

**The Relationship between Middle Manager Innovative
Self-Efficacy and Innovation: The Case of the UAE
Government Entities**

العلاقة بين الابتكار الذاتي والابتكار للمدراء متوسطي المستوى: حالة الجهات
الحكومية في دولة الإمارات العربية المتحدة

by

ALFADHEL BIN MANA

A thesis submitted in fulfilment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT

at

The British University in Dubai

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ABSTRACT

Middle managers continue to be essential for organizations around the world. These are managers who are tasked with overseeing the day-to-day activities of organizations. Additionally, these are also the managers who contribute towards the innovation of organizations. This takes place because of their innovative self-efficacy. Therefore, middle managers have proven instrumental in helping organizations not to overlook innovation which has been a long running problem for many of them. the situation is even more so dire for government-based organizations in the UAE. For this reason, it remains instrumental to gain insight into the contribution of middle managers towards fostering innovation in public organizations.

This study examined the impact of the innovative self-efficacy of middle managers on their innovative work behavior. Middle managers continue to be overlooked in the organizational environment and this significantly hampers their contribution to innovations in their respective companies. Hence, it was important, through this research, to examine the innovative self-efficacy of middle managers and how it influences their innovative work behavior. To measure innovative self-efficacy, three key constructs including self-efficacy towards guiding groups, self-efficacy towards influencing employees, and self-efficacy towards using innovations were taken into consideration. Innovative work behavior was measured using idea generation, idea promotion, and idea realization.

Previous studies have highlighted the plight of middle managers in the organizational environment and the challenges that they continue to face in terms of role recognition. Despite the invaluable services they deliver to their organizations through identification of new opportunities, overseeing daily operations of the organization, and implementation of change,

their roles continue to be overlooked. To understand how the innovative self-efficacy of middle managers influences their innovative work behavior, this research utilized the quantitative research design. Questionnaires were used to collect data from 151 middle managers in different government departments in the UAE. Ordinal least squares (OLS) were applied to the regression analysis.

The findings revealed that there is a relationship between middle managers' innovative self-efficacy and their innovative work behavior. Second, self-efficacy towards guiding groups is related to the innovative work behavior of middle managers. Third, it was established that self-efficacy towards influencing employees is positively related to innovative work behavior. Further, the findings revealed that self-efficacy towards using innovations is positively related to innovative work behavior of middle managers. It was also noted that there is no significant difference in the mean innovative behavior between male and female middle managers. The results support all the developed hypotheses. Most importantly, with a greater level of self-efficacy, middle managers become more innovative.

This study contributes to the understanding of the significant role that middle managers play in the organization. Notably, this study provides a platform that would enable organizations to understand who middle managers are, their roles, and their contribution to innovations if given a chance to work without overlooking their roles. Overall, based on the findings of this study, middle managers will be more appreciated in the organizational context in the UAE government departments.

Keywords: Middle managers, innovative self-efficacy, innovative work behavior, role.

نبذة مختصرة

يستمر المدراء المتوسطون في أن يكونوا أساسيين للمنظمات في جميع أنحاء العالم. هؤلاء هم المدراء المكلفون بالإشراف على الأنشطة اليومية للمؤسسات. بالإضافة إلى ذلك، هؤلاء هم أيضًا المدراء الذين يساهمون في ابتكار المؤسسات. يحدث هذا بسبب فاعلية ابتكارهم الذاتي. لذلك، أثبت المدراء المتوسطون دورهم في مساعدة المؤسسات على عدم التغاضي عن الابتكار الذي كان يمثل مشكلة طويلة الأمد للعديد منهم. الوضع أكثر خطورة بالنسبة للمنظمات الحكومية في الإمارات العربية المتحدة. لهذا السبب، لا يزال من المفيد اكتساب نظرة ثاقبة على مساهمة المدراء المتوسطين في تعزيز الابتكار في المؤسسات العامة.

قامت هذا البحث بدراسة تأثير الكفاءة الذاتية المبتكرة للمدراء المتوسطين على سلوكهم الإبداعي في العمل. يستمر تجاهل المدراء المتوسطون في البيئة التنظيمية وهذا يعيق بشكل كبير مساهمتهم في الابتكارات في شركاتهم. ومن ثم، كان من المهم من خلال هذا البحث، دراسة الكفاءة الذاتية المبتكرة للمدراء المتوسطين وكيف تؤثر على سلوكهم الإبداعي في العمل. لقياس الكفاءة الذاتية المبتكرة، تم أخذ ثلاثة بنى رئيسية في الاعتبار، بما في ذلك الكفاءة الذاتية تجاه توجيه المجموعات، والكفاءة الذاتية نحو التأثير على الموظفين، والكفاءة الذاتية تجاه استخدام الابتكارات. تم قياس سلوك العمل المبتكر باستخدام توليد الأفكار والترويج للأفكار وإدراكها.

سلطت الدراسات السابقة الضوء على محنة المدراء المتوسطين في البيئة التنظيمية والتحديات التي لا يزالون يواجهونها فيما يتعلق بالاعتراف بدورهم. على الرغم من الخدمات التي لا تقدر بثمن التي يقدمونها لمنظماتهم من خلال تحديد الفرص الجديدة، والإشراف على العمليات اليومية للمؤسسة، وتنفيذ التغيير، يستمر التغاضي عن أدوارهم. لفهم كيف تؤثر الكفاءة الذاتية المبتكرة للمدراء المتوسطين على سلوكهم الإبداعي في العمل، استخدم هذا البحث تصميم البحث الكمي. تم استخدام الاستبيانات لجمع البيانات من 151 مديرًا متوسطًا في الدوائر الحكومية المختلفة في دولة الإمارات العربية المتحدة. تم تطبيق المربعات الصغرى الترتيبية (OLS) على تحليل الانحدار.

كشفت النتائج أن هناك علاقة بين الكفاءة الذاتية المبتكرة للمدراء المتوسطين وسلوكهم في العمل المبتكر. ثانيًا، ترتبط الكفاءة الذاتية تجاه توجيه المجموعات بسلوك العمل المبتكر للمدراء المتوسطين. ثالثًا، ثبت أن الكفاءة الذاتية تجاه التأثير على الموظفين ترتبط ارتباطًا إيجابيًا بسلوك العمل المبتكر. علاوة على ذلك، كشفت النتائج أن الكفاءة الذاتية تجاه استخدام الابتكارات ترتبط بشكل إيجابي بسلوك العمل المبتكر للمدراء المتوسطين. كما لوحظ عدم وجود فروق ذات دلالة إحصائية في متوسط السلوك الابتكاري بين الذكور والإناث من المدراء المتوسطين. النتائج تدعم جميع الفرضيات المطورة. الأهم من ذلك، مع وجود مستوى أعلى من الكفاءة الذاتية، يصبح المدراء المتوسطون أكثر ابتكارًا.

تساهم هذه الدراسة في فهم الدور الهام الذي يلعبه المدراء المتوسطون في المنظمة. والجدير بالذكر أن هذه الدراسة توفر منصة من شأنها أن تمكن المنظمات من فهم من هم المدراء المتوسطين، وأدوارهم، ومساهماتهم في الابتكارات إذا أُتيحت لهم فرصة للعمل دون إغفال أدوارهم. بشكل عام، بناءً على نتائج هذه الدراسة، سيكون المدراء المتوسطون أكثر تقديرًا في السياق التنظيمي في الدوائر الحكومية في دولة الإمارات العربية المتحدة.

الكلمات المفتاحية: المدراء المتوسطون، الكفاءة الذاتية المبتكرة، سلوك العمل المبتكر، الدور المؤسسي.

