Impact of Abusive Supervision on the Knowledge Worker Productivity: through the lens of Knowledge Management process

Quba Ahmed

2018

A thesis submitted to NUST Business School for the degree of Master of Science in Human Resource Management

2021

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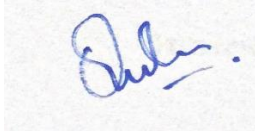Signature of HoD with stamp: _____

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ABSTRACT:

The dynamic nature of creative tasks and ongoing competition among the organizations calls for the knowledge workers to perform innovatively in the tasks in this age of technology. Knowledge and knowledge workers being an asset, should be dealt accordingly by the organizations. The supervisor-employee relationship plays an important role in order to overcome the upcoming challenge of enhancing the knowledge worker productivity. Moreover, the process by which the knowledge is circulated in the organization also plays an important role. Furthermore, the banking sector work creatively to deal with critical risk management and other regulatory tasks under the national and international pressure. Therefore, the study explains the impact of abusive supervision on the knowledge worker productivity through knowledge management process in the Banking sector of Pakistan. The purpose of the study is to analyze this behavior and probe into the effects on the productivity of the knowledge worker through the mediating role of knowledge management process. The data for this questionnaire based quantitative study is collected from the Pakistani Banking Sector via purposive sampling technique, the sample size is 204. Furthermore, the study helps to fill the existing gaps in the literature in the field of knowledge management and abusive supervision, while paving the path for the practitioners to overcome the underlying challenges in the modern world organizations. The data of the cross-sectional quantitative study is analyzed through using IBM SPSS v.26 and Process Macro, whereas the Confirmatory factor analysis (CFA) is conducted through AMOS v. 26. The research study showed the negative impact abusive supervision on one of the most important aspect of knowledge economy, i.e., knowledge worker productivity, through the knowledge management processes, that is Knowledge Creation, Knowledge sharing and Knowledge Application, whereas there prevails a positive link between the knowledge worker productivity and knowledge management process. The research work proves the fact that whenever the manager is abusive it becomes difficult for the knowledge worker to coordinate and communicate among one another efficiently and effectively, and hence the productivity is hampered.

CHAPTER 1: INTRODUCTON

1.1 Background of Research:

The advent of 21st century has brought several areas of concerns under study, which include the kind of work being done and type of environment being provided by the organization to its employees. The era of post capitalism has a major shift of focus at workplace environment towards the changing nature of tasks from routine to creative, and types of workers from manual to knowledge workers (Perotti et al., 2010; Drucker, 1999; 2001). The organizations of modern era come across several challenges in coping up with the changing dynamics in the process of creating innovative and sustainable competitive advantage in the form of knowledge, ultimately enhancing the overall performance of the organization (Kianto et al., 2019, Domenech et al., 2016). The age of technology has marked knowledge as a critical input to foster creativity among organizations (Carleton, 2011; O'Driscoll, 2003; Drucker, 1999). Knowledge work encapsulates the type of work which is non-repetitive, creative and innovative in its nature, which is mainly done by the employees who are highly skilled (Bosch, et al., 2009). The previous research has enlightened the term knowledge workers many times along with the importance of the shift of organizations' focus from tangible outcomes to intangible results which eventually casts light on the productivity of knowledge workers (Mládková, 2012). Knowledge workers can be defined as the workers who acquire theoretical and analytical knowledge and skills through formal education and apply those skills and abilities in the tasks given during their job. Knowledge workers are engaged in innovative and creative tasks, moreover, they apply their knowledge on the optimal usage of resources acquired through continuous learning. Knowledge workers can be marked as highly valuable asset of the organization of the 21st century, as the knowledge worker is responsible for the productivity and affectivity of the organization. (Drucker, 1999).

One important aspect related to the knowledge worker is the knowledge worker productivity. Knowledge worker productivity is quite different from the manual productivity, it is basically concerned with the quality and quantity of the unstructured, innovative and creative tasks (Shujahat et al. 2019, Drucker, 1999). The Drucker's theory of knowledge worker productivity enlisted the causing agents which have marking impact on the productivity of a knowledge worker. These include the task given to the knowledge worker (Kianto et al., 2019):

- "How much one is authorized to perform it on his/her own?

- Whether the task is providing continuous learning and growth, and the focus on the quantity and quality of the outcomes?
- Are the outcomes bringing innovation to the organization? and
- Whether he is considered as a valuable asset by the organization?"

Shujahat et al. (2019) described the factors affecting knowledge worker productivity determined by the previous research as related to organizational and individual aspects, which furthers illustrates the impact of knowledge management process on knowledge worker productivity. Knowledge management process mainly includes the complete flow of knowledge from its creation to its application and sharing in a rightful manner within the right set of persons (Shujahat et al., 2017, Shujahat et al., 2019). Previous research explicitly declares the nature of knowledge management process as the total summation of a number of essential sub-processes in the knowledge intensive firms, which includes creation of knowledge, sharing of knowledge and its utilization in the organization (Inkinen, 2016, Shujahat et al., 2019).

Apart from the physical environment, Haynes (2007) has spotted behavioral environment to be the most influential in the productivity of employees (Palvalin et al., 2017). The hostile environment in the form of the supervisors' destructive behavior in an organization can result in counterproductive behavior of knowledge workers in the knowledge management process. The antagonistic verbal or nonverbal behavior by the supervisor which excludes any kind of physical attack comes under the umbrella of "abusive supervision" (Kim et al., 2015, Tepper, 2000). The transactional theory of leadership assumes that the supervisor or the manager can mold the behavior and performance of the employees or the subordinates through the usage of reward and punishment mechanism (McGrath & MacMillan, 2000; Shah et al., 2015; Atapattu & Ranawake, 2017), moreover, the relationship between the employee and the supervisor is formed through the command and control mechanism when accurately aligned with the extrinsic rewards, whereas, as per Drucker's theory, the knowledge workers are tend to work in an innovative and creative work environment and fulfill their tasks qualitatively, so while allotting tasks the interest should be watched rather only aligning it with the reward or punishment system. The leader or the manager should not be in a position to impose the orders for the organizational good only which can obstruct the productivity (Drucker, 1999).

Past research has demonstrated the nature of relationship between the abusive supervision and different productive and unproductive knowledge management practices, like knowledge

sharing (Choi et al., 2019, Wu & Lee, 2016, Kim et al., 2015) and knowledge hiding (Khalid et al., 2018) respectively. Liu et al., (2016), elaborated the inversely proportional relationship between the abusive supervision and knowledge sharing. On the other hand, Khalid et al., (2018) has also linked abusive supervision with counter knowledge sharing behavior, knowledge hiding; proving it to be a positive relationship.

1.2 Research Gap:

Knowledge worker productivity is an emerging field in the KM research domain. However, its linkage with the abusive supervision hasn't been established even though some of the studies give some conceptual linkage on significance of supervisor behavior and KM process (Kim et al., 2019; Khalid et al., 2018; Lee et al., 2016; Kim et al., 2015). Recently, Butt et al (2018) proposed to explore the supervisor-employee relationship ultimately affecting knowledge worker productivity and knowledge management engagements This study explains the nature of relationship between the abusive supervision and knowledge management process and its impact on the knowledge worker productivity in knowledge intensive organizations. Despite of the work done in the domain of knowledge worker productivity, it has not reached to its maturation age, therefore, different dimension of knowledge worker productivity needs to be further explored (Kianto et al. 2019). Some of the previous research discussed the significance of the supervisory behavior and knowledge management process (Kim et al., 2015; Lee et al., 2016; Khalid et al., 2018, Kim et al., 2019) and the relationship of the latter with the knowledge workers' productivity (Shujahat et al.,2017; Kianto et al., 2019). This study filled the existing gap in the following manners:

1. Firstly, as Carleton (2011) discussed that the dysfunctional managerial behavior of the knowledge workers often disrupts the motivation level of a knowledge worker which in turn obstructs the efficient and effective knowledge management process, so this study helps in defining the nature of destructive supervision and how it impacts the knowledge workers' performance, with the influence of knowledge management process.

2. Secondly, the previous research has laid down the factors which affect the performance of knowledge worker. These include the environment and culture of the organization and the leadership style of the manager of the knowledge worker (Bosch et al., 2009). This study aids in analyzing the factor of management style in detail.

3. Thirdly, Arjoon et al. (2016), proposed the future avenue to look into the development process of knowledge workers with the help of managers' behavior.

4. Fourthly, previous studies proposed to explore the supervisor-employee relationship ultimately affecting knowledge worker productivity and knowledge management engagements. (Butt et al., 2018).

1.3 Problem Statement:

Although the relationship between abusive supervision and knowledge management process and the relationship between the knowledge management process and knowledge worker productivity have been studied earlier but the linkage between abusive supervision and knowledge worker productivity through knowledge management process has not been explored prior this study. So there is a need to fill the gap discussed above and expand the literature of knowledge management and behavioral sciences as this aspect has remained underexplored yet. Furthermore, it is needed to analyze the reasons behind such behavior of the supervisor, despite the fact it is known that a knowledge worker is an asset for the knowledge intensive organizations. Lastly, the research aids in examining the effect of abusive supervision on different factors of knowledge worker productivity and how an organization can counter such behavior and enhance the productivity.

1.4 Main Aim of the Study:

The new era of development considers knowledge as the source of competitive advantage for the knowledge intensive organization (Wright, 2005). Moreover, according to the theory of knowledge worker's productivity, the knowledge workers' productivity is influenced by a number of factors discussed above. In this scenario, the organizations try to motivate and retain knowledge workers in order to enhance its own performance and sustain competitive advantage in the market. Moreover, the productivity of knowledge workers is determined with the analysis of the knowledge management process. Thus, the aim of this study is to explain the nature of causal relationship between the abusive supervision and knowledge worker productivity through the mediating mechanisms of knowledge management process in the knowledge intensive organizations (Mládková, 2012).

1.5 Research Objectives:

The main objective of this study is to explore and investigate the possible leader-level antecedents of knowledge worker productivity. The objectives of the research are as follows:

1. "To analyze the relationship between abusive supervision and knowledge management process

2. To determine the impact of abusive supervision on the knowledge worker productivity

3. To study the impact of knowledge management process on the knowledge worker productivity.

4. To explain the mediating impact of knowledge management process on the relationship of abusive supervision and knowledge worker productivity."

1.6 Research Questions:

The Research questions of the study are:

- "What is the relationship between abusive supervision and knowledge management process?

- What is the impact of abusive supervision on the knowledge worker productivity?

- To what extent knowledge management process impacts knowledge worker productivity?

- Does knowledge management process mediate the relationship between abusive supervision and knowledge worker productivity?"

1.7 Scope of the Study:

With the increasing demand of innovativeness and creativity in the organizations, the time calls for the research to be done on the factors affecting the productivity of the knowledge workers working on the innovative and creative projects (Butt et al., 2018). This main purpose of focus of the study is to digs into this matter by explaining the destructive kind of leadership affecting the knowledge worker productivity through knowledge management process in the knowledge workers engaged in the Banking sector of Pakistan. The research is limited to the knowledge workers of the private sector banking sector, because they have to deal with the never ending global economic challenges and provide unique products and services to their customers to increase sales volume as well as maintain an authentic brand image in the country (Rashed, 2016). The knowledge workers are the one who have sixteen years of education and are on managerial positions. i.e. career level, mid-management level and top-management level. The study is based upon the Drucker's theory of knowledge worker productivity, which clarifies the true definition of

knowledge worker and which factors may impact the productivity of the knowledge workers (Drucker, 1999). Moreover, the study also discusses different leadership theories to demarcate the constructive and destructive types of leaderships and their effects on the variables. Due to the shortage of time and resources the study only covers some private banks in Pakistan.

1.8 Significance and Contribution of the Study:

Now-a-days, creativity and innovation is the considered as the competitive advantage of the organizations and Knowledge management is emerging field for the organizations to excel upon, accordingly (Tundung et al.,2017). The study is significant for both the researchers and practitioners in the field of knowledge management, as it not only adds to the literature of knowledge management and leadership but also helps the management to implement the findings in practice. The study helps to contribute by extending the literature of knowledge management by testing it with the leadership behavior and the processes of knowledge management process in the modern world. Moreover, it also adds to the research work done in the field of knowledge worker productivity and abusive supervision. The study is helpful to the researchers as it probes into the problems related to the leadership and supervision of knowledge worker productivity through the knowledge management processes, which are, knowledge creation, knowledge sharing and knowledge utilization. In the same way, the study contributes in solving the grave issue of knowledge worker productivity in the private banking sector of Pakistan. The management of the banking sector will be then aware of the leadership problems and can use the findings to cope up with the issue.

1.9 Justification for the Research Topic:

Knowledge worker productivity is most important aspect in the knowledge intensive organizations now-a-days, and the knowledge workers are asset of the organizations. The literature and theoretical area of knowledge worker productivity is an upcoming domain for the researchers to explore further. Moreover, the concept of abusive supervision is also underexplored, as far as knowledge worker productivity is concerned. Thus the topic should be explored in order to understand how the abusive supervision poses impact on the knowledge worker productivity under the mediation of knowledge management process.

1.10 Summary:

This chapter includes the background of the research, the basic definition of the variables and the underlying theory of the study. Moreover, the chapter portrays the gap prevalent in the research for which the study is conducted to fulfill it and the problem statement of the study. Moreover, the chapter discusses the aim of the research along with the questions and the objectives of the research. The chapter concludes presenting the scope, significance and the justification of the research. Hence, the chapter details all the reasons behind conducting this study.

1.11 Structure of the Thesis:

The thesis is discussed in six different sections or chapters, in order to consistently analyze the subject in detail. Chapter one mainly deals with the Introduction of the thesis which also include the research gap, the scope and significance of the topic, why the topic is chosen. Moreover, it also includes the objectives and questions related to the research.

Chapter two discusses the literature review of the variables of the study. The chapter starts with the elaboration of the foundation and theoretical background of knowledge worker productivity, to which the detailed study of knowledge management process and abusive supervision follows. Furthermore, the previous link between the variables is also explained in this chapter. The chapter closes with the formation of hypotheses of the study along with the theoretical framework of the study, upon which the entire research is dependent.

The Chapter three mainly clarifies the methodology used in the research study. It describes the justification of the chosen methodology. Moreover, it also discusses the research design of the study. The chapter explains the sampling technique, and the reason behind that very technique along with the method for analyzing the data collected for the study.

Chapter four entails the findings and interpretations of the results and findings of the study. The results of the analyzed data are explicitly explained in this section.

The chapter five explains the results in detail by linking it with the already discussed literature review. Moreover, this section discusses the hypotheses developed in the literature review section, whether accepted or rejected by interpreting the results of the study, accordingly.

The final chapter, i.e. Chapter six, encapsulates all the sections of the thesis by concluding the subject appropriately. It also describes the implications of the study in theory and practice, limitations of the study and delivers future avenues to the researchers in the respective field.

Chapter 2: Literature Review:

The chapter entails the detailed discussion related to the variables included in the theoretical model, separately. The chapter initiates with the description of the knowledge management and the basic understanding of the dependent, independent and mediating variables, i.e. knowledge worker productivity, abusive supervision and knowledge management process, respectively. The chapter proceeds with the discussion of the relationship between KWP and AS, KWP and KMP, AS and KMP and the mediating relationship of KMP with KWP and AS. The chapter ends with the hypothesized research model based on the link of the variables. Every part of the chapter is backed up by the previous literature, with the help of which the hypotheses are developed.

