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## Performance Monitoring and Knowledge Worker Productivity

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### Abstract

This study aims at developing a conceptual model depicting the interrelationship of employee performance monitoring, stress, knowledge management, and knowledge worker productivity. In this study, past research related to employee performance monitoring and knowledge worker productivity is used as base research to identify the study's constructs and develop the conceptual model. The final emerges model, which may be tested quantitatively, has four constructs. These are employee performance monitoring, stress, knowledge management, and knowledge worker productivity. In the finally evolved model, employee performance monitoring acts as the exogenous variable, knowledge worker productivity as the endogenous variable, and stress and knowledge management as mediators.

**Keywords:** Employee Performance Monitoring, Knowledge Management, Performance Management, Knowledge Worker Productivity.

### Introduction

Both stress and the management of one's knowledge are essential intervening variables that must be understood in order to comprehend employee performance monitoring and knowledge worker productivity. The monitoring of employee performance and its impact on stress, the management of knowledge, and the productivity of knowledge workers are three of the primary focus areas of this research. The purpose of this study is to conduct a literature review on the previously published work in these fields. Discussion on this topic will clearly explain the relationships among the key variables demonstrated in this study. This study elaborates on relevant concepts and definitions and discusses knowledge worker productivity and sub-dimensions. Next, the discussion moves into employee performance monitoring, its sub-dimensions, and its role in knowledge management. Finally, the study entails the mediating and serial mediating roles of stress and knowledge management in employee performance monitoring and knowledge worker productivity. There are three significant contributions attributable to this study. To begin, stress is introduced as a mediating factor. The introduction of knowledge management as a mediator is the second contribution. stress management and knowledge management have a serial mediation role on productivity among knowledge workers.

Knowledge management is characterized as a knowledge worker's ability to add to their established knowledge and enhance academic outcomes by applying it precisely (Drucker, 1999). As a consequence of this, the term knowledge worker refers to the cognitive, conceptual, and rational obligations of learning and applying knowledge to projects and improvisations wherever they are required (Kianto et al., 2019). An employee who conducts knowledge-based tasks and generates knowledge-based intellectual output is referred to as a knowledge worker (Thomas et al., 1997). Managers, analysts, and model designers are included in this definition of knowledge workers (Curado & Bontis, 2006). According to some research, an employee who can learn more about their job than anyone else in the company is considered a "knowledge worker," according to some research. Gathering, synthesizing, and applying data are the skills of this employee type (Turriago-Hoyos et al., 2016). According to Bosch-Sijtsema (2009), the information worker is a non-routine, complex, and situation-specific employee.

### **Problem Statement**

Palvalin et al (2017) state that the productivity of knowledge workers is the most pressing issue for management scholars and strategists in the 21st century. In the twenty-first century, knowledge workers, who are characterized by their primarily intellectual and unstructured responsibilities, are becoming an increasingly important segment of the labor force (Iazzolino et al., 2017). According to Palvalin (2017), the primary responsibility of a knowledge worker is to generate new knowledge and apply it in order to acquire new product and service knowledge as an output. In addition, some studies have found a weak connection between knowledge worker productivity and performance monitoring. (Yusoff et al., 2014; Adriaenssen et al., 2016). Empirical studies lack knowledge of workers' productivity and its direct relationship with overall performance (Kianto et al., 2018). Though occupational stress has been studied concerning knowledge worker productivity, it does not play any role as a mediator in the extant literature. Stress as a mediator will yield results that would change the working dynamics of the workplace. Past Studies (e.g., Ramirez & Nembhard, 2004) have shown a direct relationship between employee performance monitoring and knowledge worker productivity, but mediators are not common. The lack of studies about the mediating role of knowledge management on the relationship between performance monitoring and knowledge worker productivity justifies using it as a mediator. To the researcher's best knowledge, no literature is found to be studying the effect of serial mediation between performance monitoring and knowledge worker productivity. Therefore, this research uses serial mediation between the independent and dependent variables to better understand the corporate world's practical problems. The two mediators, stress and knowledge management, are used in this research to determine their impact on the relationship between performance monitoring and knowledge worker productivity. Studies on knowledge management have not used serial mediation, such as in (Sabri and Aw, 2020). Adverse project outcomes, such as low productivity, higher costs, delays in completion, and defects in the construction process, plague the UAE's construction industry (Albattah et al., 2022). Because of this, we must look into the factors that affect productivity in general and knowledge worker productivity in particular.

### **Research Objectives**

The objectives of this study are:

- i) To establish the relationships among the constructs of employee performance monitoring, stress, knowledge management, and knowledge worker productivity with the help of extant literature
- ii) To develop the conceptual model illustrating the structural relationship among the constructs of employee performance monitoring, stress, knowledge management, and knowledge worker productivity.
- iii) To emphasize the role of knowledge worker in the knowledge economy, in the context of construction industry of UAE.

### **Methodology**

This study provides an explanation of how to construct a conceptual framework for expected cause-and-effect relationships. It does so by incorporating relevant variables that have the potential to influence the productivity of knowledge workers. According to Tappenden (2012), the abstraction and representation of complex phenomena in some readily expressible form. This is done so that stakeholders' understanding of the parts of the system and mathematical expressions can be tested, and eventually all stakeholders can come to an agreement on what the mathematical expression should be. Problem-oriented conceptual models examine the interrelationship between processes and structures to ensure that the most critical areas are approached logically and efficiently. It should also help focus questions and reviews on critical areas and provide a valuable tool for assessing how the various discrete questions are interconnected and how much of the service will be covered by the questions and reviews.

### **Review of Literature**

#### ***Knowledge Worker***

Knowledge workers make up the portion of the labor force that is expanding at the quickest rate (Davenport, 2008). As businesses moved away from more traditional forms of manufacturing and into more information-driven markets, the proportion of workers with knowledge-based skills increased (Ramirez & Nembhard, 2004). The shift from a traditional to a newly industrializing environment, one in which expertise rather than, for instance, physical muscle is seen as the primary advantage for employees, and one in which quality education is seen as necessary, has contributed to the rise of information employees. This shift has been visible due to a broader transition from a conventional to a newly industrializing environment (Fitzsimmons & Fitzsimmons, 2008). For this reason, information employees now act as the primary resources for organizational success in the modern era (Davenport, 2010). Therefore, we have focused more on increasing professional workers' efficiency and competitiveness.

The construction industry has now reached a knowledge-based economy, which acts as one of the knowledge-intensive quality generating business industries. The construction industry is engaged with a broad spectrum of practitioners, collaborating as an integrative company to implement the building goods. The reinvention of workers' value of skills has correlated with the 'information worker' concept's growing popularity. Also, construction companies hire many workers from a broad spectrum of workplace ethnicities and countries, even individuals with no credentials, hands-on, administrative, and technical roles, difficulty employing information employees successfully, and achieving the organization's goals. Much of that personal expertise is unidentified and unpaired and undiscovered to everyone else.