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Whether the role of middle level management should be retained or discarded is an issue that has received great attention among organizations and scholars. On the one hand, a group of observers argue that organizations can function effectively in the absence of this tier of management, while on the other hand, others believe that this level of management is crucial to entities (Hasan, 2016). Middle-management comprises managers who fall between the top management and lower members of staff. According to Hasan (2016), this level of management actively takes part in the day-to-day operations of the organization. He also shows that this emanates from the understanding that middle managers have been defined as the implementers of the strategic decisions that are made by the top management. Therefore, one can argue that the middle-level managers play key role in policy formulation and implementation within organizational settings.

Many factors are thought to affect the performance of middle-level management. In this regard, the role of self-efficacy is viewed as a crucial factor for this group of managers. The concept of self-efficacy which is associated with middle level managers refers to the ability to accomplish tasks in specific situations (Bandura, 1997). Managers, regardless of their level, play an important role towards the success of their organizations. However, according to Hsiao et al. (2011), self-efficacy is associated with outcomes such as follower motivation, innovativeness, and overall enhanced performance. Furthermore, Hsiao et al. (2011) maintain that individuals with higher levels of self-efficacy are more likely to be more innovative and assume more challenging roles within their organizations. In addition, based on theories such as the social cognitive theory, the behavior or conduct of individuals is mediated by efficaciousness as well as beliefs about self-efficacy. In this regard, such ideas or beliefs held by middle-level managers essentially bears on their role performance.

Johnson and Härtel (2014) affirm that in all organizational contexts, including the government, middle managers act as a bridge between the senior management and employees besides ensuring that both macro and micro aspects of the organization are implemented successfully. The macro factors that middle managers help the top management to address include the tasks related to process and strategies in the organization, whereas micro factors involve communication, the development of knowledge, skills, and expertise among teams (Bohn, 2002).

Effectiveness in the implementation of tasks is viewed as a critical attribute of self-efficacy. According to Momeni, et al. (2014), effectiveness refers to the ability of a person to implement a task according to expectations. In essence, self-efficacy mediates knowledge and behavior. Thus, efficacy is central to the success that both individuals and organizations may achieve. In addition, Momeni, et al. (2014) link the concept of self-efficacy to individual judgment of their ability to adapt to certain conditions or execute tasks. Having confidence of success is deemed helpful in this regard. This is linked to the research by Razak et al. (2014) who underscore the importance of knowledge sharing as a part of the efforts to influence people. For middle-managers to share, their perceptions on self-efficacy must be above average.

Closely tied to the concept of self-efficacy is innovation. The significance of innovation in organizations cannot be disregarded. Despite this, the reality of the situation is that many organizations tend to overlook the role of innovation. That is, they fail to understand that innovation is essential for their growth and success especially in the current highly competitive world. Innovation aids growth because it enables companies to evolve their business models which results in rapid expansion. Additionally, by overlooking the significance of innovation organizations risk losing relevance. This is because innovation is instrumental in keeping businesses relevant. This is especially essential because of the constantly changing world. Thus, by failing to consider innovation businesses risk remaining behind while others adapt to

meet the new realities. Innovation remains significant and should not be overlooked by organizations because it acts as a source of competitive advantage. This is because innovation helps organizations to undergo differentiation. Once again, this is instrumental in helping organizations to stand out in an overly saturated industry. All this demonstrates that companies need to do more to cultivate a culture of innovation instead of overlooking it if they are to register any considerable success. Among the reasons as to why organizations tend to overlook innovation is it is a process that is not always easy. For instance, innovation is a process that calls for the establishment of a specific environment to enable people to become encouraged and able to generate new ideas which can bring considerable change. It is also necessary for there to be right tools for innovation to take place. The inability to motivate employees towards innovation is also a reason as to why organizations have been overlooking innovation. This is vital because it is the employees that will drive organizational innovation. For this reason, establishing means of motivating them is instrumental in making innovation an essential component of organizational operations. This will go a long way in preventing organizations from overlooking innovation. In their study, Momeni, et al. (2014) indicate that innovation had risen to become a significant aspect within organizational contexts. In endeavors to achieve various objectives, managers deploy several strategies. In this regard, scaling higher levels of innovativeness is desirable and for this reason should not be overlooked. From the study by Hsiao et al. (2011), self-efficacy was related to innovativeness with higher levels of the former translating to higher levels in the latter. The position is reinforced by Momeni, et al. (2014) who observe that innovation was a major factor towards entrepreneurship and the attainment of organizational excellence. Hence, based on the above, it is thought that both self-efficacy and innovation are major elements within the management and running of organizations. As some authors such as Momeni, et al. (2014) have found, self-efficacy is critical because it

stimulates cognitive and motivation resources. Although seen as important elements, trust in oneself is critical in terms of being a predictor of performance.

Research on self-efficacy has been conducted across many industries. For instance, Moultrie and Young (2009) examined innovative industries in the UK. In carrying out their research, they used a questionnaire that was based on Amabile's Organizational Creativity and Ekvall's Innovative Climate models. The questionnaires were filled across ten entities from different industries. In addition, the researchers conducted follow-up interviews across five firms as a part of the efforts to compare the results from the models. The results show that both models were complementary, although they could not apply uniformly across the various industries.

Recent research also elevates the role of self-efficacy in management. For instance, in their research, Anggarwati and Eliyana (2015) suggest that there are interactions among innovative self-efficacy, job satisfaction and creativity. They indicate that creativity is an essential that should be cultivated because it creates a working environment that facilitates organizational development. In carrying out their research, Anggarwati and Eliyana (2015) selected a total of 38 employees from an advertising entity specializing in media printing from the Island of Surabaya. Using Partial Least Square method, they report that innovative self-efficacy had a significant influence on creativity as well as job satisfaction. However, the researchers did not find a significant association between self-efficacy and creativity because of variance in the perceptions about the assessment of creativity.

The changing nature of the organizational environment demands new approaches. Given that presently, organizations are operating within fast-paced environments, higher levels of self-efficacy among middle-levels managers could help since such has been shown to encourage innovativeness and overall enhancement of performance (Hsiao et al., 2011). Thus, unlike in the past where managers and workers operated within relatively stable environments, at present, they are faced with rapid changes and unimaginable instability. Consequently, it is

thought that the possession of self-efficacy would be crucial towards navigating such frugalities in the organizational context.

Whether self-efficacy is relevant across different contexts remains unclear. The nature of society influences the extent to which individuals express themselves at work (Petrakis, 2014). In open societies, the likelihood of middle-level managers expressing themselves is higher compared to closed societies. Based on the Hofstede theory, the Emirati countries are relatively closed societies, and hierarchical arrangements remain dominant (Petrakis, 2014). In this regard, reference is made to the case of the Dubai government where the role of middle managers cannot be overlooked because of their role in organizational stewardship. For the Dubai government, strategic knowledge management is attained through innovation and the implementation of government services to the citizens. Biygautane and Al-Yahya (2011a) note that some of the functions that middle managers play in the Dubai government include capture, documentation, and dissemination of relevant information with the view of attaining the tasks that are set by the government. The government is result-oriented and this leaves middle managers in a situation where they are under pressure to ensure that they are always innovative in the delivery of these set objectives. In essence, middle managers tend to be the fulcrum of the Dubai government's delivery of the desirable services to its citizens through their self-efficacy and subsequent innovativeness that they put to. Overall, middle managers are the facilitators of the government entities and the authorities might set themselves in a better position to attain their goals through their innovative abilities (Anderson, et al., 2008). Even with the challenges that middle level managers face during their responsibilities across organizations, they could prove reliable and fundamental to the different government entities if they contributed innovatively.