2.1 Knowledge Management:

The focus of organizations, researchers and practitioners on the importance of knowledge management started in the end of 20th century, which is evident from the usage of terms like "knowledge-economy" by different business consultants, research scholars, governmental and other non-governmental organizations (Hislop et al., 2018). According to Krogh (1998), knowledge management is basically creating and applying knowledge for establishing a competitive advantage for the organization. The main purpose of knowledge management is uplift creativity, innovativeness and reactivity among the employees of the organization. The term came under attention of the business scholars when a survey of European firms was published explicitly declaring the loss of firm's revenue due to the fact that employees on key posts left the organization and ultimately, knowledge was lost (Alavi, 1997). Moreover, Cranfield Univesity (1998), published a report stating that many organizations face difficulty in identifying, sharing and utilizing the knowledge available in the organizations. These problems led to a full fledge step to devise ways to adequately and appropriately manage knowledge so that the organizations can easily locate, share and utilize the already present knowledge (Alavi & Leidner, 2001)

The main aim of knowledge management in an organization is firstly, to identify knowledge and show what role that knowledge is performing in the organization with the help of different knowledge tools, secondly, developing and maintain a knowledge culture in the organization by encouraging the knowledge sharing behaviors of the employees; and thirdly, creating a knowledge management system in the organization so that the knowledge infrastructure

becomes evident and it appears easy for the employees to collaborate and share knowledge (Alavi & Leidner, 2001)

Knowledge has been considered as a source of attaining and sustaining competitive advantage. Due to this aspect, now-a-days many researchers and the practitioners are taking interest in probing the issues related to knowledge management and are studying it as a discipline to gather more information in this regard. Knowledge management is an emerging field due to its vital role in creating and protecting the intangible assets of the organization (Ode & Ayavoo, 2020; Gaviria-Marin et al., 2019). In spite of the fact that knowledge management is being considered as an essential domain in the organization, even then there is no single definition of it, Nonaka (1994) defined as having more than one facet and meaning, on the other hand Darroch (2005) marked as the essential function performed by the management to locate and store knowledge to use it effectively and efficiently later. In the same way, Lai & Lin (2012), described knowledge management as the process of acquiring and utilizing knowledge by the members of the organization from internal and external environment. Moreover, knowledge management has been declared as the phenomenon to acquire, create, codify and use knowledge in the organization (Ode & Ayavoo, 2020; Shujahat et al., 2017). In this research study, knowledge management is described as the process of using, sharing and creating knowledge to increase the productivity of the knowledge workers.

2.1.1 Need of Knowledge Management in Banking Sector:

Since the end of the 20th century, banks whether private or public are trying to automate their manual systems in order to optimally manage the resources and the ongoing processes. While doing so, many banks had faced serious problems and difficulties in the form of information explosion or the overload of information, as they have huge volume of information available. Higher the volume of information, higher the difficulty to choose accurate information, which ultimately it created problems for the organization. The inefficiency created as a result of high volume of available information, and the optimal usage of knowledge became the focus of research with the advent of 21st century (Ali et al., 2006).

The initiation of the knowledge management process in the banking sector was same as applied in different industries but proper implementation became difficult as the banks carried on repetitive procedures and did not focus on creativity or innovation to adopt a competitive

advantage among the others. But with the growing focus on innovativeness and uniqueness based on knowledge, banks, too started to initiate the knowledge management processes, that too in less numbers, which later on increased as the need of knowledge management became higher (Blesio & Molignani, 2000).

Knowledge management in banks means to identify, present, share, store, protect and utilize the available organizational knowledge to maintain a sustainable competitive advantage. In an organization, knowledge is also stored through organizational learning, ultimately improving the products or services by inculcating innovativeness and creativity. Moreover, knowledge management in banks also enhance the performance of the employees, improves products and services, resultantly develops the organizations in the terms of performance and progress (Uğurlu & Kızıldağ, 2013)

The economy of a country depends upon the growth in its banking industry. The history has shown the importance of the storage and utilization of necessary information and knowledge for the maintenance of better services. In order to enhance competitive advantage and reduce risk, banks adopt optimum practices which makes them stand out of the league. For this purpose, banks adopted various best practices to improve the services and the quality with optimum financial allocation. The result of the managed knowledge by the organization for utilization, is quite significant in every sector. In the banking sector, the knowledge management helps the stakeholders to locate, create, store, process and share knowledge for avoiding the repetition of the tasks and mistakes. The more the knowledge is well analyzed the less the decisions made will be risky. The banks with greater number of geographically dispersed branches face difficulty in maintaining effective communication and sharing of knowledge and information, knowledge management is proved helpful in this regard, by providing a central platform to ease the communication and enhance productivity (Kumari & Saharan, 2020).

2.2 Theoretical Framework and Hypothesis Development

2.2.1 Knowledge worker Productivity:

Traditionally, productivity refers to "input to output ratio", but it is not applicable to the term "knowledge worker productivity". Knowledge worker productivity was first summed down into three kind of sub-concepts, that is "performance" "authoritative" and "contribution". "performance" roots back to the discipline of Psychology, "authoritative" originates from the field

of Sociology and "contribution" is extracted from the research of knowledge management (Erne, 2011).

Knowledge worker productivity, a term firstly devised by Peter Drucker refers the phenomenon which not only depends upon one factor rather deals with different impacting factor of a given task, for example, the quantity and quality of the output, the nature of the given task, the time allocated for the task to be performed, etc. Knowledge worker productivity can also be described as the proficiency of the knowledge worker in utilizing the knowledge precisely to get knowledgeable results (Drucker, 1999). Kianto et al., (2019) explained the responsible behavior of knowledge worker in utilizing knowledge for innovativeness. The developed countries have mainly considered knowledge worker productivity as the only phenomenon for the survival of the organizations depending upon the competitive advantage in improving the productivity of the knowledge worker. The knowledge workers have a capability to perform efficiently along with quickly learning new practices and procedures, mainly including disorganized assignments and unstructured jobs (Bosch-Sijtsema et al., 2009).

The manual worker productivity focused on the quantitative value of output, according to the scientific management theory, whereas, the knowledge worker productivity mainly considers intellectual work as the basis of attaining competitive advantage. For this purpose, knowledge worker efficiency along with their intellectual capital is vital in enhancing the knowledge worker productivity (Drucker 1999). Knowledge worker productivity is differently defined by different researchers, for this purpose the criteria to measure knowledge worker productivity is dynamic in comparison to productivity of manual worker (Sahibzada et al, 2020). In the same way, the knowledge worker productivity focuses on the quality and the quantity of the task, and measure it, due to the unstructured nature of the task performed (Palvalin et al. 2015). Previously, the researchers have focused on the context and the environment of the knowledge workers while measuring the knowledge worker productivity (Sahibzada et al, 2020).

Knowledge worker productivity is also different from individual level productivity because of the allocation of time on the task to perform it efficiently. Apart from its description as the total number of hours taken to complete a task, Heidar-Dahooie et al. (2018) marked three main elements to measure timeliness, firstly, completely the task in the given time slot, secondly, starting the given task timely, and thirdly, finalizing the given task by even taking one more hour.

The knowledge worker can initiate any task according the prevailing complexity in the task, or the proximity to the available resources and complete it within the given time frame (Khaksar et al., 2020; Lerner et al., 2001)

2.2.2 Knowledge Management Process:

A cyclic process of creating, sharing and utilizing knowledge in the organization to enhance the performance and maintain a sustainable system is known as "knowledge management process" (Feng et al., 2005). According to Drucker (1991), knowledge has become an important aspect of wealth for the organizations, by properly utilizing which, the organizations can create competitive advantage among others. Knowledge can help the organizations to carry out their innovative tasks and improve their products and services (Hassan & Zhou, 2015). Knowledge management process helps the organizations to locate and identify important knowledge, share with the organizational members, and utilize it appropriately by applying it for enhancing the performance and progress of the organization (Abualoush et al., 2018).

Previously the knowledge management process has been marked as an important element in the success of organization. The outcomes of knowledge management process with performance have been major research topic with the advent of 21st century (Santoro et al.,2018). Knowledge sharing, an important part of knowledge management process, has been both explored and organizational and individual level. Knowledge sharing at individual is described as acquiring and sharing knowledge with the colleagues within the organization, and if not do so it will ultimately affect the organizational profit, and result in knowledge loss if the employee leaves the organization (Bhatti et al., 2020). Knowledge sharing also improves the organizational efficiency, but this sharing is dependent upon the specific organizational context. The environmental context of the organization affects the trust and empathy among the employees which ultimately makes them open to share knowledge among one another. In the same way, the managerial or supervisory context also plays a part in shaping the behavior related to knowledge sharing among the employees (Swanson et al., 2020).

The knowledge creation is the result of knowledge sharing among the employees of the organization (Lin & Huan, 2010). Face-to-face unstructured communication help in sharing of knowledge quicker and ultimately create new knowledge (Han et al., 2020). Organizations use the employees to attain competitive advantage. Management plays a vital role in creating an

environment friendly for the knowledge creation to successfully compete with the competitors, ultimately impacting the overall performance of the business (Pinheiro et al., 2020). The leadership in the organization plays an important part in the knowledge creation process, especially at a group level. Usually organizations continue to practice the already present best practices and don't step into innovative process, leadership can halt this inertia and make the organization move towards success through knowledge creation process (Yoo et al., 2020).

Knowledge application is the final part of knowledge management process. Knowledge application is described as applying the available knowledge gained through knowledge sharing and creation in the organization, to gain strategic benefits. Previously, knowledge application has been under researched although it's an essential part of knowledge management process, after knowledge sharing and creation. Moreover, knowledge application plays a pivotal role in the employee development and enhancement of their performance (Valacherry & Pakkeerappa, 2020)

2.2.3 Abusive supervision:

Abusive supervision is a subjective phenomenon which differs from person to person, mainly depending upon the context. An individual may mark a behavior abusive in one context but non-abusive in another context (Tepper, 2000). According to Tepper (2000), abusive supervision is mainly perceived as a non-physical or non-verbal hostile behavior displayed by a leader or supervisor towards the subordinates. The behavior mainly consists of foul language, bullying and ridiculing, publicly or privately. Moreover, the non-verbal gestures include, hording important information or threatening eye contact towards the subordinates (Keashly, 1998). Abusive supervision has been proven affecting 10 to 16 percent of the workers, now-a-days. Abusive supervision not only negatively impacts the employees but has also appeared as an upcoming challenge for the managers of the organization. Moreover, it also poses a negative financial impact on the organization, apart from affecting the mental wellbeing of the employees. The abuses may include, shaming the employees, breaching their employees, not giving the due credit to them and blaming them for something they have not committed. Other than these, the mocking attitude of the supervisor along with bullying also count in abusive behavior (Lim et al., 2020).

The flow of knowledge in the organization is dependent upon the treatment of the employees by the supervisors. The behavior of leaders has been focused by a number of scholars.

Abusive supervision is quite common in the organization, impacting the morale of employees and affecting their performance and behavior towards work. In the same way, abusive supervision has been proven to be associated with stress and exhaustion of the employees in the organization (Peltokorpi, 2019). The main decisions, although made by the supervisors, are implemented upon by the subordinates, so this destructive behavior can hamper the implementation of these decisions. The subordinates tend to reciprocate such behavior towards their colleagues and completion of tasks, and ultimately halt the process of knowledge sharing, creations and application. For this purpose, the employees become deviant ultimately increasing the absenteeism and decreasing productivity (Agarwal, 2019). Furthermore, the employees then tend to withhold the knowledge and information which can assist the organizational operations and ultimately hide the knowledge and effect organizational productivity (Islam et al., 2020)

2.2.4 Abusive supervision and Knowledge Worker productivity

According to the Drucker's theory, as the knowledge workers are innovative and creative in accomplishing their quality tasks, so they should be given tasks according to their own inclination and interest. The supervisors should not impose orders, ultimately hampering their productivity (Drucker, 1999). Previous studies demonstrated a negative relationship between the abusive supervision and productive behaviors of employees (Xu et al. 2012). Moreover, the main focus of the previous research regarding abusive supervision and knowledge sharing among employees was either based on the social exchange theory or the conservation of resources (COR) theory (Lee et al., 2018; Kim et al., 2015). The present study draws upon the theoretical underpinning of knowledge worker productivity to examine the relationship between abusive supervision and knowledge worker productivity. Previously, researchers have focused on the aspect of curbing subordinate's important resources through this type of detrimental supervisory behavior (Pradhan & Jena, 2018; Wu & Hu, 2009; Harris et al., 2007). Specifically, research describes the highly detrimental effects of less frequently occurring phenomena of abusive supervision (Harris et al., 2011; Tepper et al., 2007).

The managers and supervisors play an important role for the well-being of their subordinates and the organization. For this reason, their abusive behavior may result into forming negative work related attitude of subordinates ultimately lowering down their satisfaction level and obstructing their level of commitment towards the organization (Duffy et al., 2002; Tepper,

2000), and low level of performance (Harris et al., 2011). Existing research indicated that ten to sixteen percent subordinates face abusive supervision at their workplaces (Kim et al., 2015; Namie & Namie, 2009). Moreover, abusive supervision has been classified by many researchers as an active type of destructive leadership behavior whose outcomes are far more deteriorating than any other type of active or passive leadership (Kim et al., 2015; Schyns & Schilling, 2013; Bass & Avolio, 1987).

The emerging concept of abusive supervision is vast in nature. This destructive behavior can halt the performance of the employees ultimately making them dissatisfied and result in demotivation (Zaabi et al., 2018). The employees then become deviant and become less committed towards their allotted tasks and duties (Pangestu & Wulansari, 2019). The detrimental type of leadership thus hampers the creativity in the employee and obstruct in the innovative and unstructured tasks, ultimately making them exhausted and less interested towards their work (Saleem et al., 2020). Abusive supervision is a real-time stressor for the employees which is increasing with the passage of time, which can result in diminishing the individual skills and resources while working in the organization. This destructive supervision can also halt the individual learning of new knowledge for the fulfillment of the organizational goals (Usman et al., 2021).

Abusive supervision has been negatively associated with performance of the employees and knowledge related behaviors (Ghani et al., 2020; Tariq & Ding, 2018). Whenever the employees face stress, they tend to reciprocate in displaying a behavior which can counter the stress, and show less energy in completion of the task. This continuous stress is then proven to deplete the already present skills and hamper further thrust to acquire more skills and new knowledge. In this scenario, the employees also tend to withhold the knowledge affecting their productivity. The supportive leaders help in developing the well-being of the employees, hence improving their performance and productivity (Usman et al., 2021). For this purpose, this study is conducted to probe into this matter when knowledge workers are concerned. Thus, we hypothesize that abusive supervision negatively impacts the knowledge worker productivity (H1), and KM process (creation, application, and sharing of knowledge) mediates the relationship between abusive supervision and knowledge worker productivity:

"H1: Abusive supervision has a negative impact on the knowledge worker productivity"

2.2.5 Abusive Supervision and knowledge management process:

Previously, different scholars laid down importance of leadership theories and styles on the productivity, performance and knowledge management behaviors of the employees. Researchers have described both ethical and unethical styles of leadership (Brown et. al, 2005) Both transactional and transformational leadership styles, displaying ethical leadership, are proven to improve the performance in many organizations but the basic assumptions differ and fit different organizational environments. The transactional theory of leadership assumes that the behavior and performance of the employees can be amended through the initiation of reward and punishment mechanism (McGrath & MacMillan, 2000; Shah et al., 2015; Atapattu & Ranawake, 2017), moreover, the leader-employee relations follows the essence of command and control strategies, aligning it with the extrinsic rewards system. On the other hand, transformational theories are more suitable where the individual will and creativity are given importance and employees work with intrinsic motivation. The leaders attach the goals with the moral and ethical values, and Knowledge worker show greater engagement towards knowledge management processes (Atapattu & Ranawake, 2017). Tepper (2000) demonstrated the concept of abusive supervision, which is often regarded as unethical style of leadership, by referring it as a perception of the subordinates in an organization regarding sustained portrayal of hostile behavior by their respective supervisors which may not include any kind of physical contact. Abusive supervision not only affects the employee rather it also poses negative outcomes for the organization as well in the form of organizational ineffectiveness (Tepper et al., 2006). It is also considered as one of the causing factor for work place stress, ultimately yielding low performance at workplace (Lee et al., 2013).