An abundance of experience-based information distinguishes the construction industry. Still, workers quit or exit the company, taking away virtually implicit knowledge and a possible means of strategic advantages. Prior studies claim that experience practice and the service industry are the leading market fields that drive industrial development. Although the awareness, there is no agreement about what forms expertise (Kelloway & Barling, 2000). Therefore, the idea of knowledge work needs a much more comprehensive description in the context of this study's key aims.

### ***Characteristics of Knowledge Worker***

In terms of job arrangement, knowledge job is much less ordered than manufacturing work, and knowledge workers' methods are incredibly complicated and challenging to describe. Partially because of their jobs' unpredictability, it is difficult to tell technical employees what to perform (Davenport, 2008). They also involve the individual's choice regarding how a job is carried out (Ramirez & Steudel, 2008). Therefore, knowledge employees require a significantly higher degree of control than production line employees. Autonomy includes effort, and Davenport's dedication (2008) states that commitment to information work is particularly essential.

Tangibility applies to the accessibility of a job (Ramirez & Steudel, 2008, p. 565). It is less measurable than the controller (Ray & Sahu, 1989). It is also challenging to determine whether or not information employees work. The observable outcomes after a mission offer a way to assess the progress. It may not be effortless, as the information training results and contributions are often not noticeable (Laihonen et al., 2012). It is also somewhat tricky. Tangibility is often related to information level because knowledge is the most significant intrinsic factor of information work. The main comparative benefit of knowledge workers in the industries is claimed by the creative essence of information work (Davenport, 2008). Due to this reason, talent and creativity play a larger role than hard labor in information work. Knowledge workers' roles vary, which implies that a few of their responsibilities can be tricky, while some may be simple and tedious and require normal, structured activities (Bosch-Sijtsema et al., 2009).

Productivity can be defined as the development of knowledge work that can be used to perform a task in a creative and timely manner. If a worker is a knowledge worker, then his productivity is defined as the development of knowledge work. Because of this, even more astonishingly innovative results are produced (Shujahat et al., 2019; Wright et al., 2017). As a consequence of this, knowledge workers make up a sizeable portion of the workforce in the modern era, particularly in the increasingly important service sector of knowledge economies, which necessitates ongoing innovation. The twenty-first century presents management professionals and academics with a one-of-a-kind challenge in the form of increased productivity in their organizations (Turriago-Hoyos et al., 2016).

### ***Dimensions of Knowledge Worker Productivity***

Unlike manual workers' productivity, there are no universally accepted tools, dimensions, or variables for calculating information workers' productivity, making selecting metrics or criteria for calculation much more difficult (Ramirez & Nembhard, 2004). It's a similar story to Ramirez and Nembhard (2004), who studied the taxonomy of commonly known categories or dimensions for information workers' efficiency over 60 years of literature. According to their research, the most important aspects of knowledge worker productivity are quantity, cost, and profitability. These are followed by autonomy, reliability,

consistency, effectiveness, creativity/innovative behavior, customer loyalty, project performance, and the knowledge worker's perception of responsibility (Ramirez & Nembhard, 2004). Timeliness, also known as the ability to meet time demands, efficiency, and job autonomy are the three dimensions that are categorized.

### ***Timeliness***

Timeliness of meeting deadline standards, quality of work or work (information), and job independence describe how well the worker meets his deadlines and understands the importance of overtime. Timeliness refers to how soon an employee achieves deadlines and earns bonuses and other schedule-related concerns (Jacobs, 2017).

### ***Knowledge Efficiency***

Knowledge-based tasks must be completed on time and on budget, according to Tangen (2005) definition of information efficiency. The job performance measures quantity while meeting output quality requirements. Comparably, productivity steps (expertise) are essential so that the activities depend on awareness and time and meet the quality measures (Ramírez & Nembhard, 2004). Job performance and promptness assess the production volume (version), whereas maintaining the production value requirements (efficiency) (Tangen, 2005).

### ***Job Autonomy***

How many tasks an employee can handle at once is called job autonomy (Morgeson & Humphrey, 2006). Suppose you're in a job that relies on information or knowledge. In that case, you can substitute measures of autonomy for measures like creativity or customer satisfaction when evaluating performance (effectiveness) (Ramirez and Nembhard, 2004). Work independence was a competitiveness factor for literary intelligence employees (Butt et al., 2018). In the previous research, Fernandez (2013) took dimensions of worker productivity, such as time, quality, and innovation in the IT industry. These measures are quite similar to this study; however, there is an inclusion of one different dimension, i.e., autonomy. The United Arab Emirates construction industry is also examined in this study.

There has been research done that identifies both individual and organizational factors as determinants of information worker productivity (Maciariello, 2009). The operation of an organization, along with its strategy and structure, as well as the quality of its human resources, are all factors that contribute to the successful production of innovative methods, procedures, and products. By centering one's attention on these three organizational factors, one can facilitate the production of new knowledge as well as its growth through the utilization of three essential practices: ongoing development, ongoing knowledge exploitation, and genuine innovation (Bosch-Sijtsema et al., 2009). Many different aspects of an individual's life can have an effect on how productive they are as a knowledge worker. The ability to motivate employees from within, a belief in the organization's mission, a commitment to knowledge management and job monitoring by employees, a focus on work-based learning, theoretical and analytical knowledge, formal education, topic experience, organizational skills, and the promotion of peace and stability are just a few examples of the many factors that contribute to successful organizations. It is recommended that the impact of knowledge management be tested on individual soft aspects as the organizational level challenging aspects such as innovation have already been tested to a significant extent. When it comes to figuring out how to boost the productivity of knowledge workers, strategists and

management scholars face a particularly difficult challenge. Because knowledge management can have an effect on the productivity of individual workers, investigating the effect that knowledge management has on the productivity of knowledge workers could be an innovative contribution (Moussa et al., 2017; Palvalin et al., 2017).

Productivity has always been a point of concern since the commencement of industrial development. In particular, efficiency concepts seek to clarify what the image implies, whereas numerical meanings act as the foundation for assessment; in the former situation, the fundamental goal is not to describe but boost efficiency (Tangen, 2005). Although high efficiency can become an influential factor of economic benefit for firms (Grossman, 1993), it often leads to a society's overall well-being. Productivity acts as a means of superiority in rivalry. Growing efficiency would improve production or production performance, and if competitiveness is higher, gains are obtainable to the value-added through the goods (Jergeas & McTague, 2002).

A knowledge worker is an individual who identifies modifications centred on the knowledge (creation of information and use of expertise as insight). It leads to intelligent results based on expertise (Thomas and Baron, 1994). For instance, a description defines supervisors, developers, and design engineers as information workers (Curado and Bontis, 2006). Likewise, specific research describes information workers as capable of knowing work well than others in the company. Such employees can compile, analyze, and use information (Turriago-Hoyos et al., 2016).