1.2 Statement of the Problem

Many levels of management encounter a myriad of challenges. According to Ahearne et.al (2014), one of the biggest challenges that different managers face in their organizations is role underestimation, which to a great extent impedes their innovativeness in government organizations. In countries such as the UAE where the conventional culture dominates, the role of middle managers is sidelined despite their significance to governmental departments in the UAE. Ahearne et.al (2014) state that even though middle managers play a fundamental role in moving forward the operations of the organizations; their significance is yet to be fully appreciated. This happens even though middle managers oversee operations and that they are instrumental in conceiving, suggesting, and proposing new ideas that are crucial to the success of government operations.

In the UAE, and especially in Dubai, the government seems reluctant in appreciating that middle managers contribute to strategy formulation and ultimate implementation (Biygautane & Al-Yahya, 2011a). According to Johnson and Härtel (2014), the exhibition of self-efficacy by middle managers is crucial to the level of innovations within the organization. The relationship between self-efficacy and the innovation of the middle level management emanates from the desire to deliver duties in a more effective and efficient manner.

The underestimation of the roles of the middle managers tends to gradually diminish their self-efficacy and innovative abilities. As mentioned earlier, self-efficacy is about the attainment of tasks under different situations, and middle managers will fail to thrive in the diverse situations if not motivated toward continuous operative efficiencies (Andersen & Kragh, 2015). With the decline in the desire to execute the different tasks, the government encounters obstacles in its efforts to realize set objectives in the different departments because of the poor implementation of activities. The challenge that the government faces as a result of the problem is the decline in the rates of innovativeness in the organizational environment (Rekonen & Björklund, 2016).

Moreover, government organizations lack the capacity to create a better environment for passing and executing orders since middle managers are subordinates of higher-level managers. Within the UAE, middle managers lack self-efficacy partly because the government ignores their input (Biygautane & Al-Yahya, 2011b). It remains unclear why the government ignores the role of the middle managers when they could contribute to the achievement of its strategic objectives. Besides the above concerns from the background of the study, it is evident that studies on self-efficacy have concentrated on the education and services sectors. Further concerns emerge given that the review of the literature only traced one research by De Waal and Frijns (2016) on self-efficacy within the UAE context. Besides, the study notes that although the industries are well represented in the public sector, not many studies have focused on governmental bodies. Therefore, the current research will attempt to fill the gap in our body of knowledge by highlighting the phenomenon within the public sector entities in the UAE.

However, the problem goes beyond disregarding middle managers in organizations and instead includes overlooking the significance of innovation. It is unfortunate that a considerable number of government organizations in the UAE overlook the role of innovation. This is demonstrated in several ways. The struggle that organizations face towards reinforcement of their brand is evidence of overlooking innovation. That is, innovation is essential in achieving brand reinforcement because it drives success and fosters organizational sustainability. Further, the stagnation that many organizations face also is indicative of how they overlook innovation. This is because innovation is vital in enabling continuous improvement and therefore achievement of sustainability. But when innovation is overlooked and not regarded with the significance that it deserves, organizations find themselves underachieving and not growing. The fact that some organizations fail to have a unique selling point also demonstrates that they are overlooking innovation. Innovation in this context is something that is needed to add value to an organization. Therefore, when organizations disregard it then they are not able to enjoy

its advantages. This is especially essential because of the rapid changing world. Therefore, overlooking innovation in organizations continues to be a serious point of concern in which key solutions must be sought if organizations are to perform well.

1.3 Motivation of the Study

The main motivation for this study is to fill the gap in research concerning the role that middle managers play towards innovativeness in public organizations. Specifically, the role that these managers play towards helping organizations to utilize innovation for growth. These middle managers are helping organizations not to overlook innovation while pursuing growth. In this regard, the study seeks to address some of the limitations in research which tended to focus more on top level and line managers while overlooking middle level managers (Chong & Ma, 2010). It is the inadequate research and emphasis in the area that have also affected the understanding of the vital roles that middle managers can play in tandem with the promotion of innovativeness in all organizations and specifically governmental institutions. Thus, in the conduct of this research, the fact that middle managers need to be understood in terms of who they are, their innovative self-efficacy, and the relationship of this to innovation within the government organizations in Dubai serve as motivation. Knowing what middle managers can work perfectly well in the instances where they are given the full duties to perform is key to boosting their innovative self-efficacy within the government institutions (Säfssten, et.al., 2014). Therefore, I will undertake the research with the view of emphasizing the important roles of middle managers and the significance of ensuring that their innovative self-efficacy is put into use within the Dubai government for its continued success through innovation. Additionally, the different views about middle managers' role, creativity, and innovation, make it important to reach a conclusion that will help improve middle managers standing and the government entities' views about them with the objective of enhancing their performance. Finally, undertaking this research will be instrumental in illustrating the significance of

innovation in organizations. This will help organizations to place more focus on this instead of overlooking it as many of them have been doing. Therefore, this study will assist organizations to take up more innovation as enabled by their middle managers.

1.4 Significance and Contribution of the Study

This study aims at examining the relationship between middle managers' innovative self-efficacy and innovation in the UAE government. In essence, this study is important because it seeks to highlight the need for government institutions to provide an environment where middle-level managers exercise self-efficacy for them to perform and deliver services to their citizens effectively. To enhance the chances of attaining high levels of innovativeness within the UAE government, middle managers should play an improved role (Chiu & Fogel, 2017). Given the diversity of the UAE, it would be easier to identify the state of exhibition of self-efficacy as well as its connection with innovativeness.

Moreover, this research is important because it aims at assessing the Dubai organizational factors and subsequent government factors that negatively impact the potentiality of middle managers to facilitate innovation within their organizations. As aforementioned, there are diverse organizational bottlenecks that also affect the government, including the organizational structure, leadership roles and standards, autonomy, and behavioral elements, such as commitment and motivation that tend to inhibit effective roles and innovative abilities of middle managers (Chen, 2016). Through this study, there is a reiteration that middle managers need a facilitative environment to attain their self-efficacy and innovative abilities. Eliminating organizational bottlenecks would allow middle managers to exhibit their abilities to innovate and boost the operations of the government in the UAE toward its citizens.

Importantly, this research comes against the backdrop of the underestimation of middle managers' roles in different departments within the Dubai government. Thus, the research is

significant because it emphasizes the need for the UAE government, and specifically Dubai's government, to appreciate and effectively utilize the self-efficacy and innovativeness of middle managers. The disadvantage that the government organizations face is that they can miss out on the opportunity to witness change because of the slowed innovations from the overlooked middle level managers (Slåtten, 2014). Additionally, there is a scarcity of new ideas that are bound to move the government forward in respect to the delivery of the different goals to citizens. This research is also significant because it outlines the capability of middle level managers while underscoring the connection between self-efficacy and innovation of middle level managers in the government organizations. It will be important to ensure that government institutions in Dubai acknowledge the fact that middle level managers are the key drivers of day-to-day operations across organizations and ensure that all the different activities are completed in a successful and efficient manner (Cherian & Jacob, 2013). There should be no underestimation of the functions that middle level managers play daily in making organizations better.

Additionally, the research is important because it emphasizes the need to shift from the restrictive Arabian organizational culture that tends to negate innovations among middle level managers to a more flexible culture that gives the managers the chance to perform their duties effectively and engage in innovations. According to Klein, et al. (2009), the Arabian organizational culture is quite specific on the leadership of the organization where top-level managers are put in a decision-making role and usually direct the implementation of all the decisions. This denies middle level managers the chance to remain motivated and innovative in their duties (Gong, et al., 2009). The same aspect has been adopted in the government entities in Dubai, which has been negating the opportunity for middle level managers to be innovative. This research, therefore, will be vital in addressing cultural impediments while recommending a new way of handling and treating middle level managers to give them the chance to be

innovative during their delivery of organizational duties. This is based on the idea that the organizational culture gives middle level managers the leverage to exhibit self-efficacy and uphold innovations in their overall operations. This would allow government entities in Dubai to improve in terms of their performance and service delivery to its citizens. The study will also add a new dimension to middle-level management in the UAE.