Previous research has focused on the aspect of curbing subordinate's important resources through this type of detrimental supervisory behavior (Harris et al., 2007; Wu & Hu, 2009; Pradhan &Jena, 2018). Previous research describes the highly detrimental effects of less frequently occurring phenomena of abusive supervision (Tepper et al., 2007; Harris et al., 2007). The managers and supervisors play an important role for the well-being of the subordinates and the organization. For this reason, their abusive behavior may result into forming negative work related attitude of subordinates ultimately lowering down their satisfaction level and obstructing their level of commitment towards the organization (Duffy et al., 2002; Tepper, 2000). A number of researchers have discussed the relationship between abusive supervision and resultant behavior of the employees in the form of their low level of performance (Harris et al., 2007).

Past research work has explored the nature of abusive supervision which may include ill-treatment with employees, aggressive behavior towards them in the shape of criticism or withholding necessary information (Keashly 1998, Tepper, 2000, Kim et al., 2015). Abusive supervision is considered as subjective phenomena, whose extent may vary among employees of a same abusive supervisor. Rising interest of the researchers in this construct enlightens the need to probe into the destructive outcomes of this toxic supervisory behavior. The major portion of the research work of abusive supervision explains the motivational and physiological factors associated with this behavior. (Hu & Liu, 2016)

Abusive supervision may produce intentional or unintentional unfavorable outcomes for the organization. These outcomes may be at individual or organizational level, wherein, individual level may refer to stress, depression or work life balance and organizational level embraces the consequence of the above mentioned behavior on the overall performance of the employees (Wu, 2016). Tepper et al. (2001) stated that the employees when supervised under abusive behavior may show resistance towards the organizational demands. Kim et al. (2015) categorized the adverse effects of abusive supervision, which is already discussed in the previous research many a times, by discussing how abusive supervision poses negative impact on the satisfaction level of employees and consequently how their work is being affected. In the same way this type of supervision also poses adverse impact on the knowledge management process undertaken by knowledge workers.

Abusive supervision is becoming one of the major research areas now-a-days for the scholars. A U.S based research proclaims that annually 13% of employees face this type of destructive leadership in the workplace (Tepper et al., 2011). Previous studies demonstrated a negative relationship between the abusive supervision and productive behaviors of employees (Xu et al. 2012). Moreover, the main focus of the previous research regarding abusive supervision and knowledge sharing among employees was either based on social exchange theory or conservation of resources (COR) theory (Lee et al., 2018, Kim et al., 2015). This study aims to study this relationship under the theoretical underpinning of knowledge worker productivity.

It is evident from the previous research that if an individual is facing abusive supervision, most probably he will also project the same behavior to his own subordinates, which will curb the sharing of knowledge ultimately, inflicting harm to the organizational and individual capacities (Khalid et al., 2019). Yun et al. (2018) describe that abusive supervision poses a high risk on

sharing behavior in the employees, and they withhold knowledge as a portrayal of revenge from the supervisor. Wu &Lee (2016), had categorized abusive supervision as "dark side" in an organization which hinders the knowledge management process in the workplace.

Previous research indicated that ten to sixteen percent subordinates face abusive supervision at their workplaces (Kim et al., 2015; Namie & Namie, 2000). Moreover, abusive supervision has been classified style by many researchers as an active type of destructive leadership behavior whose outcomes are far more deteriorating than any other type of active or passive leadership (Kim et al., 2015; Schyns& Schilling, 2013; Bass &Avolio, 1990).

The impact of abusive supervision on knowledge creation is still understudied. A few research has been conducted to study its impact on employee creativity by classifying abusive supervision as a "social-evaluative threat" (Lee et al., 2013; Tepper, 2007). Moreover, when the level of abusive supervision is moderate in an organization then it will boost employee creativity because employees try to prove themselves when they encounter any kind of threat curbing their self-esteem and status (Dickerson & Kemeny, 2004). But on the other hand when the level of abusive supervision increases the employees divert their energy and attention to manage the stress, caused as an outcome (Lee et al., 2013). Zhou and Shally (2011) laid down the actual reason behind less creativity in the presence of abusive supervision, that is, the working conditions become non-conducive for the employees in the presence of low or high abusive supervision (Liu et al., 2016).

The results of previous research have shown an indirect impact of abusive supervision on the employee creativity, with a blurry process which give rise to this phenomenon (Wu, 2016). Khalid et al. (2019) explained that although organizations cannot fully eliminate this detrimental behavior from the supervisory positions but the impact of such behavior can be minimized. In the same way this study helps to determine the relationship with other knowledge management process. As the leader-led supervision basically allows the employee to generate, share and apply the knowledge, for example, whenever the supervisor shows hostility towards subordinates, he may respond in a way which is detrimental to the organizational overall productivity (Aryee et al., 2008). Thus, the second set of hypotheses clearly states the impact of abusive supervision on KM processes (knowledge creation=H2a, sharing= H2b, and application= H2c):

"H2 (a, b, c): Abusive supervision has a negative impact on KM process (creation, sharing, and application)"

2.2.6 Knowledge Worker Productivity and knowledge management process:

Nowadays, the work performed by the employees is more directed towards the accomplishment of upcoming challenges in order to cope up with the ongoing competition and to sustain a competitive advantage among others. (Sumbal et al.,2020; Akhtar et al., 2016; Bosch et al., 2009). Knowledge work is the type of work which doesn't comply with the standard work practices mainly done by manual workers rather it deals with the intellectual capital and is performed by knowledge workers through capturing, creating and utilizing of the (explicit and tacit) knowledge (Turriago-Hoyos et al., 2016). On the other hand, productivity of a knowledge worker differs from that of manual worker, because the former mainly deals with unstructured and situation specific tasks which are repetitive in nature and do not involve any kind of uniqueness or innovativeness (Bosch-Sijtsema et al., 2009). Likewise, knowledge worker productivity is more concerned with the quality and quantity of the output. For instance, although it does matter how much quantity is produced but knowledge worker focus on the quality of the output. (Palvalin et al., 2015; Drucker, 1999). Knowledge worker productivity differs from individual to individual, mainly due to creativity and innovation involved in the tasks. Moreover, the context of workplace differs for individuals due to the different culture, leadership, environment and even individuals' own perception (Bosch-Sijtsema et al., 2009; Yao et al., 2007). Knowledge work cannot be predicted due to the innovativeness linked to it. For instance, some researchers marked it as more related to job itself including self-management and learning perspective while others defined it by describing the content of the tasks allotted to the employees (Palvalin et al., 2017). Hence, involving the flow of knowledge from knowledge capturing to knowledge utilization is collectively term as knowledge management process.

Knowledge management process has been defined in the previous research as creation, acquisition, storage, sharing and application of knowledge (Costa and Monteiro 2016). The recent studies focus on the aspect of knowledge management process which are related to creation, sharing and utilization of knowledge (Kianto et al. 2019; Shujahat et al., 2017, Andreeva et al., 2017). It is a cyclical process as the knowledge created or captured is shared among the colleagues within an organization. Knowledge is then applied by them when required in certain contexts. If something new is learned or new knowledge is created through application of existing knowledge,

the existing knowledge base is updated, and again shared within the organization, and thus, the cycle continues. Hence, knowledge management process aims at the proper flow of knowledge among knowledge workers at appropriate time to perform their tasks properly (Kianto et al., 2019; Shujahat et al., 2017; Constantinescu, 2009; Feng et al., 2005). Therefore, it is hypothesized that knowledge management process (knowledge creation, application and sharing) is positively related to knowledge worker productivity:

> *"H3: KM process (creation, sharing, and application) has a positive impact on the knowledge worker productivity."*

2.2.7 The Mediating Role of Knowledge Management Process:

Abusive supervision may produce intentional or unintentional unfavorable outcomes for an organization. These outcomes may be at individual or organizational level, wherein, individual level may refer to stress, depression or work life balance and organizational level embraces the consequence of the above mentioned behavior on the overall performance and productivity of the employees (Wu & Lee., 2016). The performance of employees can be linked to the knowledge management processes (Creation, sharing and application) undertaken by knowledge workers. It is evident from the previous research that if an individual is facing abusive supervision, most probably he/she will also project the same behavior to his/her own subordinates, thus, undermining knowledge sharing, and inflicting harm to the organizational and individual capacities (Khalid et al., 2019). Similarly, Yun et al. (2018) argued that abusive supervision poses a high risk on sharing behavior in employees, and they withhold knowledge as a portrayal of revenge from the supervisor. Wu &Lee (2016) categorized abusive supervision as "dark side" in an organization which hinders the knowledge management process in the workplace ultimately undermining the knowledge worker productivity.

The supportive leadership can assist the employees to share the knowledge with one another, which then help in making timely decisions, effectively. Effective leadership is proven to be an enabler for the knowledge management related behavior and help in implementation of the strategies related to knowledge flow in the organization. Knowledge management process cannot be held without the presence of supportive leadership and effective management. The leaders play role in inculcating motivation among the employees and an urge to learn new knowledge through sharing among one another and finally apply this knowledge in the organization which can

ultimately enhance their productivity (Latif et al., 2020). Previously, the research has been conducted to study the link between leadership and knowledge related behavior, leadership has been proven to be an enabling factoring in the knowledge management process (Bavik et al., 2018).

Furthermore, knowledge based view of the firm categorizes knowledge as the strategic element in the strategic uplift of the organization. The leadership poses a great impact in creating knowledge flow culture and sharing, application of knowledge among the employees to enhance their performance. Knowledge is the only asset which can enhance the value of the business and impart innovativeness which is well assisted by the supportive leadership and effective management. The individual and organizational performance is enhanced when the knowledge management process is appropriately implemented in the organization (Mazdeh & Hesamamiri, 2014). It is evident from the previous research that when the leadership effectively manages the knowledge in the organization, it will ultimately enhance the overall performance. The scholars have laid down greater focus on the need of knowledge management process as an enabling factor in order to gain better organizational results. The knowledge management process can enhance the productivity of employees through better decision making process and introducing new innovative ideas (Latif et al., 2020).

Knowledge management process has been researched as one of the fundamental element to attain the competitive advantage against the competitors. Knowledge management process is dynamic in nature and works in continuity to achieve the required results (Vukšić et al., 2015). Previously, the research has found that when the knowledge management process is implemented appropriately, it will enhance the productivity and performance of the workers under the supportive leadership (Sahibzada et al., 2020). As the study focuses on the negative impact of abusive supervision on knowledge worker productivity, so there is a need to test how knowledge management process (Creation, sharing, application) mediates the negative relationship between abusive supervision and knowledge worker productivity we hypothesize:

*"**H4:** KM process (creation, application, and sharing of knowledge) mediate the relationship between abusive supervision and knowledge worker productivity."*

2.3 Summarized Hypotheses:

Hypotheses
H1: Abusive supervision has a negative impact on the knowledge worker productivity
H2a: Abusive supervision has a negative impact on Knowledge creation
H2b: Abusive supervision has a negative impact on Knowledge sharing
H2c: Abusive supervision has a negative impact on Knowledge application
H3: KM process (creation, sharing, and application) has a positive impact on the knowledge worker productivity.
H4: KM process (creation, application, and sharing of knowledge) mediate the relationship between abusive supervision and knowledge worker productivity.

2.4 Hypothesized Research Model
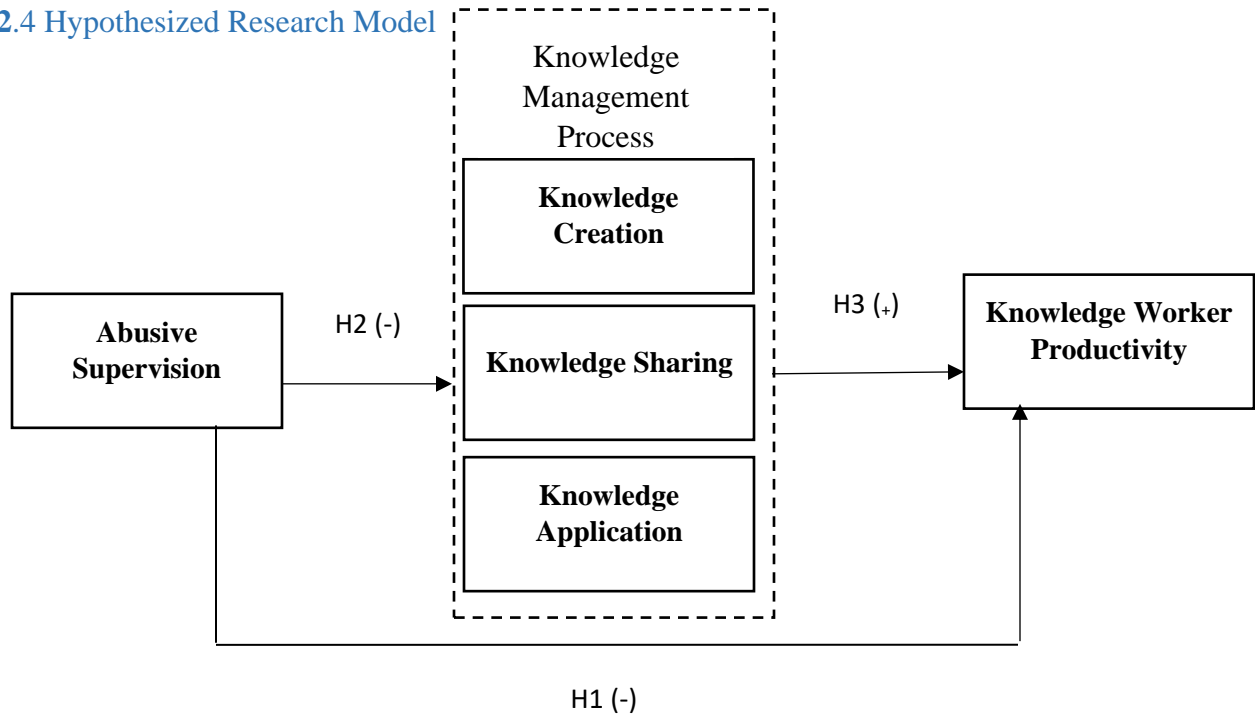
Figure 1: Research Model

2.4 Summary:

This chapter entailed the review of the literature related to the variables under study in the thesis. The chapter started with defining the domain of knowledge management and why knowledge management is needed in the banking sector, which leads to the theoretical background of the variables. The section started with the importance of knowledge worker productivity as the need of the hour for the organizations, along with explaining the knowledge management process and how it is important in attaining the competitive advantage, further explaining the concept of abusive supervision and its hazardous impacts on the performance of the employees in the organization. The chapter proceeded with the hypotheses development section along with the theoretical underpinning, by explaining the relationship between the direct relationship of abusive supervision and knowledge worker productivity. The chapter next built the hypotheses of abusive supervision with knowledge management process with the explanation of its negative relationship. Then there is a discussion of the positive linkage of knowledge management process with knowledge worker productivity. The chapter proceeded with development of the hypothesis of the mediating relationship of knowledge management process with the negative relationship of abusive supervision and knowledge worker productivity. The chapter ended with the development of hypothesized research model of the research study.

Chapter 3: Research Methodology:

This section describes the methodology of the research work, moreover it also explains the philosophy and design of research. By discussing different approaches used by the researches in the respective field the section explains the research method of the study. The aim of the chapter is to providing the explanation of the research methodology and philosophy of the current study. The chapter contains the details of the sample and the technique used for defining it. The chapter also gives information of the private banking sector of Pakistan, which is the target of the research study. The chapter also discusses the analytical tools used to analyze and test the data collected.

3.1 Philosophy of research

The research study has an objective ontology. Ontology is basically the reality of being (Devaux et al., 2009). The ontological assumptions develop the horizon of sight and vision of the researcher while carrying out a research work. The ontology of the study determines how the researcher views the organizations and the management of that organizations. The objectivism chosen as the ontology of the study depicts that the reality of the society is external to the researchers. This description explains objectivism in the form of "realism", which means that all the social actors are independent of what the researchers think of them or label them. It also clarifies the fact that the reality of the social actors is not influenced by the researcher's point of view or approach towards them (Burrell and Morgan, 1979). In this study reality is independent of the researcher's influence or bias.