### **Employee Performance Monitoring**

Performance monitoring is the process of obtaining information about work-related behaviors. This information may be simply observed behaviors but can also take measurements or ratings on job-relevant criteria. Monitoring is performed primarily by supervisors but may also be performed by team members or other individuals in an organization. One may monitor the performance of workgroups, departments, or entire organizations, but the present research focuses on supervisory monitoring of individual workers (Stanton, 1997).

Performance monitoring has seen a recent uptick in popularity thanks to technological advancements. For evaluation and appraisal purposes, new performance monitoring forms are possible thanks to inexpensive electronic devices. For example, a phone operator's average call turnaround time can be tracked using an automated tracking system, as well as video and audio observation of employees at work. Electronic monitoring has been shown in studies to cause stress, anxiety, exhaustion, and other chronic health problems (e.g., Smith et al. 1992). While some researchers have focused on the effects of EPM on employees, others have continued to develop our understanding of more traditional forms of supervisory monitoring. Monitoring has been examined from an operant conditioning point of view (Komaki et al., 1986) and a social information processing point of view (Larson & Callahan, 1990). This research suggests that performance monitoring has been a topic of interest both before and after the advent of EPM.

### ***Dimensions of Performance Monitoring***

Allocating organizational rewards is closely linked to the social processes of supervision and performance monitoring in particular (Larson & Callahan, 1992; Komaki, 1986). Even electronic performance monitoring, which some view as an impersonal process, typically involves a human recipient of performance information (the manager or supervisor

who reviews electronically collected information) and social interaction during supervisory performance feedback (Attewell, 1987). Focusing on fairness as an essential individual and organizational outcome variable, organizational justice theories provide a suitable framework for predicting the outcomes of various methods, approaches, performance monitoring and supervision styles.

### ***Organizational Justice***

The above review of organizational justice identified a complete set of interrelated justice components that apply to performance monitoring: justification, consistency, process control, absence of bias, ethicality, accuracy, and correctability. The present study amassed two types of evidence concerning these justice components. The laboratory's controlled environment gathered evidence for causal links between monitoring characteristics and fairness outcomes. More generalizable data from a cross-sectional field study were also collected to examine correlational links between monitoring and supervision practices and fairness outcomes. Each of the identified justice components is discussed below regarding specific predictions and the nature of the data collected.

### ***Justification***

Fairness perceptions were predicted to improve if the justifications for the monitoring techniques of organizational agents were adequate and appropriate—respondents in the field study reported on their supervisors' specific and general justifications. In the laboratory study, the justification was manipulated by the presence or absence of a detailed explanation of the experimental supervisor's monitoring.

### ***Consistency***

As mentioned above, consistency can refer both to consistency across time and people. Mapped onto performance monitoring, consistency manifests in a supervisor's consistent monitoring of all relevant employees. Consistency over time would manifest in a stable pattern of supervisory performance monitoring behavior. It was predicted that greater consistency of both types would lead to higher perceptions of fairness. Consistency across people was explicitly queried in the field study, while the field study's cross-sectional nature facilitated only implicit consideration of consistency across time. Likewise, the transient nature of the controlled experiment undertaken here allowed manipulation of consistency across people, but not across time.

### ***Process Control***

As previously stated, both the value expressive and logical process control functions may be relevant to performance monitoring. Prior empirical work on control and engagement has looked into the topic of meaning speech (e.g., Westin, 1992). In this analysis, the logical role of process control was investigated. The ability to regulate the time and location at which one's supervisor monitors one was expected to improve fairness regarding monitoring. In the field study, process control was assessed by asking respondents about their ability to control the monitoring time and setting. Because prior laboratory work on control has demonstrated causal links between monitoring and worker reactions (e.g., Aiello & Kolb, 1995; Stanton & Barnes-Farrell, 1996), this factor was not included in the laboratory study.



Supervisor Characteristics (Trust, Supervisor Expertise, Job Performance Knowledge). In keeping with the cross-sectional, self-report nature of the field study, supervisory knowledge of job performance and supervisory expertise as a monitoring agent was assessed via respondents' perceptions. The field study assessed the extent to which workers believed that their supervisors had collected sufficient and accurate information about their job performance. The field study also gathered workers' perceptions of supervisory expertise as a monitoring agent. As above, with trust, these perceptions were viewed as the result of a continuing interaction process with supervisors and, therefore, difficult to manipulate in a laboratory setting.

We hypothesize as follows

*Proposition 1: Performance monitoring positively affects the knowledge worker productivity.*

### **Stress**

In working life nowadays, workers are constantly forced to work vigorously for a considerable duration as their roles begin to grow. Stress is a condition of psychological and mental pressure that emerges from circumstances of tremendous pressure. An entity that induces emotional anxiety is assumed to encounter tension by influencing people's physiological and cognitive states (Bowin & Harvey, 2001). Stress disturbs the human ability to retain vital factors, including physical, emotional, moral, or behavioral (Blumenthal, 2003), thereby impacting a worker's regular activity. The stressing times, incidents, and behaviors will still rely on the psycho-social nature of a person, bearing into account factors such as history, morality, ideals, convictions, or individual's understanding (Ekundayo, 2014), which are the factors that influence human's success and regular activity.

Some employee performance monitoring literature indicates that control can cause anxiety symptoms. Nevertheless, investigators were having trouble verifying these findings utilizing physiological anxiety factors (Silverman & Smith, 1995). In comparison, the work environment regulation has a detrimental effect on workers, for instance, in a study by Botan (1996) on controlling the working place and its impact on workers. These workers perceive they are monitored more than their peers have been at risk of job tension and the rise of occupational confusion and reduced contact. Alder and Tompkins (1997) found that the office's tracking behaviors culminated in less confidentiality and a detrimental moral effect on security breaches. It also shows that work causes anxiety for workers and usually affects them.

Moorman and Wells (2003) proclaimed that the increased reliance on the effects of ongoing tracking and supervising removes the charge of staff and transfers it to the management. Against this context, workers believe that this behavior, undertaken intentionally or unintentionally being advised or told, is the product of the loss of trust in the administration itself. Thus adverse effects inevitably exacerbate worker pressure and anxiety. Few researchers discovered a good solid correlation between tension and the intelligence staff's stress (Scott et al., 2003). There is a theoretical gap as we have to know what makes knowledge workers stressed out during performance monitoring and how effective knowledge management is in overcoming the anxiety. Previous studies (e.g., Gahrib, 2016) discussed performance monitoring and stress in detail. However, these researches examined variables mentioned above in the educational or telecommunication industry.

### **Employee Performance Monitoring and stress**

Wong and Cheuk (2005) described stress as a general term for people's pressures in their daily lives. Olson et al (1989) described stress as a state of pressure resulting from an apparent demand for a change in adaptive behavior. Dunham described stress as a series of behavioral, emotional, and physical responses caused by recurrent stresses that outstrip the ability to adapt systems to cope. At the same time, Dankade et al (2016) saw stress as a positive or negative arousal response to a work-related or personal stimulus. It is a good thing if stress motivates a person to behave in a given situation. Simultaneously, it is negative if it becomes repetitive and causes a person's output to be diminished or non-existent.