It is also essential to add that this research study is conducted for the purpose of helping organizations in the UAE government to recognize the significance of innovation. This is meant to prevent these organizations from overlooking innovation. This is something that many of these organizations they have been doing and consequently have failed to benefit from innovation. The findings of this research study are meant to help these organizations to take advantage of the innovative behavior of their middle managers to drive innovation. This is even more so essential given the increased role of innovation as a result of raised customers' expectations, lack of resources, and business environment complexities (Mokhber, et al., 2016). This is a situation that has left organizations no choice but to embrace innovation as a means of tackling these challenges.

Apart from just being significant in explicating the significant role of middle managers in the organization, this research also contributes to the body of knowledge, both empirically and theoretically. Empirically, this study contributes to existing literature by explicating middle manager self-efficacy and innovativeness within the government sector. Previous literature has mainly focused on exploring the role of middle managers in the implementation of innovative practices within the non-governmental organizations. For instance, Engle et.al (2015) explored the roles that middle managers play in hospitals as a bridge between senior leaders and the frontline staff. However, the current research will extend on the organizational context of study by going beyond the traditional organizational environment to a government environment

where the operations are different. Therefore, this research adds to the existing literature by studying managers within the context of governmental organizations.

More so, this study empirically contributes to existing literature by providing a clear link between middle manager self-efficacy and their innovative work behavior. Previous literature has been limited in terms of linking these two aspects especially regarding middle managers. Previously, researchers such as Al-Hakim and Hassan (2011) as well as Kumarasinghe and Hoshino (2010) have mainly focused on one element, either innovative self-efficacy or the innovativeness of middle managers in the organizational context without providing a clear link between the two. This study, however, will contribute to a more meaningful understanding of middle manager innovative self-efficacy and innovation by linking key aspects such as self-efficacy towards guiding groups, self-efficacy towards influencing employees, self-efficacy towards using innovations and innovativeness through idea generation, idea promotion, and idea realization. This will lead to more appreciation of middle managers within the organizational context, and especially in the UAE government sector.

Third, this study makes a case of the UAE, which has not been explored before. Previous literature has not had particular focus on the roles of middle managers within the UAE or even the entire GCC region. There have been no studies on managerial self-efficacy and innovative work behavior within the region. Therefore, this study has empirical contributions by exploring middle managers' innovative self-efficacy and innovative work behavior in the UAE government sector. The findings of this research could ultimately be generalized to the GCC governmental context.

The key theoretical contribution of this study is that it will add to the social cognitive theory in emphasizing the point that individuals may not only perform based on the observed sequences of the behavior, but they are always driven by self-efficacy. According to Bandura (1977), when people observe the sequence of behavior and the consequences of the behavior, they

always remember the sequence of that behavior and follow it in their future actions. However, with self-efficacy, individuals get to believe in their own capacities to execute behaviors that produce specific performance attainments. Therefore, they may not have to work based on the patterns that they observe in the society, but their own personal drive to be innovative in the organization.

1.5 Research Aim and Objectives

The overarching aim of this study is to examine the relationship between middle managers' innovative self-efficacy and innovation. As Spreitzer (1995) observed, when the opportunity for innovative self-efficacy is given by the governmental institutions, innovations become a habit for middle managers and the organizations in the overall sense.

To attain the aims, the following research objectives form the basis of the research.

1. To establish the relationship between innovative self-efficacy in Guiding Groups and innovative work behavior.
2. To explain the relationship between innovative self-efficacy towards Influencing Employees and innovative work behavior
3. To study the relationship between innovative self-efficacy towards Using Innovations and innovative work behavior.
4. The research seeks to examine the relationship between middle managers' self-efficacy and innovativeness.

1.6 Research Questions

The following research questions will guide the study.

- **RQ 1:** What is the relationship between innovative self-efficacy towards guiding groups and innovative work behavior?
- **RQ 2:** What is the relationship between innovative self-efficacy towards influencing employees and innovative work behavior?

- **RQ 3:** What is the relationship between innovative self-efficacy towards using innovations and innovative work behavior?

1.7 Thesis Structure

This thesis is divided into seven chapters as below.

Chapter One: Introduction – This chapter presents a background of the research, the problem statement, the significance of the research, as well as the aim, objectives, and the research questions that this research addresses.

Chapter Two: Literature review and theoretical background – In this chapter, previous literature is presented along with key theories that guide the studies presented in the chapter.

Chapter Three: Conceptual framework and hypothesis development – In this chapter, the key relationships between the variables are illustrated diagrammatically and relevant hypotheses shown.

Chapter Four: Methodology – This chapter presents the approach that was used in the data collection process including the sampling technique and the sample population that was included in the study. The analysis of quantitative data as well as the ethical issues emerging from the research are also presented.

Chapter Five: Findings – In this chapter, the key findings of the study are presented. This entails the findings related to statistical analysis including regression that help examine the relationship between innovative self-efficacy and the innovativeness of middle managers.

Chapter Six: Discussion of the Findings – This chapter entails an in-depth explication of findings. The findings are linked to previous literature through comparisons.

Chapter Seven: Conclusion – In this chapter, key conclusions emerging from the study are presented. More so, implications are presented as well as the recommendations for practice and future studies.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1 Introduction

This chapter describes theories related to self-efficacy and relevant studies on innovative self-efficacy of middle managers and innovation. The chapter commences with an assessment of the theoretical framework by reviewing two sets of theories. The first set is related to self-efficacy including the social cognitive theory and the theory of planned behavior. Next, the incremental and radical innovations and the open innovation model will be reviewed. The chapter also presents an in-depth review of the key concepts on the topic including middle managers' innovative self-efficacy and innovativeness. Each of these concepts is presented based on the contents of existing literature. Existing studies are compared based on their similarities and differences in the presentation of the key points of the literature. Overall, this chapter is an in-depth presentation of literature on the key concepts of the study as well as the theoretical framework.

2.2 Theoretical Background

Reviewing theories related to self-efficacy and innovation is essential for the present study. A review of this nature forms the basis for gaining an understanding of how middle managers and their innovative self-efficacy link with innovation within organizations. In this case, the social cognitive theory is referenced with the idea of understanding the learning process, which is a critical component in the development of new ideas and therefore creativity. In relation to the theory of planned behavior, gaining comprehension of how belief connects with behaviors deems central to the explanation of the interplay between self-efficacy and innovativeness, as well as to illustrating how innovative self-efficacy influences innovative behavior. The review of the model of incremental and radical innovations and open innovation helps in illustrating how innovation is developed and adopted. Accordingly, these theories have been used for the

purpose of serving as guiding frameworks that integrate the concept of innovative self-efficacy and innovation.

2.2.1 Social Cognitive Theory

The theory of social learning and imitation by Miller and Dollard (1941) provided the basis for the development of the social cognitive theory. The social cognitive theory takes an opposing view to the behaviorist notion of associations. The theory states that, when people observe a model performing behavior and the consequences of that behavior, they remember the sequence of events and use this information to guide their subsequent behaviors (Bandura, 1977, p.193). While this emerged as a critical social learning theory, it, however, failed to take into consideration the existence of non-reinforced imitations. This problem was rectified by Bandura and Walters (1963) who went ahead to considerably expand the social learning theory and include the aspects of observational learning. That is, this contrasted with the conservative learning theories which asserted that learning was through experience. Therefore, as per the social learning theory, the process of learning took place through the observation of how others behaved.