The epistemology of the study is positivist. Epistemology describes the essence of knowledge, how it is known to the researcher and how the knowledge can be transferred to others (Burrell and Morgan, 1979). In the field of business and management, the researchers can opt for different epistemologies depending upon the nature of knowledge (Marti & Fernández, 2013; Gabriel et al, 2013; De Cock and Land, 2006). The positivist epistemology explains the fact that study is objective, quantitative and the findings can be generalized (Saunders et al., 2009).

3.2 Type of Research:

The research in the field of business and management can be divided into different types, mainly, causal, descriptive, explanatory and exploratory research. In order to explain and describe any phenomenon and relate it to the already present knowledge, a preplanned and structured research is needed, which is called as descriptive research. For the data collection, the one of the tools among survey questionnaires, historical-comparative, content analysis and field research is

used in this type of research. (Neuman, 2014; Neuman 2005). Descriptive research mainly deals with "how?" and "who?" research questions.

On the other hand, when the phenomenon is not already known, the Exploratory research is used. In order to dig deep into the phenomenon and explore the issue from all sources and also provides different strategies to explore the underlying problem, the researchers carrying out remains flexible and open-minded (Neuman, 2014; Saunder et al.,2009; Neuman, 2005).

The cause and effect relationship is well described with the help of explanatory research. It is also a well-planned and structured type of research, which tests already present theory and explain the fact that why a certain phenomenon is occurring (Neuman, 2014; Neuman, 2005). This study, due to its causal relationship tends to be explanatory research in which already established phenomenon is explained in detail, with the help of information gathered through survey questionnaires.

3.2.1 Research Strategy:

When the data is collected in numerical form and through survey and questionnaires, the research is defined as quantitative research. Researchers test the already established theories and hypotheses developed in the study, with the help of analyzing data collected, to know whether the hypotheses are accepted or rejected. The quantitative research is carried out with the assumption, that it is easy to predict and explain the behaviors and phenomena. Most of the quantitative researchers try to explain the causal relationship among the variables to explain the probabilistic phenomena and behaviors. Moreover, it also helps to generalize the findings in the similar setting, as it is thought that in the quantitative research, the phenomena are always determined through similar causal relationships**.**

While qualitative research design deals with the non-numerical data, mainly words and statements. The qualitative is applied when the researchers needs to explore an issue which is little known. The researchers, while performing qualitative research, view the subjective explanation of the phenomenon under study, and resultantly form new theories. Some of the researchers also use mixed method to discover new theory as well as test the existing ones. The qualitative research deals with the human behavior which changes over the period of time, due to different factors, ultimately altering experiences of a specific populations under study rather generalizing the end

results or findings. Moreover, it also constructs different social perspectives, resultantly changing the view of the people to understand the world, and change their course of action.

In order to generalize the findings, and record the objective view of the issue under study, this study has conducted quantitative method to explain the events. (Mehrad & Tahriri, 2019)

3.3 Research Design

In quantitative studies, the role of researcher is minimal because the data is gathered objectively, where the researcher has no influence over the findings and researcher present the findings deductively, so that the findings can be generalized (Lowhorn, 2007). The quantitative approach has been selected in this study, where the survey questionnaires has been used in order to remain objective and pose no influence over the results. The data is collected through cross-sectional study in which the data is gathered only at one point of time (Chen & Huang, 2009).

3.4 Participants and Procedure

The research is carried out from the knowledge workers in the banking sector in Pakistan. Knowledge worker describes the individuals who have acquired 16 years of education and not involved in the physical work, employed at the managerial position (Bosch-Sijtsema et al; 2009). We have chosen private banks for the purpose of finding the impact of abusive supervision, as the Public organizations are more oriented towards to the welfare of the country instead of enhancing the organizational productivity and profit in Pakistan. Another reason is that knowledge is considered as a source of competitive advantage in the banking sector (Khoualdi & Binibrahim, 2019) and there is a continued regulatory pressure from national and international regulators to enhance the standards by establishing knowledge based economies (Alosaimi, 2016). As the aim of the study was to analyze the impact of abusive supervision on the knowledge worker productivity under the mediation of knowledge management process, so knowledge workers from managerial positions were selected as the sample.

3.4.1 Sampling Technique:

The technique used to select sample population under study from the general population is mainly defined as sampling technique, as it is highly difficult to study the entire population. The sample is basically a representative of the population so that ultimately the result of the study can be generalized. It also presents how accurate the results are, as any error with sample will result in negatively affecting the overall results.

There are a number of techniques available for the sampling based on the logic to select a certain specific population. For this research study, non-random sampling technique i.e. purposive sampling has been chosen to collect data. The sample is selected on purpose as the study only needed the knowledge workers working the private banks of Pakistan. In purposive sampling, data is not collected randomly rather the sample is chosen according to main focus of the research (Singh & Masuku, 2013). The main reason behind choosing purposive sampling technique is that the study needed to have an in-depth exploration of the subject.

3. 4.2 Data Collection

Overall, a total of 18 branches of different private banks from all the Pakistan were chosen where 350 self-completion questionnaires were distributed and administered by the researchers, due to the availability of the target population in the private banking sector and the criteria of selection of the sample. These were distributed among the knowledge workers, whose attributes are discussed above, to judge in what ways the abusive supervision impacts knowledge worker productivity and whether knowledge management process mediates this relationship. The questionnaires were distributed in hard copies and sent via emails to the relevant authorities. Out of 350 questionnaires we received 204 valid responses, which then became our sample size. The limited sample size indicated that the study is having an in-depth analysis. According to Austin and Steyerberg (2015) and Cappa et al (2020) observations more than 10 per variables are acceptable, in this scenario, the sample size is accurate. Moreover, the target population was the one only engaged on the knowledge management activities. Questionnaires included measures of knowledge worker productivity, abusive supervision and KM process (knowledge creation, sharing and application). The control variables in this study are gender, formal education and managerial position, remaining consistent with the prior studies (Kianto et al. 2019, Tariq et al. 2018). Participants were informed about the anonymity and confidentiality of their responses in this study, and that they can withdraw from participating in the research work at any time.

3.5 Measures

To measure the variable five Likert scale is used from strongly agree to strongly disagree. Measures of different variables are as following:

3.5.1 Knowledge Worker Productivity

For knowledge-worker productivity, a seven-item validated scale Smart WoW– constructing a tool for knowledge work performance analysis from Palvalin et al (2015) was adapted based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). The sample items included are how much a knowledge worker considers his work satisfactory and how he assesses himself whether he is meeting the customer's expectations or not, as "I achieve satisfactory results in relation to my goals", "I am able to meet customers' expectations". Cronbach's α = 0.84

3.5.2 Knowledge Management Process

a) Knowledge Application

For knowledge application, a six-item validated scale was adapted from Tseng and Fan (2011) based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). A sample item included which analyses if the organization achieves efficiency through knowledge or not, as "My organization uses knowledge to improve efficiency" etc. Cronbach's α = 0.93

b) Knowledge sharing and Knowledge Creation

Knowledge sharing and knowledge creation were measured by adapting from Organizational Renewal Capability Inventory survey (Kianto et al., 2016) based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). The sample items for these variables are, "My colleagues are open and honest with each other" and "Our organization actively collects development ideas", respectively. Cronbach's α = 0.87 and 0.88 for knowledge sharing and creation respectively.

3.5.3 Abusive Supervision

The Tepper's (2000) scale is used to measure abusive supervision. The scale has 15 items originally with an internal reliability of 0.95, out of which we are using only Mitchell and Ambrose's (2007) 5-items based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). As the dimension of these five items are consistent with the underlying interest, so they accurately present and indicate the abusive supervision. A sample item includes how the boss might be involved in hostile behavior towards the sub-ordinates, "My boss Ridicules me" and "He/ she Invades my privacy". Cronbach's α = 0.95.

3.6 Analytical Procedure:

The research paradigm consists of an import part, i.e. methods. The methods are basically techniques through which the collected data is analyzed. To obtain an accurate meaning of the results different analytical methods were used to analyze the data. The descriptive and reliability statistics were analyzed by using IBM SPSS v.26. Confirmatory factor analysis (CFA) was conducted to test the model fitness through AMOS v. 26. In the same way, in order to attain the reliability and internal consistency of the variables, Cronbach's Alpha was calculated. Data was analyzed by utilizing PROCESS Macro as recommended by Hayes and Preacher (2014), initially developed by Hayes (2013) inspired from the research study done by Preacher et al. (2007), to test the mediating mechanism and related hypotheses. Direct and indirect relationship of the variables was also tested using Process Macro.

3.6.1 Data Screening

Before analyzing the data using the different analytical procedures, the data was screened thoroughly. The responses which were incomplete or with errors were eliminated from further analysis. The missing values of the responses were filled by extracting out the average of the available answers of the questionnaires. After screening, the standard deviation of the data was calculated.

3.6.2 Reliability Analysis:

In order to find out whether the items are consistent and stable, reliability analysis was done. It is basically conducted to probe the fact that the items used in the study can also be used again by researchers giving the same kind of results (Gliem & Gliem, 2003). For internal consistency, Cronchbach's alpha was calculated, which says that if the Cronbach's alpha is equal or greater than 0.60, the reliability is good (Sekaran, 2006).

3.6.3 Correlation analysis:

The next step to reliability analysis is correlational analysis, to find the extent of relation between the variables. The value of the correlation coefficient is between "-1 to +1". As correlation analysis is conducted to examine how strong the relationship among the variables is there, so a value of the coefficient near to 1 proves the strong link between the variables. The link between the variables can be positive or negative. If the relationship is positive, it shows an increase in one variable will increase the value of other, and vice versa. The negative value of one variable makes

it evident that increase in one variable will decrease the value of other and vice versa. The value of +1 indicates absolute positive link whereas -1 value shows absolute negative relation among the variables. On the other hand, 0 shows the absence of any kind of relationship between underlying variables.

3.6.4 Confirmatory Factor Analysis:

The next step is confirmatory factor analysis (CFA), which was conducted to test the model fitness through AMOS v. 26. In order to test the distinctiveness of the variables, CFA is used. The five factor model in the hypothesized framework was compared with other models in order to check biasness of common method variance (Akhtar et al., 2016; Podsakoff, 2003).

3.6.5 Mediation Analysis:

The final step was mediation analysis of the hypothesized model. Model 4 of the Process Macro was adopted to test simple mediation model. Process Macro is used to test the mediation, moderation relationships. Moreover, when the mediation analysis becomes troublesome in the SPSS, Process Macro is used to do regression analysis containing different mediators.

The hypothesized model was tested with the help of Process Macro for SPSS, developed by Hayes (2013) and previously used by Eissa and Lester (2017). In the same way, the results of direct, indirect and total effect of abusive supervision on knowledge worker productivity were also drawn using Model 4 of Process Macro. It is the most leading software which deals with the hypotheses testing in the quantitative studies.

3.7 Ethical Considerations:

Ethical concerns were accurately handles during the study. Firstly, permission was asked by the authorized personals of the banks to conduct research, after informing the purpose of the research. Secondly, the anonymity of the respondents was assured to maintain confidentiality and enhance credibility. Thirdly, the data is also kept safe in order to avoid any kind of mishap. Fourthly, the banks under study are provided with the final result of the study so that they can implement the findings adequately.

3.8 Summary:

The chapter included the fundamental components of the research methodology linked with the research study. The chapter opened up with the philosophy of the research study, further it enlightened upon the research strategy and the research design of the current study. The

chapter proceeded with the explanation of the participants involved and the procedures adopted and chosen sampling technique along the data collection technique. The later section of the chapter described the measures adopted for the variables used in the questionnaire for the collection of the data. The chapter ended by addressing the procedures used to analyze the data to extract the results. The ethical considerations are the last part of the chapter, which presents the ethical framework of the data gathering techniques of the study.

Chapter 4: Results

After compiling the entire data collected from the respondents, data analysis is the main step to perform. For this purpose, the data were initially screened after which descriptive results were gathered for the demographic variables followed by the descriptive statistics of the underlying variables. The chapter analyzes the scale reliability to probe the Cronbach's alpha of the variables, along with the testing of alternative models through confirmatory factor analysis. Further the chapter discusses the testing of hypotheses via regression analysis of the independent and the dependent variables. The chapter concludes with the mediation analysis along with the details of direct, indirect and the total effect of the variables by using Process macro with 5000 bootstrap. All the analysis of the data was done using SPSS and AMOS software.

4.1 Demographics:

The data for this research study has been collected from the knowledge workers at the managerial level, in the private banking sector of Pakistan. The knowledge workers were contacted through emails and in-person to fill the questionnaire survey form in order to collect the data. A total of 204 responses were gathered for the study based the criteria set for the research study. In order to gather the information related to demographic profiles, the respondents were asked about their gender, age, position, qualification, current and total experience.

A total number of 204 responses were analyzed. The gender of the respondents was segmented into male and female, according to which the male percentage was 66.7% whereas females were 33.3 % of the total respondents. In the same way, the age was categorized into 5 groups in which 25.5% of the respondents were from 20-25 age group, 18.6% of the total were from 26-30 age group, 24% respondents were from 31-35 group, 12.3% of the audience were from 36-40 age group and 19.6% of the respondents were 41 and above years old. Qualification, the next variable, has been categorized into 4 groups. 51.5% of the respondents were having Masters qualification, whereas, 29.4% were having a degree of MS/MPhil, 4.4% of the respondents were PhD and 14.7% of the respondents did not mention their qualification and chose "other" option.

The variable "position" has been divided into 3 subcategories. Out of the total respondents, 28.4% were at the career level, 45.1% were working at mid managerial level and

26.5% were appointed at upper managerial level. Although the section of "current experience in year" was left open to the respondents to fill without having any choice, but for ease in stratifying the data, the current experience is divided into three subgroups. 55.9% were from 0-2 years, 42.2 were having the experience of 2.5 to 5.0 years and 2% were having the experience of 5.5 to 7.0 years. The same strategy was adopted for the variable "overall work experience" and it was divided in 7 categories, 31.4% of the respondent were having an experience of 0-5 years, 31% were having 5.5 to 10 years' experience, 16.3% were falling in the 10.5 to 15 years of experience category. 7.5% were 15.5 to 20 years experienced, 8.9% were 20.5 to 25 years experienced. In the same way 3% and 2.5% were having an experience of 25.5 to 30 and 30.5 to 35 years of experience, respectively.

The Table I shows the categories, frequencies, percentage, mean and standard deviation of the demographic variables.

Demographic Variable	Code	Frequency	Percentage	Mean	SD
Gender	Female	68	33.3	.33	.473
	Male	136	66.7		
Age	20-25	52	25.5	2.82	1.44
	26-30	38	18.6		
	31-35	49	24.0		
	36-40	25	12.3		
	41 and above	40	19.6		
Qualification	Masters	105	51.5	1.82	1.059
	MS/MPhil	60	29.4		
	PhD	9	4.4		
	Others	30	14.7		
Participant position	career level	58	28.4	1.97	0.72
	mid managerial level	92	45.1		
	upper managerial level	54	26.5		
current experience in years	0 to 2.0	114	55.9	2.38	1.23
	2.5 to 5.0	86	42.2		
	5.5 to 7.0	4	2		
Overall Work Experience	0 to 5	64	31.4	10.13	8.18
	5.5 to 10	63	31		
	10.5 to 15	33	16.3		
	15.5 to 20	15	7.5		
	20.5 to 25	18	8.9		
	25.5 to 30	6	3		
	30.5 t0 35	5	2.5		

Table I

4.2 Variable Description:

The variables in the research study are Knowledge worker productivity (KWP), Knowledge Sharing (KS), Knowledge Creation (KC), Knowledge Application (KA), Abusive Supervision (AS). KWP covers the performance and the productivity of the knowledge workers working in the organization, which is achieved by different external and internal factors. KC, KS and KA are the parts of the knowledge management process. Moreover, AS is the destructive kind of leadership behavior which can lead to declining KWP. In this study, KC, KS and KA are used as mediators, which is assumed to assist the negative relationship of AS and KWP.