Work output can be divided into two categories, according to (Borman and Motowidlo, 1993). Task performance refers to activities related to the implementation and maintenance of core technical processes in a specific organization, whereas contextual performance refers to activities that influence the organizational, social, and psychological environment in which the technical core functions are performed (Berdicchia and Masino, 2019; Espedido and Searle, 2018). In Borman and Motowidlo (1993), they divided task performance into two categories: (a) activities that convert materials into goods and services, and (b) activities that support and maintain the technical core by replenishing its supply of raw materials, distributing its finished products; or providing essential planning and coordination; or staff roles that support it to effectively and efficiently perform its tasks. However, (Sonnentag et al., 2008) defined five types: a) events outside of an individual's structured job requirements; b) tenacity of eagerness when required to complete critical task requirements; c) assistance with other people; d) obedience to directives and prescribed procedures even when it is inconvenient, and e) openly defending the goals of an organization. According to the information presented above, it is possible that:

**Proposition#2: Employee performance monitoring increases the level of stress among knowledge workers**

### **Stress and Knowledge Worker productivity**

Researchers have looked into the link between stress and knowledge workers (Robert et al., 2005). However, the findings' significance, magnitude, and in some cases, direction are all over the place. The relationship between stress and knowledge workers' distress was found in some studies to be significant, while there was no correlation in others. Other studies have shown a negative correlation between the two variables (Taylor et al., 1998). Apart from the millennium challenge of knowledge workers' productivity, Najafi (2011) found that knowledge workers experience higher stress levels due to the nature of knowledge work, which is based on complexity and increased focus. As a result, it is speculated:

**Proposition#3: Stress positively affects knowledge worker productivity**

### **Knowledge Management**

There are two forms of knowledge: (1) tacit knowledge, which is unique, valuable, underutilized, unarticulated, and resides in employees' heads; and (2) explicit knowledge, which is transferable, simple to manage, documentable, and storable (Jimes & Lucardie, 2003; Jimes & Lucardie, 2003). When these forms of information are translated into a practical, unique, and non-transferable form, the result is organizational knowledge. Many organizations must develop strategies to manage information because of its importance in achieving organizational goals effectively. According to Maier (2005), knowledge management is the management function responsible for the regular selection,

implementation, and evaluation of knowledge strategies that aim to create an environment that supports work with internal and external knowledge to improve organizational performance. The interaction between the KM mechanism and the KM infrastructure, which makes up KM architecture, helps organizations build organizational awareness and enhance organizational creativity, thus achieving overall success. Scholars often differentiate between two types of KM processes (Filius et al., 2000): (1) tactical KM process, in which employees collect information to solve problems, extract value from the information, learn from the value, and update existing expertise in the system; and (2) strategic KM process, in which organizations devise KM strategy to evaluate, develop, and maintain intangible assets. According to Filius et al (2000), the tactical KM method involves information acquisition, documentation, transition, development, and implementation. Information acquisition is a form of practice that seeks out lost implicit and explicit knowledge in the outside world. Through knowledge transfer, employees may share their implicit and explicit information with other employees within and outside their organizations.

### ***Stress and Knowledge Management***

One of the primary reasons for the rise in research on workplace stress is the negative impact it has on employees' health and well-being (Paschoal and Tamayo, 2004) and, as a result, the efficiency and effectiveness of the company. Many factors contribute to occupational stress, including job responsibilities beyond a person's capacity to handle organizational stressors (Nelson and Simmons, 2011). A closer look at employee stress and disconnection from information sharing and their relationship to the maturity level of knowledge management in an organization is essential. Organizational performance and efficiency are directly impacted by information management and workplace stress, making it critical to address these issues. O'driscoll et al (2009) cited many factors as stressors at work, including interpersonal interactions at work, work itself (intrinsic work characteristics), excessive workload (high work bulk and time pressure), a lack of control over workflow and deadlines, additional working hours, new technologies, necessary skills, flexibility at the workplace, and a work-life balance that includes both work and personal obligations.

The general public, managers, and coworkers can put public servants in an uncomfortable position (Tummers et al., 2016). Ford et al (2015) stated in their study that when an individual's well-being is compromised, employees prioritize what is most important to them and what is appropriate to deal with, requiring time and effort because illnesses cause physical disabilities and high attention costs. Many people see knowledge sharing as a form of organizational citizenship and an act of personal assistance (Kelloway & Barling, 2000). As a result, information-sharing disengagement is one of the adverse stress effects. The following is a statement of intent:

***Proposition#4: Stress negatively affects knowledge management***

### **Knowledge Management and Knowledge Worker Productivity**

As stated by Drucker (1999), six factors influence the efficiency of information workers. As a first step, it is necessary to identify the information worker's actual job or role. Unstructured knowledge is where a knowledge worker can and should contribute. Knowledge workers must recognize, manage, and carry out unstructured and intellectual work, necessitating self-management abilities. Second, the ability to work independently is a requirement for an information worker. An information worker must also keep up with the

times. A worker's job description should include a requirement for constant innovation. Lastly, there must be continuous education and learning.

Fifth, the quality and quantity of work performed by information workers determine productivity as opposed to that of manual workers. Sixth, rather than being viewed as a cost, the information worker should be viewed as a resource instead. Drucker's (1999) theory focuses on knowledge-based work and self-management; continuous innovation drive; worker care; emphasis on quality; continuous learning; teaching and autonomy; and knowledge worker productivity. According to a literature review, information management is linked to Drucker's theory. Results show that knowledge management significantly and positively impacts task performance. According to Constantinescu (2009), information management implementation and activities positively impact labour productivity.

As a final point, evidence from the academic literature suggests that knowledge management can improve the productivity of knowledge workers. Information management ensures that the appropriate amount of information is disseminated to the right individuals at the proper time and location (Shujahat et al., 2017). Knowledge work and efficient decision-making and processes are made easier with optimal knowledge provision because three productivity barriers are avoided: information overload (when a worker has too much information and cannot make a decision), no information (when a worker does not have any information and cannot make a decision), and information scarcity (Bhatija et al., 2017). The following are some possible responses:

*Proposition#5: Knowledge management Positively affects knowledge worker productivity*

*Proposition#6: Stress and knowledge management sequentially mediate the relationship between Performance monitoring and knowledge worker productivity.*

## **Theoretical Framework**

### **Expectancy Theory**

Victor Vroom proposed the expectancy principle in 1964. This hypothesis is based on the premise that people change their workplace actions based on the probability of achieving their desired outcomes. Individuals adjust their behaviour to achieve their goals. The theory of performance management is based on this hypothesis because future events are assumed to impact performance (Salman et al., 2005).