Bandura (1977) enriched the theory of social learning by adding the concept of self-belief. This eliminated the notion that learning was done through a simple process of imitation. Furthermore, Bandura (2001) affirmed that people oversaw their own behavior. It is at this point that self-efficacy in relation to the social cognitive theory gains significance. In this case, self-efficacy is thought of as being a vital part of the process of goal realization regarding the social cognitive theory. In this case, self-efficacy is perceived to have a vital role to play in self-regulation. Therefore, as guided by the social cognitive theory, people develop belief in their capabilities to gain control of their lives. Therefore, self-efficacy can be observed to be

an essential element of the social cognitive theory due to its impact on middle managers' sense of motivation and learning.

Essentially, the social cognitive theory explains the self-efficacy of middle managers because it helps them put their beliefs into action while performing designated duties in the organization. As the social cognitive theory is concerned with continued learning and performance of responsibilities based on what is learned, middle managers get the belief that they can effectively deliver their responsibilities based on their capabilities. According to Stajkovic and Luthans (2002), the social cognitive theory contributes to self-efficacy through motivational and self-regulatory mechanisms. In their bid to become the best and ensure that they contribute to the organization's attainment of its goals, middle managers are driven by motivation, both internal and external. More so, they exercise self-regulation based on the capabilities they have and the experience that they gain working in the organization (Stajkovic & Luthans, 2002). Self-regulation is based on the understanding that employees reflect on the interactions and perceptually determine the way they strongly believe they can accomplish the task based on the context. With self-regulation, innovative self-efficacy kicks in because of the belief that capability would be better in future among middle managers (Stajkovic & Luthans, 2002). Thus, there is an aspect of motivation and self-regulation that makes middle managers more efficacious in their responsibilities. The key aspects of the theory are summarized as in Table 2.1 below.

Table 2.1: Social cognitive theory

Theory	Key Points
Social cognitive theory	<p>The theory was based on the social learning and imitation theory by Miller and Dollard (1941).</p> <p>People use their observed sequence of behaviors to make subsequent decisions.</p> <p>Bandura (2001) emphasized the fact that people oversaw their own behavior hence underscoring the significance of the social cognitive theory.</p> <p>Self-efficacy is observed in the self-belief of individuals.</p>

Source: Compiled by the author

2.2.2 Theory of Planned Behavior

The theory of Planned Behavior (TPB) relates to the innovative self-efficacy of middle managers. According to Razak et al. (2014), essentially, TPB extends the arguments of the Theory of Reasoned Action as it brings aboard measures of perceived behavioral control. Based on TPB, the individual pursues the intention of undertaking a certain action or behaving in each manner. As Razak et al. (2014) indicated, intention is the theory's key word that captures the motivational factors which are the basis of the behavior of individuals. This influences effort as well as the willingness to undertake a certain action. The primary assumption under the theory is that the strength of the intention Attitude Subjective Norms compared to Knowledge Sharing Behavior influences behavior engagement (Ajzen, 1991). However, the intention ought to be clear as well as precise because of the need to know the direction of the requirements of the individual and constitutes the behavior and individual has decided to embrace. The theory seems to have revised TRA's view on the intention aspect where the perspective that social norms, attitude, and existing information dimensions play an influential role (Ajzen, 1991). According to TBP behavior is based on three main considerations consisting of perceived consequences changing behavior (attitudes), perceived expectations of others (subjective norm), and perceived behavioral control. Attitudes refers to the beliefs concerning the outcomes of behaviors and the value associated with these outcomes which impacts the intention to perform behavior (Hardin-Fanning & Rick, 2017). As for subjective norms, these are the beliefs concerning what other people think a person should do and the person's motivation to comply with the opinion of others (Asare, 2015). This tends to have an influence on behavioral intention. Perceived behavior control is premised on beliefs about skills and opportunities to participate in each activity. That is, the perception that people possess concerning their ability to carry out certain behavior. From the above, the view held aligns with that held by Razak, et al. (2014) in that the theory is about the extent to which a person believes

they can undertake a behavior given the following conditions. Firstly, the individual has the capacity to control his/ her behavior, and secondly, the individual's level of confidence to accomplish the behavior. Therefore, behavioral beliefs normally lead in either favorable or unfavorable attitude to a given behavior. In most instances, the more the favorable behavior the stronger a person's intention to carry out the given behavior. This amounts to control related beliefs which produce a behavioral control that impacts the performance of the behavior.

However, while referring to the work of Bandura (1997), Razak, et al. (2014) contended that perceiving control behavior was in line with representing individual perception of self-efficacy, a concept that is viewed as perception of personal capacity to undertake certain causes of action. As a concept, self-efficacy influences individual willingness or unwillingness when making a choice among activities. In effect, the theory is credited for introducing the construct/ element of perceiving control behavior, as an appropriate attribute in the determination of individual intention and behavior. The theory is as summarized in table 2.2 below.

Table 2.2: Theory of planned behavior

Theory	Key Points
Theory of planned behavior (TPB)	<ul style="list-style-type: none"> • It extends on the assertions of the theory of reasoned action by expounding on measures of perceived control (Razak et al. (2014). • The strength of individuals' intention influences their behaviors. • Individuals need to have a clear intention because it determines their direction. • The theory relates to self-efficacy as it perceives control behavior.

Source: Compiled by the author

2.2.3 The Model of Incremental and Radical Innovations

The model divides innovation into two main categories radical and incremental. According to Norman and Verganti (2014), for radical innovation, the technological knowledge necessary to

facilitate its exploitation differs with current knowledge. Hence, this leads to the current knowledge becoming obsolete. The implication is that radical innovation requires knowledge or resources. Thus, it is noted that radical innovation interferes with competency. This explains the loss of middle managers' value in some organizations.

Verganti (2008) further discussed radical innovation and explicated that it could also lead to the creation of products that require the use of large technological advancements. This is essential as it causes the products to be better than the existing ones. To a given degree, they are said to be superior in nature. In the end, this leads to the loss of value for existing products. It is essential to mention that with this model of radical innovation, incumbents unlike new entrants find it challenging to come up with radical innovations. This is attributed to the fact that these individuals work under a managerial mind-set of resistance to change, which consequently hinders those under them to pursue innovative ideas (Cheng, et al., 2017).

In contrast, incremental innovation borders on the development of products as a result of the existing knowledge resources of the organization. Norman and Verganti (2014) stated that this form of innovation builds and enhances competence within the organization. Further contrast of incremental innovation with radical innovation reveals that it does not lead to any considerable change in existing technology. This is of great significance because it serves to ensure that the current products remain competitive in the market. The above researchers noted that industry incumbents, unlike new entrants, can remain competitive because of the existing knowledge and resources they possess.

However, Amabile (1988) takes a different perspective in explaining incremental innovation by observing that there are various patterns within innovation that are against the model. For instance, some industry participants despite being incumbents have gone on to radically innovate. The model is summarized in table 2.3 below.

Table 2.3: Theory of incremental and radical innovations

Model	Key Points
The model of incremental and radical innovations	<ul style="list-style-type: none"> • Divides innovation into radical and incremental innovation • Radical innovation points to the fact that there is a knowledge difference between the existing and required knowledge to attain innovations. • Therefore, organizations need to bring in new knowledge. • Incremental innovation is anchored on the use of existing knowledge to develop products. • With incremental innovation, the existing technology in the company does not require significant adjustments.

Source: Compiled by the author

2.2.4 Open Innovation Model

This is a rather recent model of innovation. The model assumes that as organizations look towards advancing their technology, they should do so while using external and internal ideas and paths to the market. Chesbrough (2003) advanced this model and asserted that it is the opposite of the traditional and vertical mode that places emphasis on the need for research and development.