4.3 Descriptive statistics:

Table II presents the means, standard deviations, estimated reliabilities and inter-correlated reliabilities among the variables of the study in the support of the hypotheses of the research study. The values of the correlation present how the variables show correlation with other variables. The value lies between +1 to -1, +1 showing a positive link while -1 indicating negative relation with other variable. the table is showing that the link between AS and KC, KA, KS and KWP is negative while the link between KC, KA, and KS with KWP is positive. The reliability analysis of the questionnaire was carried out to determine the internal consistency of the 31 items used. The Cronbach's alpha of the questionnaire used is 0.906, which shows that the items are highly consistent and the questionnaire is reliable. The details regarding Cronbach's alpha are given in the later heading.

	Mean	S.D	1	2	3	4	5
AS	3.7245	1.02134	(0.920)				
KC	2.5728	.92647	-.667**	(0.922)			
KS	2.2786	.84345	-.680**	.716**	(.898)		
KA	2.07	0.89	-.718**	.694**	.731**	(.929)	
KWP	2.08	.90	-.774**	-.717**	-.816**	-.801**	(.943)

Note: n=204; AS= Abusive Supervision; KS= Knowledge Sharing; KC= Knowledge creation; KA= Knowledge application; KWP= Knowledge Worker Productivity; Cronbach's Alpha (a) values are given in diagonal position as bold and italic;

Table II: Results of mean, standard deviation, correlation coefficients, and Cronbach's Alpha Scores.

4.4 Reliability Statistics:

The consistency of the items of the variables present how the measuring of the items hang together in the form of a set (Sekaran, 2003). The reliability coefficient showing the positive correlation of the items with on another is known as "Cronbach's alpha". The table III shows the reliability coefficient i.e. Cronbach's alpha of the variables used in the study. The value between "0.5-0.6" is considered as sufficient while 0.70 value is acceptable according to the previous findings and the value above 0.8 is good enough to carry the research analysis further (Sekaran, 2003). The findings show that all the values of Cronbach's alpha are above 0.8 and near to 1 which proves greater internal reliability. As evident from the Table III, all the reliability values of the variables are within the acceptable range showing the accurate scale used for measuring for the research study.

Measures	Cronbach's Alpha
KWP	.943
KC	.922
KS	.898
KA	.929
AS	.920

Table III

4.5 Confirmatory Factor Analysis

The integrity of the instruments used to measure in the research study is evaluated by the reliability or the validity test, which are done before doing any kind analytical procedures. The credibility related to the research study accounts for the validity of the research. The knowledge of the factor composition and structure must be attained before operating CFA. A confirmatory factor analysis was conducted in order to analyze the distinctiveness among the variables, through AMOS v. 26.

Three models i.e. five factor model, three factor model and one factor model were analyzed. In the five factor model, all of the five variables, AS, KC, KA, KS and KWP in the research study were analyzed separately. On the other hand, in the three factor model the mediating variables, KC, KS, KA were grouped into one variable that is KMP, and the other two factors were AS and KWP. Whereas, in the one factor model all the variables of the research study were grouped in single latent variable.

The five multi-items construct along with the hypothesized model was tested and compared its model fitness with other models in order to check biasness of common method variance (Akhtar et al., 2016; Podsakoff, 2003). Table IV shows the CFA values. The model fitness was tested through AMOS v. 26. According to the several previous studies, for a significant model the standard values of the model fitness should be, "0.05< RMESA >0.10" (MacCallum et al, 1996), "CFI, NNFI, GFI, IFI < 0.09" (Hooper et al., 2008) According to the CFA baseline results the values of the model are "RMSEA: 0.078; CFI: 0.916, NNFI: 0.86 GFI: 0.78 and IFI: 0.91".

Model	χ^2	df	RMSEA	CFI	NNFI	GFI	IFI	$\Delta\chi^2$	Δdf
One-factor model	2341***	436	0.147	0.681	0.637	0.565	0.683	1429.4	28
Three-factor model	1655.8***	431	0.118	0.795	0.743	0.617	0.796	744.277	23
Five-factor model	911.523***	408	0.078	0.916	0.86	0.78	0.91	Baseline model	

Table IV: Results of confirmatory factor analysis

"Notes: n= 204, RMSEA, root mean square error of approximation; CFI, comparative fit index; NNFI, non-normed fit index; GFI, goodness fit index. The five-factor model explain the actual model with the variable, abusive supervision, knowledge creation, knowledge sharing, knowledge application and knowledge worker productivity. Three-factor model means that the mediating variables are combined into one variable i.e. knowledge management process, dependent variable, knowledge worker productivity and independent variable abusive supervision, moreover one factor model shows that all the items are included in one latent variable. ***p<0.001"

4.6 Mediation Analysis:

Model 4 of the Process Macro has been adopted to test simple mediation model for this study. The results of the hypotheses of this study are shown in Table V. In the line with hypothesis 1a, knowledge creation and knowledge worker productivity are positively correlated but the relationship between knowledge creation and knowledge worker productivity is not significant (p>.05). In the line with Hypotheses 1a and 1b, knowledge application and knowledge sharing are positively correlated with knowledge worker productivity and the relationship is highly significant (p<.001). Furthermore, in the line with H2 (a, b, and c), Abusive supervision is negatively associated with knowledge creation, knowledge sharing knowledge application and knowledge worker productivity, respectively, with a highly significant relationship (p<.001). For the analysis of mediation phenomenon and the indirect effect prevailing among the variables, a technique in process macro is used known as bootstrapping. The sample distribution of variables or their indirect link is not presumed in bootstrapping. The advantage of this bootstrapping technique is its application on the small scale sample with greater confidence. The samples are extracted from the

original samples estimating the direct and indirect effect prevalent, comprising of series of data known as bootstrap sample done a number of times to develop bootstrap confidence interval to analyze the significance of statistical procedures. The bootstrap analysis is significantly good when this confidence interval is not having any zero.

Antecedents	Mediator Knowledge Creation				Dependent Variable Knowledge worker productivity			
	B	SE	t	R2	B	SE	t	R2
				0.46				0.80
Constant	4.72	0.28	17.95		1.50	0.32	4.73	
Abusive Supervision	-0.59	.05	-11.15		-.24	.05	-5.08	
Gender	.10	.10	.96		-.12	.06	-1.89	
Age	-.12	.09	-1.41		.00	.05	-.07	
Qualification	.03	.05	.70		-.08	.03	-2.64	
Position	.03	.15	.24		-.08	.09	-.87	
Experience	.04	.04	.97		.00	.03	.09	
Total_exp	.01	.01	.84		.01	.01	1.07	
Knowledge creation					.09	.05	1.83	
Knowledge application					0.28	.06	4.96	
Knowledge sharing					0.40	.06	6.82	

Antecedents	Mediator Knowledge Application				Dependent Variable Knowledge worker productivity			
	B	SE	t	R2	B	SE	t	R2
				0.55				0.80
Constant	4.69	0.24	19.37		1.50	0.32	4.73	
Abusive Supervision	-0.63	.05	-13.54		-.24	.05	-5.08	
Gender	-.03	.09	-.29		-.12	.06	-1.89	
Age	-.26	.08	-3.37		.00	.05	-.07	
Qualification	.01	.04	.19		-.08	.03	-2.64	
Position	-.03	.13	-.26		-.08	.09	-.87	
Experience	.03	.04	.71		.00	.03	.09	
Total_exp	.04	.01	3.45		.01	.01	1.07	
Knowledge creation					.09	.05	1.83	
Knowledge application					0.28	.06	4.96	
Knowledge sharing					0.40	.06	6.82	

Antecedents	Mediator Knowledge sharing				Dependent Variable Knowledge worker productivity			
	B	SE	t	R2	B	SE	t	R2
				0.49				0.80
Constant	4.49	0.24	18.46		1.50	0.32	4.73	
Abusive Supervision	-0.59	.05	-12.64		-.24	.05	-5.08	
Gender	-.01	.09	-.09		-.12	.06	-1.89	
Age	-.10	.08	-1.26		.00	.05	-.07	
Qualification	.03	.04	.72		-.08	.03	-2.64	
Position	-.11	.13	-.89		-.08	.09	-.87	
Experience	.04	.04	1.04		.00	.03	.09	
Total_exp	.03	.01	2.49		.01	.01	1.07	
Knowledge creation					.09	.05	1.83	
Knowledge application					0.28	.06	4.96	
Knowledge sharing					0.40	.06	6.82	

Table V: Result of mediation

Predictor	Effect	SE	LLCI	ULCI
Direct Effect				
Abusive supervision on knowledge worker productivity	-.24	.05	-.33	-.15
Indirect Effect				
Abusive supervision on knowledge worker productivity via knowledge creation	-.05	.03	-.12	.00
Abusive supervision on knowledge worker productivity via knowledge application	-.17	.04	-.26	-.09
Abusive supervision on knowledge worker productivity via knowledge sharing	-.23	.04	-.32	-.16
Abusive supervision on knowledge worker productivity via knowledge creation, knowledge application and knowledge sharing	-.46	.05	-.56	-.38
Total Effect				
Abusive supervision on knowledge worker productivity via knowledge creation, knowledge application and knowledge sharing	-.70	.04	-.79	.62

Table VI: Results of Direct, Indirect, Total Effect of Abusive Supervision

Note: N = 204. LLCI: lower level of the 95% confidence interval; ULCI: upper level of 95% confidence interval; SE: standard error. *p < .05; **p < .01, ***p<.001

Table VI describes the results of direct, indirect and total effect of abusive supervision on knowledge worker productivity. In the line of Hypothesis 3, the study found that there is a highly significant negative direct relationship between abusive supervision and knowledge worker productivity (ab=-.24, p<.001; 95% CI [-.33, -.15]). The indirect effect of abusive supervision on knowledge worker productivity via Knowledge Creation, the first mediator, is not significant (ab=-.05, ns; 95% CI [-.12, .00]), which rejects hypothesis 4a, as knowledge creation did not mediate the relationship between independent and dependent variable. On the other hand, the indirect relationship of abusive supervision and knowledge worker productivity via knowledge application (ab=-.17, p<.001; 95%CI [-.26, -.09]), second mediator; and knowledge sharing (ab=-.23, p<.001; 95%CI [-.32, -.16]), third mediator; is highly significant. Thus, Hypotheses 4b and 4c were supported.

4.7 Summary of the Results

	Accepted	Rejected
H1: Abusive supervision has a negative impact on the knowledge worker productivity	✓	
H2a: Abusive supervision has a negative impact on Knowledge creation	✓	
H2b: Abusive supervision has a negative impact on Knowledge sharing	✓	
H2c: Abusive supervision has a negative impact on Knowledge application	✓	
H3: KM process (creation, sharing, and application) has a positive impact on the knowledge worker productivity.	✓	
H4: KM process (creation, application, and sharing of knowledge) mediate the relationship between abusive supervision and knowledge worker productivity.	✓	

Chapter 5: Discussion

The relationship between abusive supervision and knowledge worker productivity has been under researched till date. But the relationship between abusive supervision with knowledge management process (Choi et al., 2019, Wu & Lee, 2016, Kim et al., 2015) and the relationship between knowledge management process and knowledge worker productivity (Kianto et al., 2019, Shujahat et al., 2017) have been studied by many researchers. this study has implications for research on the possible leader-level antecedents of knowledge worker productivity through knowledge management processes.

To explore the effect of abusive supervision and knowledge worker productivity, it was decided to introduce parallel mediation mechanism, that helps in elaborating the influence of abusive supervision on knowledge worker productivity. Firstly, this study explores that abusive supervision is negatively associated with the knowledge creation, knowledge application and knowledge sharing. As previously discussed by different researchers, the results of this relationship conform with the previous related studies (Yun et al. 2018, Liu et al., 2016). According to these findings, the relationship between them is highly significant, that every 1-unit increase in the abusive supervision will decrease the beta value of knowledge creation, knowledge application and knowledge sharing. The results confirm the finding of previous work that demonstrated the impact of abusive supervision on the productive behavior of an individual (Xu et al. 2012). This type of destructive leadership hinders the effective performance of the employees which ultimately gives rise to the retaliatory behavior which directly impacts the level of stress (Neilson et. al, 2015). The employees cannot work under stress, especially in the banking sector. Moreover, the intergroup or intra-organization relationship is affected, the individuals become more self-centric and do not share knowledge with each other, which will ultimately affect the knowledge management process in the organization (Leiter et. al, 2009).

Secondly, the research work describes that knowledge creation is positively associated with knowledge worker productivity but the relationship is non-statistically significant. The definition of knowledge work entails the aspect of knowledge creation (Bosch-Sijtsema et al., 2009) and previous research has shown a significant relationship between knowledge creation and knowledge worker productivity (Kianto et al., 2019). In this study, the result is justified because in the banking sector, knowledge creation activities are not done by all the knowledge workers, rather these

activities are at the hands of only key posts of the head office. The detailed analysis of the data collected from the participants also portrays this aspect that the respondents at the top management level are more oriented towards the knowledge creation as compared to the respondents at the mid-management or career level**.**

On the other hand, this study describes that, the knowledge application and knowledge sharing are significantly related with knowledge worker productivity of the bankers. The results confirm the previous findings, portraying the positive association of knowledge sharing and knowledge application with the knowledge worker productivity (Kianto et. al, 2019, Shujahat et. al, 2017, Iranzadeh and Pakdelbonab's 2014). The organizations where knowledge is applied the individual and organizational efficiency is enhanced (Gold et. al, 2001). So, the banking sector, in order to enhance its effectivity and efficiency, is linked with the knowledge sharing and knowledge application activities which resultantly promotes knowledge worker productivity.

Thirdly, it is found that abusive supervision is negatively associated with knowledge worker productivity through the mediating relationship of knowledge application and knowledge sharing, but knowledge creation was not mediating the above said relationship. Previously, the relationship between abusive supervision and knowledge creation has been understudied. The results may be due to the fact that in Pakistan, there is a lack of activities related to knowledge creation in the banking sector at the branch level, because the management mostly follows the standard operating procedures set by top hierarchy in the head offices. Moreover, from the data collected from the respondents it is also evident that the knowledge workers at the upper management level are not facing abusive supervision and resultantly their productivity is greater. In the same way, the data also show that the career level knowledge workers are facing more abusive supervision which ultimately affects their productivity.

Chapter 6: Conclusion

6.1 Summary of the Major Findings

This section entails the summary of the thesis, limitations in the study, theoretical and practical implications of the findings, future recommendations for the researchers and the conclusion which sums up all the study. The research work was done to establish the mediating effect of knowledge management process, that is, knowledge creation, knowledge sharing and knowledge application between abusive supervision and knowledge worker productivity in the private banking sector of Pakistan. The study is summarized by responding to the research questions and objectives of the research based on the descriptive and statistical analysis particularly conducted to test the established hypotheses of the study. Moreover, the suggestions given for further research work will be helpful in the advancement of knowledge in the field of knowledge management and leadership, particularly, abusive supervision.

6.1.1 Research Question 1: What is the relationship between abusive supervision and knowledge management process?

Knowledge management process has been sub-divided into three kinds of behaviors, which are, knowledge creation, knowledge sharing and knowledge application. The study explains the negative relationship between knowledge creation, knowledge sharing and knowledge application. The statistical analysis of the study describes the significant relationship between abusive supervision and knowledge creation, sharing and application. These findings conform to the fact that whenever the supervisor/manager shows verbal or non-verbal, non-physical hostile behavior towards the knowledge workers the behavior relating to creating new knowledge in the banking sector is affected. In the same way, when the manager or the supervisor is abusive, it hampers the knowledge sharing behavior among the knowledge worker in the banking sector. Furthermore, the abusive leadership also obstruct the knowledge workers to apply the available knowledge. This is because whenever the supervisor shows such kind of behavior, the knowledge workers hold the knowledge and try to focus on their own particular domains rather than working in group, following the true essence of group dynamics. The behavior of the supervisor is directly affecting the behavior of knowledge workers, and hence the knowledge management process is being affected negatively. The findings also fit in with the previous research related to abusive supervision, where the researchers have worked on the impact of abusive supervision on knowledge sharing and other knowledge related behaviors. Thus the hypotheses, "H2 (a, b, c)"

was accepted which states that abusive supervision has a negative impact on knowledge creation, knowledge sharing and knowledge application, the results are based on the statistical results.