### **Job-Demand-Control Theory**

Stress at work, according to the Job Demand-Control (JDC) theory, comes from the interaction of many factors related to workloads, such as cognitive and emotional burdens, interpersonal conflict, job control over decision-making authority (the ability to make work-related decisions), and skill discretion (the breadth of the skills used) (Karasek, 1979). According to the JDC model, employees who work in environments with high demands and limited flexibility are more likely to experience work-related psychological stress and pressure (Behr et al., 2001).

### **Research Contribution**

#### **Advancement of Knowledge Worker Productivity Behavior Studies**

As long as the researcher can demonstrate that there is still room for improvement, theoretical contributions can be made (Corley & Gioia, 2011). This research adds to the existing knowledge about knowledge worker productivity studies by incorporating unique stress and knowledge management constructs into Drucker's knowledge worker

productivity theory. As previously stated, the contribution is exceptional and distinguishes itself from previous research. Whetten (1989) also claims that the process of theory creation necessitates critical thinking to challenge old theories and expand current expertise to move to less explored areas. For this analysis, the relationship between employee performance tracking, stress, knowledge management, and knowledge worker productivity was explored in every possible sense. As a result, by adding new exogenous factors and eliminating previous stress gaps, this study expands the avenue of experience worker productivity. The impact of stress and information management is more precisely widened as a result of the pragmatic legitimacy of this research.

### **Advancement of Knowledge Management Studies**

The findings of this study indicate the significance of stress and knowledge management. This thesis presents a detailed explanation of the logical relationship between stress, knowledge management, and knowledge worker productivity. Stress and knowledge management were neglected in previous studies in the UAE's backdrop. As a result, this study is regarded as a one-of-a-kind contribution to knowledge management research, as proposed by Conlon (2002), who stated that "the aim of a one-of-a-kind research study should be to advance our understanding of management and organizations, whether by presenting a critical re-direction of current views or by presenting an entirely new point of view for a given topic." (p. 489). Conlon's distinction between extending current knowledge and providing a completely different viewpoint is similar to Huff's (1999) distinction between contributing to the current academic debate and initiating a new one. Consequently, this study meets Huff's (1999) and Conlon's (2002) requirements for theoretical advancement by incorporating and empirically testing the role of stress and information management.

### **Conclusion**

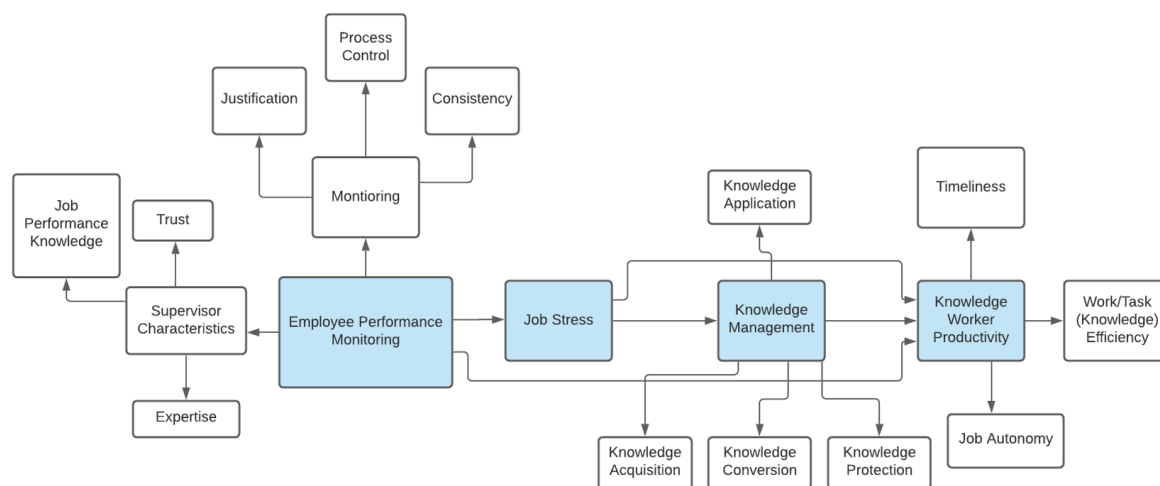
This study examined the significance of the thesis's primary constructs (employee performance control, stress, and information management). The focus of this discussion was on the importance of the proposed conceptual model as a whole and the latest research related to it. According to the study's findings, all constructs are essential for ultimately illustrating the principle of information worker productivity. Previous research on knowledge worker efficiency lacked two of these constructs (stress and knowledge management as mediators), leaving a void in the literature. Furthermore, for most of the relationships explored in this thesis' theoretical model, employee performance management is a potent mediator. The research problem's loopholes were successfully discussed in this thesis.

Furthermore, empirical testing of the proposed conceptual model has shown that it is suitable for addressing the research issue's correct aspect. The analytical results of this study also address research questions posed during the discussion of the problem statement. Besides, the results taken from this study show its accomplishments. Based on these results, the researcher concludes that all of the study's goals have been met. To achieve all of the research objectives, the researcher relied on the proposed model of information worker efficiency as a guide and working compass. An adequate research strategy, methods, and statistical instruments are used to reach these conclusions.

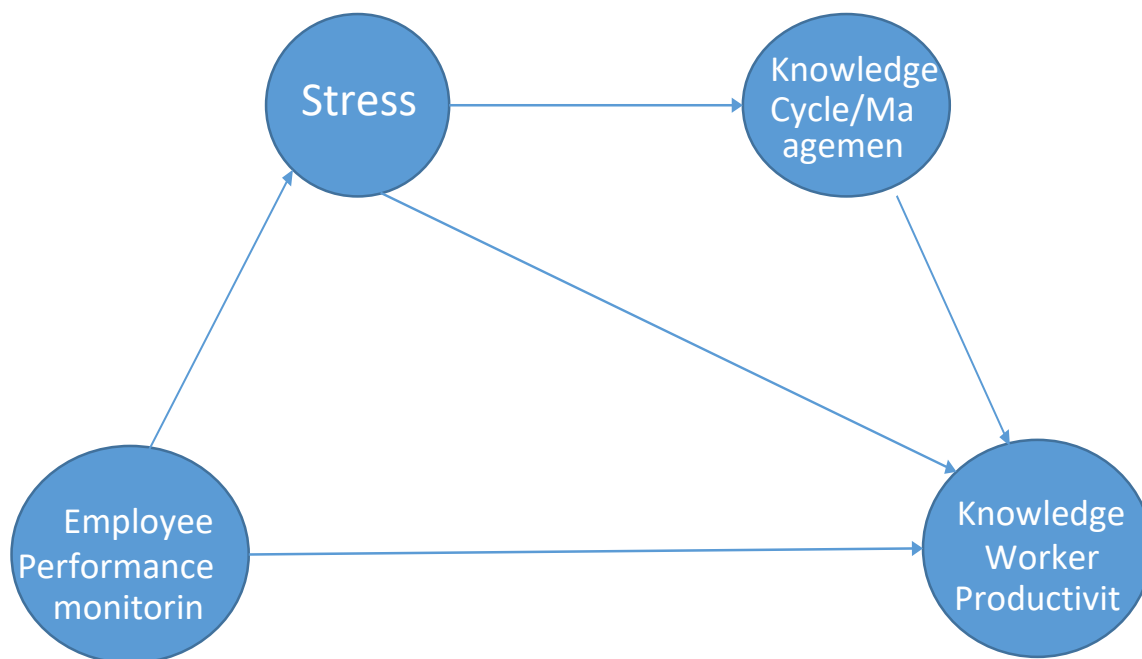
Despite some limitations, explaining the significance of stress and knowledge management for predicting the productivity of knowledge workers has extended the