Chesbrough (2017) defined open innovation as the application of purposive inflows and outflows of knowledge with the intent of accelerating internal innovation and facilitating the expansion of the market, thus allowing the external use of innovation. This model is linked to the breakup of the closed innovation process which resulted in an increased number and mobility of knowledge workers. Therefore, the increased mobility of workers made it difficult for companies to protect their expertise and ideas. The rise in private venture capital, on the other hand, led to the growth of the commercialization of new ideas, which would have been perceived to have no use.

The model of open innovation perceives R&D as existing as an open system. Thus, it acts as a way through which ideas are developed from both inside and outside the organization. According to Chesbrough (2003), the same channel is used to bring the ideas to the market. What this implies is that boundaries of an organization are porous in nature. Further, it also implies that there is an increased interaction between partner organizations which leads to the development of a much greater process of acquisition and exploitation of technology. This applies to the public sector as well. Within the context of the Dubai Government, a consideration of partnering with other organizations may result in a positive outcome. The summary of the model is as presented in table 2.4 below.

Table 2.4: Open innovation model

Model	Key Points
Open innovation model	<ul style="list-style-type: none"> • The organization should use both internal and external ideas to advance its technology. • Based on the definition by Chesbrough (2017), innovation entails the application of purposive inflows and outflows of knowledge to advance innovation and increase the market productivity. • Research and development are an open system. • Research and development set ground for the promotion of ideas in the organization.

Source: Compiled by the author

2.3 Definition of Middle Managers

The area of middle-level management has attracted the attention of many researchers. For example, Rezvani (2017) provides a critical review for the extant literature. Harding et.al (2014) explain that middle managers occupy a central role within the organizational hierarchies, and play a critical role in implementing the plans by senior management by

ensuring that the junior staff effectively fulfil their designated roles in the organization. Generally, researchers offer diverse understandings of who middle managers are, hence, lack of a consistent description of the term, middle managers. Despite the absence of consensus, all authors agreed that middle level management is that category of managers that form the intermediate group, which is between the lower and top levels of organizational administration (Huy, 2001 and Ikävalko, 2005). According to Rezvani (2017), three other criteria have been adopted towards the differentiation of middle level management from top tier and other categories of management: context, function as well as researcher tendency. In research, the focus on strategic roles of management and significant contributions of the middle level manager has formed the basis of research tendencies. Further, research reveals an overlap in middle level management roles, and that the degree of intertwining is dependent on organizational context, attitudes, and time.

While the use of the term “*middle manager*” is well established in the literature, it is not common to find employees with this title in organizations. It should be noted that this position has come to refer to an operational function (Mills, 1951). This has been responsible for various conceptualizations of the term. In this case, some studies have described middle managers in terms of assistant to authority. For instance, Mills (1951) describes middle managers as mediators between organizational strategy and its daily activities. Nonaka (1994) offers a different perspective of this term by describing it as management of a set of team leaders. Other studies have conceptualized middle managers in terms of the positions existing within an organizational. Huy (2001), for example, describes middle managers as any manager that is found below the Chief Executive Officer (CEO) as well as a manager that is above line workers. On the other hand, Ikävalko (2005) defines middle managers as the workers that play the role of both subordinates and superiors.

Middle managers refer to those managers who are tasked with the role of providing and receiving direction within an organization. According to Huy (2001), these are managers who are closest to the day-to-day operations of an organization, while at the same time, they are far from the frontline, which enables them to focus on the big picture. Middle managers play a critical role in the development of organizations according to Kanter (1982, p. 96) who opines, “middle managers have their fingers on the pulse of operations, they can also conceive, suggest, and set in motion new ideas that top managers may not have thought of.” This shows that middle managers are essential in the process of strategic development within organizations. This is reiterated by Ahearne et.al (2014) who explicate, middle managers are implementers of the strategic goals defined by top management. This implies that middle managers fulfil the role of serving as relationship managers who are key participants in the process of strategic change management.

However, a considerable amount of research has asserted that middle managers do not add any value to their organizations. This is the notion held by Drucker (1986) who claims that middle managers are overstaffed employees. They thus form various layers of management that do not have any actual role to play in the decision-making process or cannot lead. The claim that middle managers do not add any value is further supported by the notion that technology plays a much better role facilitating the functions of middle managers than they do themselves. This supports the view of Gratton (2011) who postulates that technology can discharge the function. However, Huy (2002) emphasizes the need to reevaluate the role that is played by middle managers in the organization to ensure that they are appreciated based on the role that they perform in the organization. Continuously underestimating the roles performed by middle managers in the organization is risky to the organization. Huy (2002) described the risk of, “downsizing middle management as throwing the baby out with the bathwater: damaging the key levers of organizational renewal” (p.64). What could be drawn from this assertion is that

the roles of middle managers need to be taken more seriously by organizations with the consideration of the key role that these managers play in the organization. It would be detrimental to overlook the central role that middle managers perform.

Further, the value of middle managers within the organizations has come under question due to the claim that these managers can have a negative influence on the motivation of employees. This notion is brought forth by Hamel (2011) who finds that a considerable number of middle managers have distanced themselves from the reality of what takes place at the frontline. This indicates that the decisions that are made at the top management level end up being unworkable on the ground where they are to be implemented. This is something that can be overcome through a careful process of narrowing down the scope of authority of the manager. Another research has shown that mentors are better than having middle managers in the organizations. This is something that applies to mostly generation Y workers as asserted by Gratton (2011) in the argument that the generation Y workers reject the notion that they must report to someone who is tasked with keeping track of their activities when they are fully capable of carrying them out by themselves. Instead, these workers place more value on being mentored and coached by a person that they respect.

Despite the above claims concerning the role of middle managers, other studies have been essential in illustrating the significance of this role to the development of the ever-evolving world of organizations. Al-Hakim and Hassan (2011) opine that one of the main roles of middle managers is to comprehend and interpret an organizational strategy. In this case, these managers are required not only to show their understanding of the strategy but also to speak in strategic terms. Thus, they must have accurate and clear knowledge concerning how the strategy contributes to the overall organizational success. Mair and Thurner (2008) reiterate this and postulate that this is possible through being aware of how the organizational

environment is structured. Such knowledge for middle managers enables them to make informed choices.

The role of middle managers within an organization extends further to include being a change agent. According to Rouleau and Balogun (2011), middle managers have the responsibility of assisting staff to gain a better understanding of change and adapt to the new ways of doing things. This includes helping staff to adequately cope with any potential uncertainty (Rouleau & Balogun, 2011; Hong-Da, 2014). In doing this, these managers are expected to have excellent leadership skills. This is essential because it enables them to lead by example and therefore remain proactive concerning change. Accordingly, middle managers play the role of talent coaches. In such a case, the role of creativity for these managers cannot be dismissed. It is at this point that the role of middle managers expands further to facilitating knowledge sharing. This is essential due to the responsibility of the managers towards ensuring that the front line delivers. Thus, middle managers fulfil the role of ensuring that knowledge is shared. The role of middle managers has further been expanded in the literature as a provider of expertise. For instance, Al-Hakim and Hassan (2011) opine that in this case, most middle managers have several valuable skills as well as knowledge in certain areas. This thus transforms them into experts, an aspect that explains why in some organizations it becomes necessary to attract talent.

Further middle managers are expected to be proficient communicators as per the study by Mair and Thurner (2008). This is essential as it expands their role beyond being a means of conveying messages from upper management to the staff at the bottom of the organizational hierarchy. Therefore, it is expected that for middle managers to be able to fulfil the rest of the above roles, they must possess other communication responsibilities. This includes using their unique position in the middle of the organization to filter messages (Huy 2002). This transforms these managers into early warning systems for organizations. Thus, for middle managers, they

will always wind-up positions where strong communication skills are necessary. This is discerned because most managers end up becoming obligated to play the role of facilitators, negotiators, and even conflict managers (Kissi, et al., 2012; Martin-Rios, 2015). From above, middle managers' real contribution lies in their abilities to successfully apply the correct style of communication at the right time to attain the needed outcome leading to increased creativity.