6.1.2 Research Question 2: What is the impact of abusive supervision on the knowledge worker productivity?

The research work proves that there is significant negative relationship between the abusive supervision and knowledge worker productivity in the private banking sector of Pakistan. Knowledge worker productivity depends upon different factors related to task and the nature of the task, the study finds out when the supervisor is abusive or ridicule the knowledge workers, ultimately the productivity of their work is hampered in the banking sector, where innovativeness and creativity is high in demand. The descriptive and statistical analysis of the data collected from the survey questionnaires also conforms with the fact that the abusive supervision has a marking negative impact on the knowledge worker productivity. These findings hold because whenever the leader shows hostile behavior towards the knowledge workers in the banking sector, its unable for them to perform the tasks appropriately. Moreover, the efficiency of the in-group tasks is also affected by the destructive type of leadership. In the same way, whenever the leader or supervisor ridicule a knowledge worker, he/she is unable to perform the task smoothly, without facing any kind of problem, which ultimately affects the productivity of that knowledge worker. Furthermore, when the supervisor is abusive, the knowledge worker wastes his time and is unable to allocate it on the task. Likewise, abusive supervision also lowers the level of satisfaction among the knowledge worker which affects the productivity. Based on the results of the quantitative analysis of the data, it is proved that the Hypothesis "H1", that is, the abusive supervision has a negative impact on the knowledge worker productivity.

6.1.3 Research Question 3: To what extent knowledge management process impacts knowledge worker productivity?

Knowledge management process which include, knowledge creation, knowledge sharing and knowledge application mark a significant positive relationship with the knowledge worker productivity. The study explains the fact that when the knowledge workers carry out the activities when the information related the given task is easily available and when the knowledge workers are encouraged by the management or the supervision to actively seek for new information and knowledge about the task then ultimately their productivity increases. Moreover, the statistical

analysis shows that when the knowledge workers exert pressure on collecting information from a number of sources inside and outside the organization their productivity increases. In the same way, when the organization keenly develops through the diverse ideas of the knowledge workers, it gives a push to the knowledge worker productivity. The study also proves that whenever the customers are given the opportunity to get themselves involved in the creative uplift of the organization through their ideas and feedback. It means that when the banks create social learning groups where the different knowledge workers share their diverse experiences and solutions to the problems they have faced during the performance of their tasks the productivity of the knowledge worker also increases.

The study also confirms the fact that knowledge application has positive impact on the knowledge worker productivity, for instance whenever the knowledge workers in the banks use their knowledge in the tasks and to solve different types of issues and problems, or in order to improve efficiency of the given task, or to upgrade their specializations in the work, the knowledge worker productivity increases. In the same way, whenever the knowledge worker develops a new product or services with the available knowledge in the bank or uses it to fulfill the needs and demands of customers his productivity increases.

The research proves the face that knowledge sharing have a positive impact on knowledge worker productivity, because when the knowledge workers efficiently communicate with other knowledge workers their productivity increases. The study also explains that if in a bank that knowledge workers are open and interactive and actively exchange ideas then the organization performance is increasing with the increase in the knowledge worker productivity. Moreover, when in banks the knowledge workers feel easy to cooperate and coordinate with the knowledge worker of other units or departments, their productivity enhances. In the same way, the study proves that when the organizational learning becomes the focus of the banks, it ultimately positively develops the knowledge worker productivity. Thus it proves the Hypothesis "H3" which states that knowledge management process (knowledge creation, knowledge sharing and knowledge application) has a positive impact on the knowledge worker productivity.

6.1.4 Research Question 4: Does knowledge management process mediate the relationship between abusive supervision and knowledge worker productivity?

Although there is a positive relationship between knowledge management process and knowledge worker productivity but the study proves that knowledge management process mediates the negative relationship between abusive supervision and knowledge worker productivity. It means when the supervisor is abusive the knowledge worker productivity decreases and knowledge creation, knowledge sharing and knowledge application explain this negative phenomenon. For example, when the supervisor shows hostile behavior towards the knowledge workers in the bank, he is unable to perform their task efficiently, in the same way they cannot learn through different social learning groups and work in groups and use their knowledge. Hence it proves the Hypotheses "H4" which states that the knowledge management process (knowledge creation, knowledge sharing and knowledge application) mediates the negative relationship between abusive supervision and knowledge worker productivity. Although according to the analysis, the mediation relationship of knowledge creation with abusive supervision and knowledge worker productivity is not significant, but the other two mediating variables are showing a significant relationship so overall, the H4 hypothesis is supported.

6.2 Limitations of the Study

Although this study fulfills the existing gaps in the field of knowledge management and abusive supervision but it has certain limitations. So future study can also be conducted in the respective fields in order to overcome these limitations and fill the gaps.

Firstly, the study is limited to Pakistani banking sector, hence the findings cannot be generalized. The study is only valid in the private banking sector, which means that the processes in the public banking sectors are more or less different from the private banks, so it cannot be applied even to public banking sector. In the same way, the limited sample also makes it evident that the findings cannot be generalized to the larger population. Moreover, the study cannot be generalized to the western economy, although quantitative approach allows the researchers to generalize the findings but in this case the study can only be generalized in the different private banks of Pakistan

Secondly a cross sectional study has been conducted but longitudinal design should be considered while addressing the issue related to leadership traits, as the behavior is different in

different context and time, which means that a certain behavior cannot be considered valid in a particular time rather the responses should be taken in different scenarios and contexts. The longitudinal study allows the researchers to conduct the research over a long period of time. So there are a number of areas under consideration for the researchers. In the same way, multi-wave or multi-source can also back the strength of the findings enhancing the credibility of the results.

6.3 Implications

6.3.1 Practical Implications

Practically, the study clearly demonstrates the impact of hazardous type of supervision on the productivity of knowledge worker of the emerging knowledge economy in the banking sector. Although a number of studies have been conducted in the knowledge management field studying the impact of abusive supervision on knowledge related behaviors (Choi et al., 2019; Khalid et al., 2018; Lee et al., 2016; Kim et al., 2015) but this study helps the practitioners to understand how this destructive type of leadership can pose adverse impact on the knowledge creation, which means that this destructive type of leadership can hamper the initiation of the knowledge management process, it also explained how the abusive supervisors can obstruct the knowledge sharing behavior of the knowledge workers in the banking sector, which ultimately hinders the flow of knowledge for the maintenance of competitive advantage of the bank. Furthermore, the study described how the abusive supervision is hazardous for the knowledge application stage in the banks. The study explicitly explains how the abusive supervision can hamper the productivity of knowledge worker. This research provides help to the practitioners in dealing with the above mentioned dilemma in the workplace, especially, banks. The practitioners can assess what kind of behavior displayed by the leader can hamper the productivity of the knowledge worker, who are creative and innovative in their work and work more productively when given free hand rather bullying and ridiculing them every now and then.

6.3.2 Theoretical Implications

Theoretically, our study contributed in a number of ways in the existing literature of abusive supervision, knowledge management processes and knowledge worker productivity. First, our study explains the effect of abusive supervision on the knowledge worker productivity, which was previously understudied and also needed to be studied due to the growing competition in the banking sector and among the other organization and with the advent of the age of

technology, where knowledge is considered as the only asset to excel upon (Choi et al., 2019, Wu & Lee, 2016, Kim et al., 2015).

Second, the study deepened the research work on the effect of abusive supervision on knowledge management process, by explaining the impact of abusive supervision on knowledge creation, knowledge sharing and knowledge application. Although many scholars have already done research on the impact of abusive supervision on knowledge management process but this study explain the impact in the banking sector of Pakistan. Moreover, it also studies the mediating effect of knowledge management process on relationship of abusive supervision and knowledge worker productivity, which is new to the literature of knowledge management and abusive supervision.

Third the study adds into the indirect relationship of abusive supervision and knowledge worker productivity through knowledge management process, which is also an addition to the literature of the knowledge management and researchers can take help of it take a step further in exploring it in other sectors.

6.4 Recommendations for Future Research

Firstly, the future study can be conducted as multi-wave or multi-source research in order to assess the changes in behavior over the time and to cater different perspectives of subordinates and supervisors. A multi-wave study is conducted when a detailed analysis by measuring the variable again and again to analyze the change over the period of time and assess the robustness of the findings of the research study.

Secondly, the future study can be done while linking abusive supervision to other knowledge management aspect, for example, knowledge retention. As the knowledge economy demands the explicit and tacit knowledge to be retained within the organization in order to increase the productivity the future research can be conducted on the knowledge retention in detail.

Thirdly, the future studies can be conducted in different context, for example, in the western economy, to understand how the abusive supervision hampers the knowledge worker productivity in the developed world. The study can be conducted the in the private banking sector of Europe or America. Moreover, the future research can also be done in different sector, for

example, technological or textile sector, in Pakistan as well as in the Western economy to understand the contextual difference in the study.

Fourthly, abusive supervision an also be linked with the factor of knowledge loss, which can be one of the results of this type of leadership. Furthermore, the knowledge loss phenomenon can also pose a marking impact on the productivity of the organization, for instance when the key knowledge worker leaves a certain job, the knowledge is lost from the organization, in this scenario the effect of abusive supervision can be studied by analyzing its impact on knowledge risk management.

6.5 Conclusion

The research clearly demonstrates the impact of a destructive type of supervision, i.e., abusive supervision on one of the most important aspect of knowledge economy, i.e., knowledge worker productivity, through the knowledge management processes, that is knowledge creation, knowledge sharing and knowledge application. The research is conducted on the private banking sector of Pakistan. The main participants of this survey were the knowledge workers, who are equipped with formal education and are involved in creative and innovative tasks in the organizations. The knowledge workers are the one who have 16 years of educations and are not involved in repetitive tasks rather use their knowledge for the development of innovative product and services. Although, there are many studies related to abusive supervision and knowledge management, where the relationship is proven to be negative between knowledge sharing and abusive supervision. This proves the fact that whenever the manager is abusive it becomes difficult for the knowledge worker to coordinate and communicate among one another efficiently and effectively. But a few research work has been conducted upon the relationship between abusive supervision and knowledge worker productivity (Choi et al., 2019; Khalid et al., 2018; Lee et al., 2016; Kim et al., 2015).

The key results of this study depict that the relationship between abusive supervision and knowledge creation, sharing and application is negative and highly significant, which means that the greater the abusive supervision in the banking sector will resultantly decrease knowledge management process. Hence it proves the fact that whenever the leader shows abusive behavior towards the knowledge workers in the banking sector, they tend not to share the available knowledge, moreover, they also hold important information and do not apply or utilize the

knowledge. This study confirms the previous findings as well. The relationship between knowledge creation and abusive supervision is understudied previously, hence, this study fills the existing gap.

Furthermore, the study also explains the positive and highly significant relationship between the knowledge management process and knowledge worker productivity, conforming with the previous findings and shows that in the banking sector when the knowledge workers create, share and apply knowledge, whether in the learning groups or with different units or departments of the same bank, then ultimately the knowledge worker productivity increases. (Kianto et al., 2019; Shujahat et al., 2017)

The study describes the negative impact of abusive supervision on the knowledge worker productivity through the mediation process of knowledge management processes in the banking sector of Pakistan. The study describes the fact, if the abusive supervision increases, it minimizes the knowledge management processes ultimately decreasing the knowledge working productivity in the banking sector of Pakistan. This means that an abusive leader in the banking sector does not allow the knowledge workers to work efficiently among other knowledge workers and focus on the quality of the task allotted to them, moreover, the knowledge worker, when not considered as an asset by the abusive leader, it will ultimately impact his productivity at the workplace. The study explains that abusive supervision does not significantly affect knowledge worker productivity through the mediation of knowledge creation. This is due to the fact that in banking sector of Pakistan, there is a lack of knowledge creation activities in the branch level, rather these are only confined in the head offices with the senior position holders in Pakistan and knowledge workers in the branches of private banks mostly deal with other two aspects of knowledge management process. The impact of abusive supervision on knowledge worker productivity, while controlling demographic factors, is under researched, till dates, the study contributes in this regard.

References:

1. Abualoush, S., Masa'deh, R., Bataineh, K., & Alrowwad, A. (2018). The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organization performance. *Interdisciplinary Journal of Information, Knowledge, and Management*, *13*, 279-309.

2. Agarwal, U. A. (2019). Examining links between abusive supervision, PsyCap, LMX and outcomes. *Management Decision*. *57 (5), 1304-*1334

3. Akhtar, M. N., Bal, P. M., & Long, L. (2016). Exit, voice, loyalty, and neglect reactions to frequency of change, and impact of change: a sense making perspective through the lens of psychological contract. *Employee Relations, 38(4), 536-562.*

4. Alavi, M. "KPMG Peat Marwick U.S.: One Giant Brain," Harvard Business School, Case 9-397- 108, 1997.

5. Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly, 25(1)* 107-136.

6. Ali, H. M., & Ahmad, N. H. (2006). Knowledge management in Malaysian banks: a new paradigm. *Journal of Knowledge Management Practice*, *7*(3), 1-13.

7. Andreeva, T., Vanhala, M., Sergeeva, A., Ritala, P. and Kianto, A. (2017), "When the fit between HR practices backfires: exploring the interaction effects between rewards for and appraisal of knowledge behaviours on innovation", *Human Resource Management Journal, 27(2),* 209-227.

8. Aryee, S., Sun, L. Y., Chen, Z. X. G., & Debrah, Y. A. (2008). Abusive supervision and contextual performance: The mediating role of emotional exhaustion and the moderating role of work unit structure. *Management and Organization Review*, *4*(3), 393-411.

9. Alosaimi, M. (2016). *The role of knowledge management approaches for enhancing and supporting education* (Doctoral dissertation, Paris 1).

10. Atapattu, M., & Ranawake, G. (2017). Transformational and Transactional Leadership Behaviours and their Effect on Knowledge Workers' Propensity for Knowledge Management Processes. *Journal of Information & Knowledge Management*, *16*(03), 1750026.

11. Austin, P. C., & Steyerberg, E. W. (2015). The number of subjects per variable required in linear regression analyses. *Journal of clinical epidemiology*, *68*(6), 627-636.

12. Bavik, Y. L., Tang, P. M., Shao, R., & Lam, L. W. (2018). Ethical leadership and employee knowledge sharing: Exploring dual-mediation paths. *The Leadership Quarterly*, *29*(2), 322-332.

13. Bhatti, S.H., Zakariya, R., Vrontis, D., Santoro, G. & Christofi, M. (2020). High-performance work systems, innovation and knowledge sharing: An empirical analysis in the context of project-based organizations, *Employee Relations*, 43(2), 438-458.

14. Blesio, B., & Molignani, R. (2000). Implementation Strategies for Knowledge Management in Banking. Part 1 (September). *Analysis of Demand: IDC*.

15. Burrell, G., & Morgan, G. (1979). Sociological Paradigms and Organizational Analysis Heinemann: London.

16. Butt, M. A., Nawaz, F., Hussain, S., Sousa, M. J., Wang, M., Sumbal, M. S., & Shujahat, M. (2019). Individual knowledge management engagement, knowledge-worker productivity, and innovation performance in knowledge-based organizations: the implications for knowledge processes and knowledge-based systems. *Computational and Mathematical Organization Theory*, *25*(3), 336-356.

17. Bass, B. M., Waldman, D. A., Avolio, B. J., & Webb, M. 1987. Transformational leadership and the falling dominoes effect. Group and Organization Studies, 12: 73–87.