expectation theory and Drucker's productivity theory of knowledge workers in the construction industry. It is regarded as a significant accomplishment for this research. Understanding these factors (such as stress and knowledge management), particularly regarding knowledge worker efficiency, offers helpful insight and opens up new research avenues. This research methodology has contributed to the comprehensive literature on employee performance management, which extends to several disciplines and information areas since studying these variables requires multi-disciplinary studies. According to this discussion, employee performance control, stress, and knowledge management contribute to knowledge worker efficiency. This research has effectively brought together the mysterious and diverse strands of different disciplines to fill a void in the literature while also adding significantly to the overall body of knowledge. Furthermore, this is the first and most comprehensive research into the effects of employee performance control, stress, and information management on knowledge worker productivity.

*Figure 1*  
*Conceptual Model with Sub-Dimensions*



**Figure 2**  
***Integrated Flow of the conceptual model***



## References

- Aguinis, H. (2009). *Performance Management: Putting research into action* (2nd ed.). Jossey-Bass A Wiley Imprint.
- Aguinis, H., Joo, H., Gottfredson, R. K. (2011). Why we hate performance management and why we should love it. *Business Horizons*, 54(6), 503-507.
- Aiello, J. R., & Kolb, K. J. (1995). Electronic performance monitoring and social context: Impact on productivity and stress. *Journal of Applied Psychology*, 80(3), 339-353.
- Aiello, J. R., & Svec, C. M. (1993). Computer monitoring of work performance: Extending the social facilitation framework to electronic presence. *Journal of Applied Social Psychology*, 23(7), 537-548.
- Akhavan, P., Philsoophian, M., Rajabion, L., & Namvar, M. (2018). Developing a block-chained knowledge management model (BCKMM): Beyond traditional knowledge management. *19th European Conference on Knowledge Management*.
- Alder, G. S., & Tompkins, P. K. (1997). Electronic Performance Monitoring: An Organizational Justice and Conservative Control Perspective. *Management Communication Quarterly*, 10(3), 259-288.
- Alwadaei, S.A. (2010). Employee's perception of, and satisfaction, of performance appraisal: a case of electricity and water authority (EWA) in Kingdom of Bahrain. *Unpublished Research Report*.
- Armstrong, M., & Baron, A. (1998). *Performance management: The new realities (illustrated)*. Institute of Personnel and Development.
- Attewell, P. (1987). The Deskilling Controversy. *Work and Occupations*, 14(3), 323-346.
- Baker, J. D. (2013). Social networking and professional boundaries. *AORN Journal*, 97(5), 501-506.
- Barling, J., Slater, F., & Kelloway, E. K. (2000). Transformational leadership and emotional intelligence: An exploratory study. *Leadership & Organization Development Journal*, 21(3), 157-161.

- Beehr, T. A., Ivanitskaya, L., Hansen, C. P., Erofeev, D., & Gudanowski, D. M. (2001). Evaluation of 360-degree feedback ratings: relationships with each other and with performance and selection predictors. *Journal of Organizational Behavior*, 22(7), 775-788.
- Berdicchia, D., & Masino, G. (2019). The Ambivalent Effects of Participation on Performance and Job Stressors: The Role of Job Crafting and Autonomy. *Human Performance*, 32(5), 220-241.
- Bernolak, I. (1997). Effective measurement and successful elements of company productivity: The basis of competitiveness and world prosperity. *International Journal of Production Economics*, 52(2), 203-213.
- Bhatija, V. P., Thomas, N., & Dawood, N. (1997). A Preliminary Approach towards Integrating Knowledge Management with Building Information Modeling (KBIM) for the Construction Industry. *International Journal of Innovation*, 8(1), 64-70.
- Blumenthal, J. A., & Claar, R. L. (2003). The Value of Stress-Management Interventions in Life-Threatening Medical Conditions. *Current Directions in Psychological Science*, 12(4), 133-137.
- Bond, C. F., & Titus, L. J. (1983). Social facilitation: A meta-analysis of 241 studies. *Psychological Bulletin*, 94(2), 265-292.
- Borman, W. C., & Motowidlo, S. M. (1993). *Expanding the Criterion Domain to Include Elements of Contextual Performance*. Jossey-Bass Inc.
- Bosch-Sijtsema, P. M., Ruohomaki, V., & Vartiainen, M. (2009). Knowledge Work Productivity in Distributed Teams. *Journal of Knowledge Management*, 13(6), 533-546.
- Botan, C. (2009). Communication work and electronic surveillance: A model for predicting panoptic effects. *Communication Monographs*, 63(4), 293-313.
- Bowin, R. B., & Harvey, D. (2001). *Human Resource Management an experiential approach*, (2nd ed.). Prentice-Hall.
- Bragger, J. D., Kutcher, E. J., Menier, A., Sessa, V. I., & Sumner, K. (2014). Giving Nonselective Downsizing a Performance Review. *Human Resource Development Review*, 13(1), 58-78.
- Bridger, E. (2014). *Employee Engagement*. Kogan Page Ltd.
- Butt, A. N., Hannah, K. H., & Nam, C. J. (2019). Reflected self-efficacy and creativity: The power of being recognized by others toward individual creative performance. *Social Behavior and Personality*, 47(8), 1-13.
- Cacioppo, J. T., & Tassinary, L. G. (Eds.). (1990). *Principles of psychophysiology: Physical, social, and inferential elements*. Cambridge University Press.
- Cascio, W. F. (2014). Leveraging employer branding, performance management, and human resource development to enhance employee retention. *Human Resource Development International*, 17(2), 121-128.
- Chalykoff, J., & Kochan, T. A. (1989). Computer-aided monitoring: Its influence on employee job satisfaction and turnover. *Personnel Psychology*, 42(4), 807-834.
- Claus, L., & Briscoe, D. R. (2009). Employee performance management across borders: A review of relevant academic literature. *International Journal of Management Reviews*, 11(2), 175-196. <http://dx.doi.org/10.1111/j.1468-2370.2008.00237.x>
- Cohen, J. (1980). Trend Analysis the Easy Way. *Educational and Psychological Measurement*, 40(3), 565-568.
- Conlon, T. (2002). ICT, Pedagogy and the Curriculum: Subject to Change. *Improving Schools*, 5(3), 65-66.