2.4 Self-efficacy in the UAE and Arab region contexts

Unlike in other areas within the UAE, the concept of self-efficacy has not attracted extensive research. As a result, literature on human resources is referenced with the intention of inferring its adoption and usage in the UAE. In this regard, reference is made to the work of De Waal and Frijns (2016) who examined the influence of the Emirati context on business management practices. Based on their review of the literature, the above authors indicated that many writers had found a negative impression about business practices in the UAE. In the assessment of many authors, the UAE region has one of the most difficult working environments (De Waal & Frijns, 2016). More specifically, De Waal and Frijns (2016) opine that the UAE environment is one of the most difficult to work in because of the strong emphasis on religion, the tribal and family nature of the society, the centralized nature of power, and the significant role that relationships play while doing business. As compared to the Western organizational context, cultural and religious values play a significant role in the UAE business context. The UAE is more of a religious state compared to the Western society that is mainly a secular state (De Waal & Frijns, 2016). The interwoven nature of cultural values and religious values makes the working environment more complex in the UAE because local values cannot be easily distinguished from religious values. More so, the tension that exists between the Arab culture and the business culture in the UAE makes the working environment more complicated because managers must balance between local employees and international employees (De Waal &

Frijns, 2016). Therefore, middle managers always must strike a balance while trying to attain the organizational goals. Accordingly, religion plays an integral role towards influencing the functioning of organizations which leads to the high degree of centralization of power. Given the focus on the central leader, those who occupy lesser positions such as intermediary management play a subdued role, since they are perceived to be subordinate. In essence, occupants of middle level management positions have a remote chance of affecting matters at the level of running organizational affairs. Further, according to De Waal and Frijns (2016), the role that family ties play extends into organizational structures, an aspect that complicates the place of middle level managers within the set-up of entities. Despite many authors' portrayal of the UAE based on negative perceptions, De Waal and Frijns (2016) took a different view and indicated that the UAE cannot be classified as a typically Arab State given its multicultural and diverse nature.

In carrying out their research, De Waal and Frijns (2016) derived UAE's theoretical elements of organizational context from the literature. In addition, the researchers proceeded to collect data from Emirati as well as Eastern and Western expat managers. Thereafter, the authors tried to match what was found in theory with what was postulated in the literature. From the outcome of the study, De Waal and Frijns (2016) found that despite some characteristics peculiar to the Arab culture being intact within the UAE, considerable progress was being witnessed. Based on the outcome, the above researchers underscored the need for increased nuance in the description of typical Arab organizational attributes possible to ease operations within the Emirati region.

Within the UAE context of business, the idea that culture, religion, globalization, and/ or a combination of the above factors influence the organizational environment remain prevalent. For each factor, there exist accompanying values and practices that bear on organizational functions thus affect the work of all managers. According to Mellahi and Budhwar (2010),

religion (Islam) has a considerable influence on the management of organizations. In their research, they found that religious values and beliefs had significant impact on workplace behavior, management style, job satisfaction, performance, and general organizational effectiveness. Based on the Islamic faith, work is deemed a virtue of critical significance to one's social life.

Citing the existing literature on Islamic values, De Waal and Frijns (2016) stressed values such as equality, consultation, kindness, honor, goodness, commitment, justice, humility, hard work, consensus, persistence, self-discipline, and cooperation as important considerations in the place of work. Despite the diversity of values which create the impression that management is about consultation and consensus building, such is rarely the case, and as De Waal and Frijns (2016) contended, the top leadership/ management has near absolute power regarding decision-making within organizations. In such circumstances, the possibility that middle managers would express themselves or deploy their self-efficacy is put into doubt.

Concerning globalization, De Waal and Frijns (2016) established that the UAE is first becoming a melting point of diverse cultures. This is supported by the realization that many nationalities are settled in the UAE and taking charge of various duties. Surprisingly, according to De Waal and Frijns (2016), Arab nationals accounted for only 15% of the UAE population. With the remainder of the people comprising expatriates, external influences impact activities in the country. However, many of the immigrants are from Asia with a minority coming from the West. Consequently, not many changes would be assumed owing to the many similarities between the UAE and Asian people. Further, the encouragement of the Emiratization program is bound to lessen the influence of globalization, which was partly anticipated to generate a teamwork environment which is consistent with the participation of all workers in decision-making within organizations.

Although diversity is thought to be critical in eliminating biases of management attributable to the UAE, such development is related to problems in communication. Thus, managers face an arduous task in creating an effective and efficient work environment. The implication is that for one to be an effective manager in the UAE, he/ she needs to be competent in cultural diversity. Thus, middle managers, face the added difficulty of possessing the ability to recognize and address cultural variations. However, middle managers of authority can foster creativity and innovativeness if they have the discretion to direct operations within their organizations. As the above author established, diversity is reflected in gender, culture, education, experience, age, personal characteristics, and other differentials. As De Waal and Frijns (2016) found, all value aspects that border on creativity did not have the chance to be deployed since they were inconsistent with the Arab culture which is dominant in the UAE. Hence, despite being a value in its culture, it has little role within the organizational context. Subsequently, the cultural aspect of power centralization emerges as a critical factor in the operation of organizations. According to De Waal and Frijns (2016), beneath modernity across the Gulf States, the traditional social and political order persists. As Kamla and Roberts (2010) asserted, the old structure is clearly manifested through the leadership of the Emirati government and its organizations. In effect, only senior level management has power to influence organizational operations. According to Al-Huzaim (2011), a manager or leader ought to be seen as “The Strong and Trustworthy” man who is resilient, flexible, upright as well as capable of discharging organizational duties. Further, the above author indicated that organizations from the UAE are structured based on the framework of Sheikocracy, an arrangement where managers perceive the organization as an individual fiefdom. What is more, the autocratic behavior of the managers directs that they act within lines that they deem acceptable to the society rather than what professionalism demands. In this regard, religious ideas, public image concerns, paternalistic orientations and Islamic counsel form the basis upon

which a manager leads an organization. In such circumstances, the possibility that a middle level manager would have influence or room to exercise creativity is limited.

For purposes of elucidation of Sheikocracy which is an arrangement where managers perceive the organization as a personal fiefdom, reference to the work of Al-Huzaim (2011) is deemed necessary. According to Al-Huzaim (2011), Sheikocracy is a concept that entails practices such as hierarchy of authority, supremacy of personal relations, insubordination of efficiency, open door policy, indecisiveness, adherence to rules and procedures, nepotism in the selection of workers, and patriarchal attitude. According to De Waal and Frijns (2016), nepotism applies to the selection of top managers but merit is applied in recruiting middle-level management. A problem emerges since the senior managers once appointed, because of individual connections, would rarely let middle level managers operate without restrictions. These, according to the above authors, are individuals who fear being usurped by lower cadre staff and are highly unlikely to embrace the idea of innovativeness from middle level managers. Hence, the conclusion, based on the work of De Waal and Frijns (2016) is that the environment in the UAE does not support the realization of self-efficacy among middle level managers.

Within the UAE, one-way systems of communication are common. A further reinforcement is by De Waal and Frijns (2016) who indicated that, such systems are a product of Sheikocracy. As a result, individuals at lower cadres of management such as the middle level management are merely seen as conveyor belts between the top and the bottom and have no influence whatsoever. However, a recent study by Suliman and Kathairi (2012) shows a shift in the situation as a level of trust and mutual respect is currently beginning to develop. Consequently, middle level managers might find a favorable environment to exercise self-efficacy and creativity.