18. Bosch-Sijtsema, P. M., Ruohomäki, V., & Vartiainen, M. (2009). Knowledge work productivity in distributed teams. *Journal of Knowledge Management*, *13*(6), 533-546

19. Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational behavior and human decision processes*, *97*(2), 117-134.

20. Cappa, F., Pinelli, M., Maiolini, R., & Leone, M. I. (2020). "Pledge" me your ears! The role of narratives and narrator experience in explaining crowdfunding success. *Small Business Economics*, 1-21.

21. Carleton, K. (2011). How to motivate and retain knowledge workers in organizations: A review of the literature. *International Journal of Management*, *28*(2), 459.

22. Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance—The mediating role of knowledge management capacity. *Journal of business research*, *62*(1), 104-114.

23. Choi, W., Kim, S. L., & Yun, S. (2019). A social exchange perspective of abusive supervision and knowledge sharing: Investigating the moderating effects of psychological contract fulfillment and self-enhancement motive. *Journal of Business and Psychology*, *34*(3), 305-319.

24. Constantinescu, M. (2009), "Knowledge management: focus on innovation and labor productivity in a knowledge-based economy*", Journal of Knowledge Management, 7(1),* 7-33.

25. Costa, V. and Monteiro, S. (2016), "Key knowledge management processes for innovation: a systematic literature review", *VINE Journal of Information and Knowledge Management Systems, 46(3),* 386-410

26. Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of knowledge management. 9(3),* 101-115

27. De Cock, C., & Land, C. (2006). Organization/literature: Exploring the seam. *Organization Studies*, *27*(4), 517-535.

28. Devaux, M., & Lamanna, M. (2009). The rise and early history of the term ontology (1606-1730). *Quaestio*, *9*, 173-208.

29. Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *PsychologicalBulletin*,*130*, 355–391

30. Domenech, J., Escamilla, R., & Roig-Tierno, N. (2016). Explaining knowledge-intensive activities from a regional perspective. *Journal of Business Research*, *69*(4), 1301-1306

31. Drucker, P. F. (1999). Knowledge-Worker Productivity: The Biggest Challenge. *California Management Review*, *41*(2), 79–94.

32. Drucker, P.F. (2001), "The next society", The Economist, November 1.

33. Eissa, G., & Lester, S. W. (2017). Supervisor role overload and frustration as antecedents of abusive supervision: The moderating role of supervisor personality. *Journal of Organizational Behavior*, *38*(3), 307-326.

34. Erne, R. (2011). What is Productivity in Knowledge Work?-A Cross-Industrial View-. *J. UCS*, *17*(10), 1367-1389.

35. Feng, K., Chen, E.T. and Liou, W. (2005), "Implementation of knowledge management systems and firm performance: an empirical investigation*", Journal of Computer Information Systems, 45(2),* 92-104.

36. Gabriel, Y., Gray, D. E., & Goregaokar, H. (2013). Job loss and its aftermath among managers and professionals: wounded, fragmented and flexible. *Work, employment and society*, *27*(1), 56-72.

37. Gaviria-Marin, M., Merigó, J. M., & Baier-Fuentes, H. (2019). Knowledge management: A global examination based on bibliometric analysis. *Technological Forecasting and Social Change*, *140*, 194-220.

38. Ghani, U., Teo, T., Li, Y., Usman, M., Islam, Z. U., Gul, H., ... & Zhai, X. (2020). Tit for tat: Abusive supervision and knowledge hiding-the role of psychological contract breach and psychological ownership. *International journal of environmental research and public health*, *17*(4), 1240.

39. Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.

40. Gu, J., Song, J., & Wu, J. (2016). Abusive supervision and employee creativity in China Departmental identification as mediator and face as moderator. *Leadership & Organization Development Journal*, *37*(8), 1187-1204.

41. Han, S. H., Yoon, S. W., & Chae, C. (2020). Building social capital and learning relationships through knowledge sharing: A social network approach of management students' cases. *Journal of Knowledge Management*, *24(4),* 921-939

42. Harris, K. J., Kacmar, K. M., & Zivnuska, S. (2007). An investigation of abusive supervision as a predictor of performance and the meaning of work as a moderator of the relationship. *The leadership quarterly*, *18*(3), 252-263.

43. Harris, K. J., Harvey, P. & Kacmar, K. M. 2011. Abusive supervisory reactions to coworker relationship conflict. *The Leadership Quarterly*, 22, 1010-1023.

44. Hasan, M., & Zhou, S. N. (2015). Knowledge management in global organisations. *International Business Research*, *8*(6), 165-173.

45. Haynes, B.P. (2007), "The impact of the behavioral environment on office productivity", *Journal of Facilities Management*, 5(3). 158-171.

46. Hayes, A.F. (2013), "Introduction to mediation, moderation, and conditional process analysis: A regression-based approach", Guilford Press, New York, NY.

47. Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British journal of mathematical and statistical psychology*, *67*(3), 451-470.

48. Hislop, D., Bosua, R., & Helms, R. (2018). *Knowledge management in organizations: A critical introduction*. Oxford university press.

49. Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: guidelines for determining model fit. Electron J Bus Res Methods 6, 53–60.

50. Inkinen, H. (2016). Review of empirical research on knowledge management practices and firm performance. *Journal of Knowledge Management*, *20*(2), 230-257.

51. Iranzadeh, S. and Pakdelbonab, M. (2014). "Investigating the role of knowledge management Implementation in labor productivity in Islamic Azad University Tabriz Branch", Productivity Management (Beyond Management), *7(28),* 51-74.

52. Islam, T., Ahmad, S., Kaleem, A., & Mahmood, K. (2020). Abusive supervision and knowledge sharing: moderating roles of Islamic work ethic and learning goal orientation. *Management Decision 59(2),* 205-222,

53. Khaksar, S. M. S., Chu, M. T., Rozario, S., & Slade, B. (2020). Knowledge-based dynamic capabilities and knowledge worker productivity in professional service firms The moderating role of organisational culture. *Knowledge Management Research & Practice*, *24(1),* 1-18.

54. Kumari, A., & Saharan, T. (2020, March). Knowledge Management as a Catalyst to Sustainable Development in Banking Industry. In *2020 International Conference on Computer Science, Engineering and Applications (ICCSEA)* (pp. 1-6). IEEE.

55. Keashly, L. (1998). Emotional Abuse in the Workplace: Conceptual and Empirical Issues. *Journal of Emotional Abuse*, *1*(1), 85-117.

56. Khalid, M., Bashir, S., Khan, A. K., & Abbas, N. (2018). When and how abusive supervision leads to knowledge hiding behaviors: An Islamic work ethics perspective. *Leadership & Organization Development Journal*, *39*(6), 794-806.

57. Khoualdi, K. and Binibrahim, H. (2019), *Knowledge Management in Banking Sector and its Impact on Competitive Advantage: An Applied Study to Banks in Jeddah Saudi Arabia,* International Journal of Computer Science and Network Security, *19 (5)*, 95-102

58. Kianto, A. (2008), "Development and validation of a survey instrument for measuring organizational renewal capability", International Journal of Technology Management, *42(*1/2), 69-88.

59. Kianto, A., Shujahat, M., Hussain, S., Nawaz, F., & Ali, M. (2019). The impact of knowledge management on knowledge worker productivity. *Baltic Journal of Management*, *14*(2), 178-197.

60. Kianto, A., Vanhala, M., & Heilmann, P. (2016). The impact of knowledge management on job satisfaction. *Journal of Knowledge Management*, *20*(4), 621-636.

61. Kim, S. L., Kim, M., & Yun, S. (2015). Knowledge sharing, abusive supervision, and support: A social exchange perspective. *Group & Organization Management*, *40*(5), 599-624.

62. Lai, Y. L., & Lin, F. J. (2012). The effects of knowledge management and technology innovation on new product development performance an empirical study of Taiwanese machine tools industry. *Procedia-Social and Behavioral Sciences*, *40*, 157-164.

63. Latif, K. F., Nazeer, A., Shahzad, F., Ullah, M., Imranullah, M., & Sahibzada, U. F. (2020). Impact of entrepreneurial leadership on project success: mediating role of knowledge management processes. *Leadership & Organization Development Journal. 41(2),* 237-256

64. Lee, S., Yun, S., & Srivastava, A. (2013). Evidence for a curvilinear relationship between abusive supervision and creativity in South Korea. *The Leadership Quarterly*, *24*(5), 724-731.

65. Lee, S., Kim, S. L., & Yun, S. (2018). A moderated mediation model of the relationship between abusive supervision and knowledge sharing. *The Leadership Quarterly*, *29*(3), 403-413

66. Leiter, M. P., Jackson, N. J., & Shaughnessy, K. (2009). Contrasting burnout, turnover intention, control, value congruence and knowledge sharing between Baby Boomers and Generation X. *Journal of nursing management*, *17*(1), 100-109.

67. Lerner, D., Amick III, B. C., Rogers, W. H., Malspeis, S., Bungay, K., & Cynn, D. (2001). The work limitations questionnaire. *Medical care*, *39(1),* 72-85.

68. Lim, P. K., Koay, K. Y., & Chong, W. Y. (2020). The effects of abusive supervision, emotional exhaustion and organizational commitment on cyberloafing: a moderated-mediation examination. *Internet Research*, *31(2),* 497-518

69. Liu, W., Zhang, P., Liao, J., Hao, P., & Mao, J. (2016). Abusive supervision and employee creativity. *Management Decision. 54(1),* 130-147

70. Lowhorn, G. L. (2007, May). Qualitative and quantitative research: How to choose the best design. In *Academic Business World International Conference. Nashville, Tennessee*.

71. MacCallum, R.C., Browne, M.W., and Sugawara, H., M. (1996), "Power Analysis and Determination of Sample Size for Covariance Structure Modeling," *Psychological Methods*, 1 (2), 130-49.

72. Martí, I., & Fernández, P. (2013). The institutional work of oppression and resistance: Learning from the Holocaust. *Organization Studies*, *34*(8), 1195-1223.

73. Mazdeh, M. M., & Hesamamiri, R. (2014). Knowledge management reliability and its impact on organizational performance. *Program: electronic library and information systems*, 48(2), 102-126

74. McGrath, R. G., & MacMillan, I. C. (2000). *The entrepreneurial mindset: Strategies for continuously creating opportunity in an age of uncertainty,* 284. Harvard Business Press.

75. Mehrad, A., & Tahriri, M. (2019). Comparison between Qualitative and Quantitative Research Approaches: Social Sciences. *International Journal For Research In Educational Studies*, *5*(7), 1-6.

76. Mládková, L. (2012). Leadership in management of knowledge workers. *Procedia-Social and Behavioral Sciences*, *41*, 243-250.

77. Mitchell, M. S., & Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of applied psychology*, *92*(4), 1159.

78. Namie, G., & Namie, R. (2009). The bully at work. Naperville, IL: Sourcebooks.

79. Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, *5*(1), 14-37.

80. Lawrence Neuman, W. (2014). *Social research methods: qualitative and quantitative approaches*. Pearson.

81. Lawrence Neuman, W. (2005). *Social research methods: qualitative and quantitative approaches*. Pearson.

82. Nielsen, M. B., Tangen, T., Idsoe, T., Matthiesen, S. B., & Magerøy, N. (2015). Post-traumatic stress disorder as a consequence of bullying at work and at school. A literature review and meta-analysis. *Aggression and violent behavior*, *21*, 17-24.

83. O'Driscoll, T. (2003). Improving knowledge worker performance. *Performance Improvement*, *42*(4), 5-11

84. Ode, E., & Ayavoo, R. (2020). The mediating role of knowledge application in the relationship between knowledge management practices and firm innovation. *Journal of Innovation & Knowledge*, *5*(3), 210-218.

85. Palvalin, M., Vuolle, M., Jääskeläinen, A., Laihonen, H., & Lönnqvist, A. (2015). SmartWoW–constructing a tool for knowledge work performance analysis. *International Journal of Productivity and Performance Management*, *64*(4), 479-498

86. Palvalin, M., van der Voordt, T., & Jylhä, T. (2017). The impact of workplaces and self-management practices on the productivity of knowledge workers. *Journal of Facilities Management*, *15*(4), 423-438.

87. Pangestu, R. N., & Wulansari, N. A. (2019). The Effect of Abusive Supervision on Employee Silence using Emotional Exhaustion and Organizational Justice as a Mediation Variable. *Management Analysis Journal*, *8*(1), 58-67.

88. Peltokorpi, V. (2019). Abusive supervision and emotional exhaustion: the moderating role of power distance orientation and the mediating role of interaction avoidance. *Asia Pacific Journal of Human Resources*, *57*(3), 251-275.

89. Pinheiro, J., Silva, G. M., Dias, Á. L., Lages, L. F., & Preto, M. T. (2020). Fostering knowledge creation to improve performance: the mediation role of manufacturing flexibility. *Business Process Management Journal. 26(*7), 1871-1892

90. Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *885*(879), 10-1037.

91. Pradhan, S. and Jena, L.K. (2018), Abusive supervision and job outcomes: a moderated mediation study, *Evidence-based HRM*, 6(2), 137-152.

92. Preacher, K.J., Rucker, D.D. and Hayes, A.F. (2007), "Addressing moderated mediation hypotheses: Theory, methods, and prescriptions", Multivariate Behavioral Research, *42(1),* 185-227.

93. Sahibzada, U. F., Jianfeng, C., Latif, K. F., Shafait, Z., & Sahibzada, H. F. (2020). Interpreting the impact of knowledge management processes on organizational performance in Chinese higher education: mediating role of knowledge worker productivity. *Studies in Higher Education*,*8(3),* 1-18.

94. Sekaran, U. (2006). Research methods for business: A skill building approach Wiley-India.

95. Saleem, S., Saleem, N., & Haider, A. (2020). The Impact of Abusive Supervision on Employee Creativity, with the Mediating Effect of Emotional Exhaustion: A study on R&D Sector in Twin Cities of Pakistan. *Research Journal of Social Sciences and Economics Review (RJSSER)*, *1*(4), 314-321.

96. Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

97. Singh, A. S., & Masuku, M. B. (2013). Fundamentals of applied research and sampling techniques. *International journal of medical and applied sciences*, *2*(4), 124-132.

98. Schyns, B., & Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *The Leadership Quarterly*, *24*(1), 138-158.

99. Shah, S. M. M., & Hamid, K. B. A. (2015). Transactional leadership and job performance: An empirical investigation. *Sukkur IBA Journal of Management and Business*, *2*(2), 74-85.

100. Shujahat, M., Hussain, S., Javed, S., Malik, M. I., Thurasamy, R., & Ali, J. (2017). Strategic management model with lens of knowledge management and competitive intelligence. *VINE Journal of Information and Knowledge Management Systems 47(1)*. 55-93

101. Shujahat, M., Ali, B., Nawaz, F., Durst, S., & Kianto, A. (2018). Translating the impact of knowledge management into knowledge-based innovation: The neglected and mediating role of knowledge-worker satisfaction. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *28*(4), 200-212.

102. Sumbal, M. S., Tsui, E., Durst, S., Shujahat, M., Irfan, I., & Ali, S. M. (2020). A framework to retain the knowledge of departing knowledge workers in the manufacturing industry. *VINE Journal of Information and Knowledge Management Systems 50(4)*. 631-651

103. Swanson, E., Kim, S., Lee, S. M., Yang, J. J., & Lee, Y. K. (2020). The effect of leader competencies on knowledge sharing and job performance: Social capital theory. *Journal of Hospitality and Tourism Management*, *42*, 88-96.

104. Tariq, H., & Ding, D. (2018). Why am I still doing this job? The examination of family motivation on employees' work behaviors under abusive supervision. *Personnel Review*, *47*(2), 378-402

105. Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of management journal*, *43*(2), 178-190.

106. Tepper, B. J., Duffy, M. K., Henle, C. A., & Lambert, L. S. (2006). Procedural injustice, victim precipitation, and abusive supervision. *Personnel Psychology*, *59*(1), 101-123.