- Cook, J. A. (2003). Depression, Disability, and Rehabilitation Services for Women. *Psychology of Women Quarterly*, 27(2), 121–129.
- Constantinescu, M. (2009). Knowledge management: focus on innovation and labor productivity in a knowledge-based economy, *Journal of Knowledge Management*, 7(1), 7-33.
- Corley, K. G., Gioia, D. A., & Hamilton, A. L. (2013). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, 16(1), 15–31.
- Datta, D. K., Guthrie, J. P., & Wright, P. M. (2005). Human Resource Management and Labor Productivity: Does Industry Matter? *Academy of Management Journal*, 48(1), 135–145.
- Davenport, J. (2010). *Leadership Style and Organizational Commitment: The Moderating Effect of Locus of Control*. Proceedings of ASBBS.
- Davis, M. S. (1971). That's Interesting!: Towards a Phenomenology of Sociology and a Sociology of Phenomenology. *Philosophy of the Social Sciences*, 1(2), 309–344.
- De-Tienne, K. B., Braaten, D. O., & Cody, M. J. (1993). Account Episodes in Organizations: Remedial Work and Impression Management. *Management Communication Quarterly*, 6(3), 219–250.
- Denzin, N., and Lincoln, Y. (1998). *The Landscape of Qualitative Research - Theories and Issues*. Sage Publications Limited Inc.
- Drucker, P. F. (1998). *Peter Drucker on the profession of management*. Harvard Business Review Press.
- Drucker, P. F. (1999). Knowledge-Worker Productivity: The Biggest Challenge. *California Management Review*, 41(2), 79–94.
- Druker, J., & White, G. (1996). *Managing people in construction*. Beekman Pub.
- Ekundayo, H., Alonge, H., Kolawole, A., & Ekundayo, S. (2014). Teaching Practice Exercise for Education Students in Nigerian Universities: Challenges and the Way Forward. *Mediterranean Journal Of Social Sciences*, 5(9), 486.
- Ellinger, A. D., & Kim, S. (2014). Coaching and Human Resource Development: Examining Relevant Theories, Coaching Genres, and Scales to Advance Research and Practice. *Advances in Developing Human Resources*, 16(2), 127–138.
- Espedido, A., & Searle, B. J. (2018). Goal difficulty and creative performance: The mediating role of stress appraisal. *Human Performance*, 31(3), 179–196.
- European Association of National Productivity Centres (EANPC). (2005). *Productivity: the high road to wealth*. Brussels.
- Feng, K., Chen, E.T. & Liou, W. (2005), implementation of knowledge management systems and firm performance: an empirical investigation. *Journal of Computer Information Systems*, 45(2), 92-104.
- Fernandez, R. (2013). *The factors determining knowledge worker productivity within the Irish IT Industry*. Dublin Business School.
- Filius, R. M., De Jong, J. A., & Roelofs, E. (2000). Knowledge management in HRD office: A comparison of three cases. *Journal of Workplace Learning*, 12(7), 286-295.
- Fitzsimmons, J. A., & Fitzsimmons, M. J. (2008). *Service Management: Operations, Strategy, and Information Technology* (6th ed.). McGraw-Hill College.
- Ford, D., Myrden, S. E., & Jones, T. D. (2015). Understanding disengagement from knowledge sharing: Engagement theory versus adaptive cost theory. *Journal of Knowledge Management*, 19(3), 476-496.

- Galletta, D., & Grant, R. (1995). Silicon supervisors and stress: Merging new evidence from the field. *Accounting, Management and Information Technologies*, 5(3-4), 163-183.
- Gioia, D. A., & Pitre, E. (1990). Multiparadigm perspectives on theory building. *The Academy of Management Review*, 15(4), 584-602.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*, 18(1), 185-214. <https://doi.org/10.1080/07421222.2001.11045669>
- Gomez, C. M. (2007). *Knowledge management and employee productivity*. San Jose State University.
- Grant, R. M. (1996). Towards the knowledge-based theory of the firm. *Strategic Management Journal*.
- Green, F., & Gallie, D., Felstead, A. (2004). Changing Patterns of Task Discretion in Britain. *Work, Employment and Society*, 18(2), 243-266.
- Grossman, M., & Wood, W. (1993). Sex differences in intensity of emotional experience: A social role interpretation. *Journal of Personality and Social Psychology*, 65(5), 1010-1022.
- Haas, M. R., & Hansen, M. T. (2007). Different knowledge, different benefits: toward a productivity perspective on knowledge sharing in organizations. *Strategic Management Journal*, 28(11), 1133-1153. <https://doi.org/10.1002/smj.631>
- Hall, J., Johnson, S., Wysocki, A., & Kepner, K. (2008). *Transformational Leadership: The Transformation of Managers and Associates*. University of Florida Press.
- Haldeman, S., Chapman-Smith, D., Petersen, D. (1993). *Guidelines for Chiropractic Quality Assurance and Practice Parameters*. Aspen Publishers.
- Huff, A. S. (1999). *Writing for scholarly publication*. Sage Publication Limited.
- Jacobs, R. L. (2017). Knowledge work and human resource development. *Human Resource Development Review*, 16(2), 176-202.
- Jimes, C., & Lucardie, L. (2003). Reconsidering the tacit-explicit distinction-A move toward functional (tacit) knowledge management. *Electronic Journal of Knowledge Management*, 1(1), 23-32.
- Karasek, R. A. (1979). Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Administrative Science Quarterly*, 24(2), 285-308.
- Kelloway, E. K., Barling, J., & Helleur, J. (2000). Enhancing transformational leadership: The roles of training and feedback. *Leadership & Organization Development Journal*, 21(3), 145-149.
- Kolb, K. J., & Aiello, J. R. (1996). The effects of electronic performance monitoring on stress: locus of control as a moderator variable. *Computers in Human Behavior*, 12(3), 407-423.
- Komaki, J. L. (1986). Toward effective supervision: An operant analysis and comparison of managers at work. *Journal of Applied Psychology*, 71(2), 270-279.
- Komaki, J. L., Zlotnick, S., & Jensen, M. (1986). Development of an operant-based taxonomy and observational index of supervisory behavior. *Journal of Applied Psychology*, 71(2), 260-269.
- Laihonen, H., Jaaskelainen, A., & Pekkola, S. (2012). Measuring performance of a service system - from organizations to customer-perceived performance. *Measuring Business Excellence*, 18(3), 73-86.
- Larson, J. R., & Callahan, C. (1990). Performance monitoring: How it affects work productivity. *Journal of Applied Psychology*, 75(5), 530-538.

