were distributed to the respondent, and 143(%) data were collected, and it is valid for analysis. As per the analysis outcome, the respondents were 60(41.96%) females and 83(58.04%) males. Thus, the numbers of female respondents were less than male respondents, i.e., imbalance gender distribution. Of the total respondents, 110(82.93%)of them were under the age of 44 years and between 45-54 years, there were 22 respondents, so most respondents are young. The educational background of respondents shows 75(52.45%) are first degree holders, 48(33.57%) have a master's degree, 15(10.49%) have a diploma or certificate, and 3(2.1%) have other qualifications. Therefore, the respondents are well qualified. Furthermore, most of the respondents, that is to say, 122(85.31%), are in non-managerial job positions.

The result obtained from Pearson correlation analysis showed the relationship between dependent and independent variables. Knowledge creations, knowledge storage, knowledge sharing have correlated with employee performance and influence employee performance.

Multicollinearity test result shows that the independent variables do have a linear relation with the dependent variable. In the previous chapter the computation shows there is no a serious multi-colinearity problem between the variables. Furthermore, multiple regression analysis (model summary) shows that dimensions of knowledge management affect employee performance using model summary conducted. From the regression result, the computed R square was tobe.332 (33.2%).

From ANOVA regression analysis, the result has shown that the dimensions of knowledge management had a significant relationship with employee performance. Since the p-value is(0.000),it is less than the significance level of 0.05.

5.3 Conclusions

Based on the research findings, the conclusion answers the stated research question. The study wanted to identify the existing knowledge management practice at Information Network Security Administration. Based on the above research findings, knowledge management processes i.e., knowledge creation, knowledge acquisition, knowledge storage, knowledge sharing, and knowledge application, were practiced at a neutral level. So, INSA does not have a common practice of KM. it has a poor knowledge management practice. Therefore, the researcher concludes that KM practices not applied in the organization.

The researcher wanted to investigate the barriers to knowledge sharing in the organization. As shown in the study's finding, the knowledge-sharing practices were not at some parts practical in the organization. Knowledge sharing barriers were: Work load, Lack of written manuals, Shortage of time, Lack of encouragement in the organization, skilled employee turnover. So, the researcher concludes that the KM sharing practice did not apply.

The researcher analyzes the benefits of KM and sharing practice to employee performance. As per the findings of the study, knowledge sharing practice is not so applicable in the organization. Therefore, KM sharing practices influence the performance of the organization.

The researcher wants to inspect the Effect of Knowledge Management on Employee Performance. As shown in the study's findings, the relationship between the knowledge management dimensions using employee performance presents a correlation analysis matrix. All sections of the KM process except knowledge application had a strong relationship and influenced the employee performance. Therefore, the researcher concludes that knowledge application has a weak correlation with employee performance.

From model summary analysis, the effects of KM dimensions constitute 33.2% of employee performance. Therefore, the researcher concludes that KM has a weak significant impact on the performance of the organization.

This study concluded knowledge management such as knowledge creation, sharing, storage, and application have significant contributions to employees' performance. Thus, major knowledge management issues explained the study very well. Hence, the performance of employees is determined by knowledge management, and the above core knowledge management pillars have a high contribution in the area of cyber-security. However, there is a knowledge management implementation problem at the administration level cooperating with different cyber-security departments. From the finding, we can conclude that knowledge management practices are conducted INSA departments. Knowledge cafés, a community of interest, and self-development are some of the knowledge management practices in the Information Network Security Administration however, there are some limitations related to knowledge creation, sharing, storage, and application at the administration level.

5.4 Recommendation

The following recommendations are made based on the summary of findings and conclusion:

The organization should review the existing knowledge management practice once in a while. The organization should work to maintain the KM practice because the result is found weak. The practice of KM should work all to improve it.

Organizational culture should be revised to facilitate the impact of the performance of the organization. The organization needs to create a positive organizational culture to enable individuals and groups to share openly and manage knowledge. Besides, it must provide newly adopted technology infrastructure to retrieve knowledge, store knowledge, and transfer knowledge among employees. Besides, the organization should implement technologies that are user-friendly to the employees.

Most employees of the organization have work overload, so INSA should implement a knowledge management strategy to create, store, share and access knowledge at any time. Besides this, the organization's management has to give appropriate support and encouragement to the knowledge sharing activities. Besides internal and external trainings and development program have to schedule to employees. Furthermore, the organization should work on the human capital that retains a skilled workforce by providing benefits and preserving employee knowledge before leaving the organization.

To improve the weak relationship between knowledge application and Knowledge management, the management support by implementing strategy and plan actively. By providing benefits and rewards, the organization could reduce skilled employee turnover.

The study reviews the effect of knowledge management on employee performance as perceived by its employees. There was inadequate knowledge management. Therefore, the company should have to work more on strengthening the knowledge management practice and ensuring its performance.

5.5 Suggestions for Further Research

It would be interesting to do a study in order to validate or contradict what was found here. It would also be interesting to conduct a future study to see if these findings remain constant or will be changed with times. Since there are limitations of the study, it would be interesting to conduct a large scale study to analyze a statistically significant sample. This would allow for greater reliability and for generalizations to be made based on the findings.