107. Tepper, B. J. (2007). Abusive supervision in work organizations: Review, synthesis, and research agenda.Journal of Management, *33*(3), 261–289

108. Tepper, B. J., Moss, S. E., & Duffy, M. K. (2011). Predictors of abusive supervision: Supervisor perceptions of deep-level dissimilarity, relationship conflict, and subordinate performance. *Academy of Management Journal*, *54*(2), 279-294.

109. Tseng, F., Fan, Y (2011) Exploring the Influence of Organizational Ethical Climate on Knowledge Management. *J Bus Ethics* **101,** 325–342

110. Tundung, S. P., Ludfi, D., & Hanif, M. (2017, October). The Relationship Between Knowledge Management Capabilities and Product Innovation and Its Impact on Marketing Performance. In *2nd International Conference on Accounting, Management, and Economics 2017 (ICAME 2017)*. Atlantis Press.

111. Turriago-Hoyos, A., Thoene, U., & Arjoon, S. (2016). Knowledge workers and virtues in Peter Drucker's management theory. *SAGE Open*, *6*(1)

112. Rashed, M. (2016). The Readiness of Banks in Knowledge Management: A Study of Three Private Commercial Banks in Bangladesh. *J. Bus. Financ. Aff*, *5*(2).

113. Uğurlu, Ö. Y., & Kızıldağ, D. (2013). A comparative analysis of knowledge management in banking sector: An empirical research. *European Journal of Business and Management*, *5*(16), 12-19.

114. Usman, M., Liu, Y., Zhang, J., Ghani, U., & Gul, H. (2021). Why do employees struggle to thrive in the workplaces? A look at the impact of abusive supervision. *Personnel Review*. (ahead-of-print)

115. Valacherry, A. K., & Pakkeerappa, P. (2020). Knowledge Management in the Software Industry: Creating Value Through Knowledge Application. *Journal of Creating Value*, *6*(2), 249-270.

116. Vukšić, V. B., Bach, M. P., Garrido-Moreno, A., Lockett, N., & Garcia-Morales, V. (2015). Exploring the role of knowledge management practices in fostering customer relationship management as a catalyst of marketing innovation. *Baltic Journal of Management*. *10(4),* 393-412.

117. Watts Perotti, J., Wall, P. and McLaughlin, G. (2010), The future of knowledge work: predictions for 2020, *On the Horizon*, 18(3), 213-221.

118. Wright, K. (2005). Personal knowledge management: supporting individual knowledge worker performance. *Knowledge management research & practice*, *3*(3), 156-165.

119. Wu, T. Y., & Hu, C. (2009). Abusive supervision and employee emotional exhaustion: Dispositional antecedents and boundaries. *Group & Organization Management*, *34*(2), 143-169.

120. Wu, W. L., & Lee, Y. C. (2016). Do employees share knowledge when encountering abusive supervision? *Journal of Managerial Psychology*, *31*(1), 154-168.

121. Xu, E., Huang, X., Lam, C. K., & Miao, Q. (2012). Abusive supervision and work behaviors: The mediating role of LMX. *Journal of Organizational Behavior*, *33*(4), 531-543.

122. Yao, L.J., Kam, T.H.Y. and Chan, S.H. (2007), Knowledge sharing in Asian public administration sector: the case of Hong Kong, *Journal of Enterprise Information Management*, *20(1),* 51-69.

123. Yoo, S., Jeong, S., Song, J. H., & Bae, S. (2020). Transformational leadership and knowledge creation practices in Korean and US schools: knowledge assets as mediators. *Knowledge Management Research & Practice*, *19(2),* 263-275.

124. Zaabi, H. H. A., Elanain, H. M. A., & Ajmal, M. M. (2018). Impact of toxic leadership on work outcomes: An empirical study of public banks in the UAE. *International Journal of Public Sector Performance Management*, *4*(3), 373-392.

125. Zellars, K. L., Tepper, B. J., & Duffy, M. K. (2002). Abusive supervision and subordinates' organizational citizenship behavior. *Journal of applied psychology*, *87*(6), 1068.

126. Zhou, J., & Shalley, C. E. (2011). Deepening our understanding of creativity in the workplace: A review of different approaches to creativity research. In *APA handbook of industrial and organizational psychology, Vol 1: Building and developing the organization.* 275-302. American Psychological Association.

Appendices

Appendix 1: Criteria for determining Sample

1. Must be a knowledge worker
2. Must have 16 years of education
3. Must have non-routine tasks in Job Description

Appendix 2: Questionnaire

<div align="center">

Questionnaire

(Impact of Abusive Supervision on the Knowledge Worker Productivity: through the lens of Knowledge Management process)

</div>

Purpose of the study: You are requested to fill the following questionnaire. This study is being conducted for the accomplishment of Thesis for MS (HRM) from NUST Business School. The research is intended to analyze the impact of abusive supervision on the knowledge worker productivity through knowledge management process. The main respondents of this study are "Knowledge workers" who are high-level workers who apply theoretical and analytical knowledge, acquired through formal training, to develop products and services. Knowledge workers would be the most valuable assets of a 21st-century organization because of their high level of productivity and creativity.

Knowledge work is the generation and application of knowledge by highly skilled and autonomous workforce to produce tangible and intangible outcomes (Bosch-Sijtsema et al., 2009). Knowledge worker productivity is dominant and refers to a knowledge worker's efficiency in optimizing knowledge work for maximum knowledge-based intellectual output (Drucker, 1999). In the banking sector, knowledge work can be identified as risk management, Customer Relationship/Marketing, Performance Evaluation, Decision Support Systems, etc.

Abusive supervision can be identified as a verbal or nonverbal hostile behavior from the supervisor's end without any physical contact. This type of behavior can pose negative impact on the performance of the subordinate. (Tepper, 2000)

Knowledge management process can be characterized as total summation creation of knowledge, sharing of knowledge and its utilization/ application in the organization (Inkinen, 2016, Kianto et al., 2019).

Current Job level: 1) Career level   2) Middle management level   3)Top management level

Years of Experience at current Position: _____

Overall Experience in Yrs:_____

Qualification: 1) Masters   2) MS/Mphil   3) Phd   4) Others: _____.

Gender: i) Male   ii) Female

<u>Age:</u>

i)	**20-25**
ii)	**26-30**
iii)	**31-35**
iv)	**36-40**
v)	**41 and above**

INSTRUCTIONS:

Please rate how strongly you disagree or agree with each of the following statements by circling the appropriate number. (1=strongly agree; 2=agree; 3=neutral; 4= disagree; 5=strongly disagree).

<u>*Note:*</u> The anonymity of the individual is kept in order to protect the privacy of the respondents.

Questions	1: strongly agree	2: agree	3: neutral	4: disagree	5: strongly disagree
Knowledge worker productivity					
1. I achieve satisfactory results in relation to my goals					
2. I am usually able to carry out my work tasks efficiently (smoothly, without problems)					

3. I am able to use the majority of my working time for conducting relevant tasks related to my goals					
4. My job mainly includes tasks in which I am able to exploit my knowledge and skills efficiently					
5. I am able to meet customers' expectations					
6. The quality of my work outputs is high					
7. The work group I work in works efficiently as a whole					
Knowledge Application					
1. I use knowledge to deal with work effectively					
2. I use knowledge to solve problems					
3. I use knowledge to improve efficiency					
4. I use knowledge to enhance my professional capabilities					
5. I use knowledge to develop new products or services					
6. I use knowledge to satisfy customers' needs					
KNOWLEDGE SHARING					
1. Communication with other members of my work group is efficient and beneficial.					
2. My colleagues are open and honest with each other					
3. Our staff is interactive and exchanges ideas widely across the organization					
4. I find it easy to communicate and co-operate with employees from other organizational units and functions.					

5. There is a mutual understanding between the various organizational units and functions					
6. Our staff shares information and learns from each other					
KNOWLEDGE CREATION					
1. Information about the status, results and problems of different projects is easily available					
2. Employees are encouraged to seek information actively outside the organization.					
3. My organization constantly gathers information about the external operating environment					
4. Our organization actively collects development ideas.					
5. Our organization develops new methods for sharing knowledge (e.g. blogs, discussion forums) and encourages using them					
6. Customers often participate in our innovation processes (i.e., in developing a new product or service or other solution)					
7. We have learning groups, where members can discuss their work experiences and problems					
Abusive Supervision					
1. My boss Ridicules me					
2. He/ she tells me my thoughts or feelings are stupid					
3. He/ she puts me down in front of others					
4. He/ she Makes negative comments about me to others					
5. He/ she Tells me I'm incompetent					

Appendix 3: SPSS Results

Descriptive Statistics

	Mean	Std. Deviation	N
Gender	.33	.473	204
Age	2.82	1.446	204
Qualification	1.82	1.059	204
Position	1.97	.727	204
Experience	2.382	1.2361	204
Total_exp	10.137	8.1831	204
AS_M	3.7245	1.02134	204
KC_M	2.5728	.92647	204
KS_M	2.2786	.84345	204
KA_M	2.0792	.89721	204
KWP_M	2.0833	.90815	204

Correlations

		Gender	Age	Qualification	Position	Experience
Gender	Pearson Correlation	1	-.135	-.098	-.117	.008
	Sig. (2-tailed)		.055	.161	.095	.905
	N	204	204	204	204	204
Age	Pearson Correlation	-.135	1	.146*	.871**	.287**
	Sig. (2-tailed)	.055		.037	.000	.000
	N	204	204	204	204	204
Qualification	Pearson Correlation	-.098	.146*	1	.059	.180*
	Sig. (2-tailed)	.161	.037		.400	.010
	N	204	204	204	204	204
Position	Pearson Correlation	-.117	.871**	.059	1	.270**
	Sig. (2-tailed)	.095	.000	.400		.000
	N	204	204	204	204	204
Experience	Pearson Correlation	.008	.287**	.180*	.270**	1
	Sig. (2-tailed)	.905	.000	.010	.000	
	N	204	204	204	204	204
Total_exp	Pearson Correlation	-.104	.901**	.144*	.854**	.310**

		Gender	Age	Qualification	Position	Experience
Total_exp	Sig. (2-tailed)	.138	.000	.040	.000	.000
	N	204	204	204	204	204
AS_M	Pearson Correlation	-.123	.363**	.159*	.328**	.000
	Sig. (2-tailed)	.079	.000	.023	.000	.996
	N	204	204	204	204	204
KC_M	Pearson Correlation	.139*	-.290**	-.070	-.247**	.048
	Sig. (2-tailed)	.048	.000	.320	.000	.492
	N	204	204	204	204	204
KS_M	Pearson Correlation	.081	-.204**	-.049	-.189**	.088
	Sig. (2-tailed)	.249	.003	.490	.007	.213
	N	204	204	204	204	204
KA_M	Pearson Correlation	.090	-.319**	-.100	-.264**	.037
	Sig. (2-tailed)	.199	.000	.154	.000	.596
	N	204	204	204	204	204
KWP_M	Pearson Correlation	.046	-.271**	-.168*	-.241**	.043
	Sig. (2-tailed)	.509	.000	.016	.001	.545
	N	204	204	204	204	204

Model = 4

Y = KWP_M

X = AS_M

M1 = KC_M

M2 = KA_M

M3 = KS_M

Statistical Controls:

CONTROL= Gender   Age   Position Qualific Experien Total_ex

Sample size

204

****

Outcome: KC_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.68	.46	.48	23.66	7.00	196.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.72	.28	17.15	.00	4.18	5.26
AS_M	-.59	.05	-11.15	.00	-.69	-.48
Gender	.10	.10	.96	.34	-.11	.31
Age	-.12	.09	-1.41	.16	-.30	.05
Position	.03	.15	.24	.81	-.25	.32
Qualific	.03	.05	.70	.48	-.06	.13
Experien	.04	.04	.97	.33	-.04	.12
Total_ex	.01	.01	.84	.40	-.02	.04

****

Outcome: KA_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.74	.55	.37	34.53	7.00	196.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.69	.24	19.37	.00	4.21	5.17
AS_M	-.63	.05	-13.54	.00	-.72	-.54
Gender	-.03	.09	-.29	.78	-.21	.16
Age	-.26	.08	-3.37	.00	-.41	-.11
Position	-.03	.13	-.26	.80	-.29	.22
Qualific	.01	.04	.19	.85	-.08	.09
Experien	.03	.04	.71	.48	-.05	.10
Total_ex	.04	.01	3.45	.00	.02	.07

****

Outcome: KS_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.70	.49	.38	26.73	7.00	196.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.49	.24	18.46	.00	4.01	4.97
AS_M	-.59	.05	-12.64	.00	-.68	-.50
Gender	-.01	.09	-.09	.93	-.19	.18
Age	-.10	.08	-1.26	.21	-.25	.06
Position	-.11	.13	-.89	.38	-.37	.14
Qualific	.03	.04	.72	.47	-.05	.11
Experien	.04	.04	1.04	.30	-.03	.11
Total_ex	.03	.01	2.49	.01	.01	.06

●●

Outcome: KWP_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.90	.80	.17	78.93	10.00	193.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.50	.32	4.73	.00	.87	2.12
KC_M	.09	.05	1.83	.07	-.01	.19
KA_M	.28	.06	4.96	.00	.17	.39
KS_M	.40	.06	6.82	.00	.28	.51
AS_M	-.24	.05	-5.08	.00	-.33	-.15
Gender	-.12	.06	-1.89	.06	-.24	.01
Age	.00	.05	-.07	.95	-.11	.10
Position	-.08	.09	-.87	.38	-.25	.10
Qualific	-.08	.03	-2.64	.01	-.13	-.02
Experien	.00	.03	.09	.93	-.05	.05
Total_ex	.01	.01	1.07	.28	-.01	.03

*************************** TOTAL EFFECT MODEL ***************************

Outcome: KWP_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.79	.62	.32	46.48	7.00	196.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.01	.22	22.29	.00	4.56	5.45
AS_M	-.70	.04	-16.30	.00	-.79	-.62
Gender	-.12	.09	-1.40	.16	-.29	.05
Age	-.13	.07	-1.76	.08	-.27	.02
Position	-.13	.12	-1.07	.29	-.36	.11
Qualific	-.06	.04	-1.48	.14	-.14	.02
Experien	.03	.03	.84	.40	-.04	.10
Total_ex	.04	.01	3.00	.00	.01	.06

Number of bootstrap samples for bias corrected bootstrap confidence intervals:

5000

Level of confidence for all confidence intervals in output:

95.00

*************** TOTAL, DIRECT, AND INDIRECT EFFECTS *******************

Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.70	.04	-16.30	.00	-.79	-.62

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.24	.05	-5.08	.00	-.33	-.15

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	-.46	.05	-.56	-.38
KC_M	-.05	.03	-.12	.00
KA_M	-.17	.04	-.26	-.09
KS_M	-.23	.04	-.32	-.16

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	-.53	.04	-.62	-.44
KC_M	-.06	.04	-.14	.01
KA_M	-.20	.05	-.30	-.11
KS_M	-.27	.05	-.36	-.19

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	-.50	.04	-.59	-.42
KC_M	-.06	.03	-.13	.00
KA_M	-.19	.05	-.28	-.10
KS_M	-.25	.04	-.34	-.18

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	.66	.06	.54	.78
KC_M	.08	.04	-.01	.17
KA_M	.25	.06	.13	.37
KS_M	.33	.06	.23	.45

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	1.92	.58	1.18	3.61
KC_M	.22	.15	-.02	.60
KA_M	.73	.29	.32	1.54
KS_M	.97	.30	.56	1.80

Normal theory tests for specific indirect effects

	Effect	se	Z	p
KC_M	-.05	.03	-1.80	.07
KA_M	-.17	.04	-4.65	.00
KS_M	-.23	.04	-5.99	.00

******************** ANALYSIS NOTES AND WARNING************************

Number of bootstrap samples for bias corrected bootstrap confidence intervals:

5000

Level of confidence for all confidence intervals in output:

95.00