- Lerner, J. S., Keltner, D. (2001). Fear, anger, and risk. *Journal of personality and psychology*, 81(1), 146-159. <https://doi.org/10.1037//0022-3514.81.1.146>
- Liao, S. H., & Wu, C. C. (2010). System perspective of knowledge management, organizational learning, and organizational innovation. *Expert systems and applications*, 37(2), 1096,1103.
- Maciariello, J. (2009). Marketing and innovation in the Drucker Management System. *Journal of the Academy of Marketing Science*, 37, 35-43.
- Maier, S. R. (2005). Comparing Internet vs. Paper in Newspaper Source Surveys. *Newspaper Research Journal*, 26(2-3), 57-71.
- Mintzberg, H. (1973). *The nature of managerial work*. Harpercollins College Div.
- Moorman, R. H., & Wells, D. L. (2003). Can electronic performance monitoring be fair? Exploring relationships among monitoring characteristics, perceived fairness, and job performance. *Journal of Leadership & Organizational Studies*, 10(2), 2-16.
- Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91(6), 1321–1339.
- Najafi, A. (2011). Knowledge Workers Productivity and Stress Management in the Irancell Company. *Australian Journal of Basic and Applied Sciences*, 5(9), 1412-1417.
- Najafi, A., Afrazeh, A. (2010). Productivity strategies ranking of knowledge workers. *Journal of Applied Sciences and Environmental Management*, 14(4), 131-134.
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 15, 80-116.
- Nelson, D. L., & Simmons, B. L. (2011). *Savoring eustress while coping with distress: The holistic model of stress*, (Eds.), *Handbook of occupational health psychology*. American Psychological Association.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14–37.
- O'Driscoll, M. P., Drummond, S., Brough, P., Kalliath, T., Siu, O.-L., Timms, C., Riley, D., Sit, C., & Lo, D. (2017). The relationship of social support with well-being outcomes via work–family conflict: Moderating effects of gender, dependants and nationality. *Human Relations*, 70(5), 544–565.
- Okkonen, J. (2004). *The use of performance measurement in knowledge work context*. Tampere University of Technology (TUT)
- Olson-Buchanan, J. B., LePine, M., & Boswell, W. R. (2004). Relations between stress and work outcomes: The role of felt challenge, job control, and psychological strain. *Journal of vocational behavior*, 64(1), 165-181.
- Paschoal, T., & Tamayo, A. (2005). Impact of Work Values and Family-Work Interference on Occupational Stress. *Psychology: Theory and Research*, 21(2), 173-180.
- Pearson, C. A. L. (1991). An assessment of extrinsic feedback on participation, role perceptions, motivation, and job satisfaction in a self-managed system for monitoring group achievement. *Human relations*, 44(5), 517-537.
- Pfeffer, J. (2010). Renaissance and renewal in management studies: Relevance regained. *European Management Review*, 6(3), 141-148.
- Ramírez, Y. W., & Nembhard, D. A. (2004). Measuring Knowledge Worker Productivity: A Taxonomy. *Journal of Intellectual Capital*, 5, 602-628.

- Ramirez, Y. W., & Steudel, H. (2008). Measuring knowledge work: The knowledge work quantification framework. *Journal of Intellectual Capital*, 9(4), 364-584.
- Reynolds, M. (2009). Wild Frontiers: Reflections on Experiential Learning. *Management Learning*, 40(4), 387-392.
- Robert, B. W., Chernyshenko, O., Stark, S., & Goldberg, L. (2005). The Structure of Conscientiousness: An Empirical Investigation Based on Seven Major Personality Questionnaires. *Personnel Psychology*, 58, 103-139. <https://doi.org/10.1111/j.1744-6570.2005.00301.x>
- Robinson, H., Carrillo, P., Al-Ghassani, A., & Anumba, C. (2004). Knowledge Management in UK Construction: Strategies, Resources and Barriers. *Project Management Journal*, 35(1), 46-56.
- Scott, T., Mannion, R., Davies, H., & Marshall, M. (2003). The Quantitative Measurement of Organizational Culture in Health Care: A Review of the Available Instruments. *Health Services Research*, 38(3), 923-945.
- Shujahat, M., Sousa, M. J., Saddam, H., Nawaz, F., Wang, M., & Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: The neglected and mediating role of knowledge-worker productivity. *Journal of Business Research*, 94, 442-450.
- Singh, H., & Chang, S. (2000). Corporate and industry effects on business unit competitive position. *Strategic Management Journal*, 21(7), 739-752.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15, 194-200.
- Smith, M. J., Carayon, P., Sanders, K. J., Lim, S.-Y., & LeGrande, D. (1992). Employee stress and health complaints in jobs with and without electronic performance monitoring. *Applied Ergonomics*, 23, 17-27.
- Smith, G., Cacioppo, J. T., Uchino, B. N., Crites, S. L., Snyder-Smith, M. A., Berntson, G. G., & Lang, P. J. (1992). Relationship between facial expressiveness and sympathetic activation in emotion: A critical review, with emphasis on modeling underlying mechanisms and individual differences. *Journal of Personality and Social Psychology*, 62(1), 110-128.
- Stanton, N. A. (1997). *Human factors in consumer products*. CRC Press LLC.
- Stanton, J. M., & Barnes-Farrell, J. L. (1996). Effects of electronic performance monitoring on personal control, task satisfaction, and task performance. *Journal of Applied Psychology*, 81(6), 738-745.
- Stanton, J. M. (2000). Traditional and Electronic Monitoring from an Organizational Justice Perspective. *Journal of Business and Psychology*, 15, 129-147.
- Tangen, S. (2005). Demystifying productivity and performance. *International Journal of Productivity and Performance Management*, 54(1-2), 34-46.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the imagination: Mental simulation, self-regulation, and coping. *American Psychologist*, 53(4), 429-439.
- Tobin, R., & McInns, A. (2008). Accommodating differences: variations in differentiated literacy instruction in Grade 2/3 classrooms. *The United Kingdom Literacy Association*, 42(1), 3-9.
- Turriago-Hoyos, A., Thoene, U., & Arjoon, S. (2016). Knowledge Workers and Virtues in Peter Drucker's Management Theory. SAGE-Open.

- US Congress, Office of Technology Assessment. (1987). *the electronic Supervisor: New technology, new tensions*. US Government Printing office.
- Wang, J., & Patten, S. B. (2001). Perceived work stress and major depression in the Canadian employed population, 20–49 years old. *Journal of Occupational Health Psychology, 6*(4), 283–289.
- Westin, A. F. (1992). Two key factors that belong in a macroergonomic analysis of electronic monitoring: Employee perceptions of fairness and the climate of organizational trust or distrust. *Applied Ergonomics, 23*(1), 35-42.
- Whetten, D. A. (1989). What constitutes a theoretical contribution?. *Academy of Management Review, 4*(4), 490-495.
- Wong, W. Z., & Shi, J. (2014). *Business Continuity Management System: A Complete Guide to Implementing ISO 22301*. Kogan Page.
- Wright, M., Tartari, V., Huang, K. G., Lorenzo, F. D., & Bercovitz, J. (2017). Knowledge Worker Mobility in Context: Pushing the Boundaries of Theory and Methods. *Journal of Management Studies, 55*(1), 1-26.
- Yukl, G. (1989). Managerial Leadership: A Review of Theory and Research. *Journal of Management, 15*(2), 251-289. DOI: 10.1177/014920638901500207