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ADDIS COLLEGE

DEPARTMENT OF PROJECT MANAGEMENT

APPENDICES

Appendix A: Knowledge Management and Employee performance Survey

Research Questionnaire

Dear respondents:

This questionnaire is conducted to collect data for the research thesis on: ***Knowledge Management on Employee Performance: The case of Information Network Security Administration.*** The information is going to be used as a primary data for this research believing that your frank and genuine responses will contribute vastly to the quality of the findings of this study. I am hereby kindly requesting you to complete this questionnaire in order to achieve the intended research objective. If you have any questions or concerns about completing the questionnaire, you can raise questions at any moment. By completing and submitting the survey, you are indicating your consent to participate in the study. Your participation is appreciated and I would like to thank in advance.

Thank you in advance for taking part in this endeavor.

Kind Regards

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A structured questionnaire proposed to gather primary data on the effect of knowledge management on employee performance: the case of network security administration.

Part I: Demographic profile of the respondent

Please tick(×) the below-given boxes for your appropriate answer.

a) Please indicate your gender?

☐ Male ☐ Female

b) Your age groups?

☐ 18-25years ☐ 26-34years

☐ 35-44years ☐ 45-54years ☐ More than 55years

c) Please indicate your highest educational level?

☐ Certificate/Diploma ☐ BA/BSC Degree ☐ MA/MSC Degree ☐ PHD ☐ Others

d) What is your current designation/position in the organization?

☐ Junior level ☐ Middle level ☐ Senior level ☐ Manager/Director

e) How many years you have been working in the organization?

☐ Below2years ☐ From3-5Years ☐ From5-10years ☐ above10years

f) Which department do you work under?

☐ Marketing ☐ operation Administration ☐ Operation ☐ Finance ☐ HR

☐ Packing and moving ☐ Training and development ☐ Transport section ☐ IT

Part II: Main Survey Questionnaire

Knowledge Management Process

This section sought to examine knowledge Management practices. Please put an "X" mark in the appropriate column. The options range from 1(strongly disagree), 2(disagree), 3(I have no opinion),4(agree), and 5(strongly agree).

1. Knowledge Acquisition

S. No	Knowledge Acquisition Practice	Level of Agreement				
		5	4	3	2	1
1	The organization sends employees for external trainings					
2	The organization invests in Research & Development					
3	The organization has assigned certain employees to identify Best practices in the firm and share with management					
4	My organization has processes for generating new knowledge From existing knowledge					
5	My Organization has processes for distributing knowledge throughout the organization					
6	My Organization has teams devoted to identifying best practices					
7	My Organization has processes for acquiring knowledge about Competitors within our firm					
8	My Organization has processes for acquiring knowledge about new services within our firm					
9	In my Organization experienced Employees are recruited to Bring new knowledge into the organization					

2. Knowledge Sharing

S. No	Knowledge Sharing Process	Level of Agreement				
		5	4	3	2	1
1	The organization has formalized knowledge sharing processes					
2	Mentors share their experiences so as to pass information to newer					
3	Employees in the organization trust each other (open to one another)					
4	In our firm knowledge sharing is a key component of employees' appraisal system					
5	In new employees are assigned mentors to help them on personal work and accelerate their learning					
6	Employees contribute ideas and thoughts to the organization through online discussions					
7	Employees share their experiences and knowledge about work with other organizations					
8	My organization has processes for exchanging knowledge between individuals					
9	My organization members are supportive for knowledge sharing					
10	My organization engages in the process of distributing knowledge among departments					

3. Knowledge Storage

S. No	**Knowledge Storage Process**	**Level of Agreement**				
		5	4	3	2	1
1	Knowledge is kept in databases /repositories					
2	The organization has knowledge procedures manual					
3	The organization has established knowledge archival systems					
4	The service has adequate servers for storing softcopies of Work procedures/manuals					

4. Knowledge Application

S. No	Knowledge Application Process	Level of Agreement				
		5	4	3	2	1
1	My organization has processes for applying knowledge learned from mistakes					
2	My organization has processes for applying knowledge learned from experiences					
3	My organization has processes for using knowledge in development of new services					
4	My organization has processes for using knowledge to solve new problems					
5	My organization matches sources of knowledge to problems And challenges					
6	My organization uses knowledge to improve efficiency					
7	My organization takes advantage of new knowledge					
8	My organization is able to locate and apply knowledge to changing competitive conditions					

Part III. Evaluate the effects of knowledge management on organization performance. Please select the correct answer by putting tick sign(x)on the scale ranging 1 through 5 in the appropriate space provided.

S. No	Item	Level of Agreement				
		5	4	3	2	1
1	In my organization our services are considered leaders in the market					
2	In my organization customers are retained due to good services					
3	In my organization the quality of services that we provide has improved					
4	In my organization the number of people who are using our services has increased					
5	In my organization the demand for the services that we provide has increased					
6	In my organization we consistently meets the expectations of our customers					
7	My organization takes actions to learn what services customers need					
8	Our clients are well aware of the work we do and we give regular updates					