Al-Huzaim (2011) is among researchers who have voiced a different perspective about the role of consultation in the Arab culture in terms of organizational leadership. According to the

above author, the management style that is supported by the Arabic culture is consultative. Hence, managers must consult subordinates or those below them whether informally or formally before making important decisions. However, as Al-Huzaim (2011) found, it is not uncommon for top managers to engage in pseudo-consultation, a style which allows top managers to engage low-level workers about issues with the intention of deceiving them into believing that they participated in decision-making. However, Arab managers also rely on participative management where they actively involve their subordinates on organizational matters that require decisions to be made. The autocratic style is contrasted with the participative approach, and under the method, the manager decides without any form of consultation. From the above, it is evident that many styles exist although it is common that the ones used border on autocracy where top managers reach decisions without reference to their juniors.

2.5 Previous Research on Self-efficacy in the Education Sector

Within the education sector, some research has been done relating to the topic in question. For instance, Hsiao et al. (2011) and Parthasarathy and Premalatha (2017) have conducted studies within the education context. In their research, Hsiao et al. (2011) examined the effect of self-efficacy on innovative behavior within the education context. Through the random stratified sampling method, the above authors selected their sample from both public and private schools from the northern part of Taiwan. In particular, the researchers picked 20 from each category of schools and proceeded to identify 546 teachers for inclusion into the study. In the analysis of the data, Hsiao et al. (2011) relied on descriptive statistics, regression analysis as well as Pearson correlation. From the study, Hsiao et al. (2011) indicated that out of three significant rankings, teachers' self-efficacy was included. Secondly, self-efficacy on *guiding groups* was viewed as important. The third revealed a tendency towards the use of innovations. From the

outcome, two self-efficacy domains sprung up. They included: performance and innovative behavior. Further, the results indicated that a strong association existed between teachers' self-efficacy and innovative work behavior. Unlike the previous trend, Parthasarathy and Premalatha (2017) found that no significant relationship existed between self-efficacy and the use of innovation. Based on the outcome, the above writers concluded that teachers who depicted higher levels of self-efficacy tended to demonstrate better innovativeness.

Citing the social cognitive theory, Hsiao et al. (2011) observed that the social cognitive theory perceives human behavior as being mediated by self-efficacy and efficaciousness beliefs. According to the above authors, the two elements influence individuals' choices, efforts, persistence, as well as emotions. Consequently, the above authors label individuals' self-efficacy as "belief in one's ability to have a positive effect on a subordinate's performance" (Page number please). Focusing on the education area, Hsiao et al. (2011) indicated that self-efficacy reflected on the ability of teachers to positively impact student learning.

In their research, Hsiao et al. (2011) further established that self-efficacy among teachers was associated with teachers' innovativeness, student motivation, teachers' competences, and effective classroom management, among other aspects. Further, the above researchers inferred that teachers' perceptions about self-efficacy could predict teachers' objective as well as attitudes towards change and innovation. In addition, the researchers found that, individuals ranking high on self-efficacy were highly likely to be more innovative besides undertaking or challenging tasks.

Innovative work behavior becomes a variable of interest based on previous studies. Taking the research by Hsiao et al. (2011) as an example, it emerges that the behavior entails discretionary employee action that supersedes prescribed roles or functions. However, innovative behavior is that which exceeds creativity to extend towards the inclusion of adopting, producing, and

implementing novel ideas that improve performance. Hence, the general orientation is that high self-efficacy precedes high degree of innovativeness and performance.

Teachers with higher levels of self-efficacy translated to enhanced capability in planning, organizing, and implementing required activities. In addition, such teachers were able to face and overcome frustration in a bid to reach their target goals. In this regard, self-efficacy emboldens individuals to stay focused on the task rather than getting swayed by emergent events. Hence, such instructors demonstrate enhanced capacity in handling and managing their classes. Whenever teachers have high levels of self-efficacy, learners benefit more simply because they perceive the assured nature of the delivery of content as testament of the mastery of the instructor.

In their research, Parthasarathy and Premalatha (2017) sought to understand the link between collective self-efficacy and teachers' self-efficacy in the Nilgiris District, India. As a part of their objectives, the above writers also sought to explain the role of self-efficacy in influencing innovative behavior among teachers. Using stratified random sampling, Parthasarathy and Premalatha (2017) selected 90 teachers for assessment. For the analysis part, the above researchers relied on descriptive statistics as well as Pearson Correlation Coefficients. Based on the outcome of the study, high levels of collective self-efficacy translated into high levels of self-efficacy among individual teachers.

2.6 Previous Research on Self-efficacy in the Services Sector

The services sector has also attracted studies on self-efficacy. Momeni, et al. (2014) examined the relationship between self-efficacy and innovativeness. In their study, Momeni, et al. (2014) selected five hundred employees from Ardabil province in Iran working at the Social Security Organization. Regarding sampling, they employed the simple random sampling. In the study, a pilot study was conducted on 30 workers to determine the reliability and validity of the

research instrument. Momeni, et al. (2014) employed the descriptive-analytical design and took self-efficacy as the independent variable and work behavior as the dependent variable. In this study, it was established that self-efficacy influences the innovativeness of workers.

In another study, Wang, Harris and Patterson (2012) focused on the technology services sector. From their results, Wang et.al. (2012) affirmed that there has been a dramatic shift in the service sector because of the increase in self-service. With the movement to the technology era, many organizations are opting for automated services rather than human-assisted services. What this means is that roles such as middle management are gradually being cut-off from the organizational system of service delivery. However, Wang et.al. (2012) explain that despite the emergence of self-service in many organizations, little is known about the role of self-efficacy in the use of technological services. From the study results, it emerged that customers continued use of self-service technologies was largely dependent on self-efficacy. In another study, Slåtten (2014) investigated the determinants and effects of employees' innovative self-efficacy in innovative activities in the service sector. A sample of employees in hospitality organizations was used in this study. Slåtten (2014) used surveys as the data collection methodology and established that within the service sector, job-related factors (autonomy) were the critical determinants of innovative self-efficacy, followed by self-related factors (learning orientation), and lastly factors related to the leader (transformational leadership). Additionally, more innovations are realized in the services sector in cases where there is a greater level of innovative self-efficacy (Slåtten, 2014). Therefore, Slåtten (2014) prove the point that in the services sector, self-efficacy is fundamental and plays a central role in leading to the success of service delivery through innovative approaches.

Like the study by Slåtten (2014), Newman et.al. (2018) investigated the effects of employees' innovative self-efficacy on innovative work behavior within the service sector. The study entailed the use of a sample of 66 middle managers and their 346 subordinates drawn from

large Chinese multinational company. Using multi-level data, Newman et.al. (2018) found that innovative self-efficacy is demonstrated more within the service sector in cases where leaders engage in role modelling. For middle managers, innovative self-efficacy is demonstrated when they come out as clear role models to their subordinates and lead to the delivery of the needed services. Additionally, Igbojekwe (2017) focused on emotional labor self-efficacy, customer-service orientation, as well as the knowledge that employees working in the service sector possessed. The sample was made up of 1-star, 3-star, and 5-star hotels. Igbojekwe (2017) collected data using questionnaires and found that emotional labor self-efficacy influenced the customer service delivery among employees. For most employees in 1 and 3-star hotels, the level of emotional labor self-efficacy was low hence negatively affecting the quality of service. Generally, a greater level of emotional labor self-efficacy created a greater opportunity for knowledge on customer needs in the service sector hence leading to better service delivery (Igbojekwe, 2017). Overall, in the service industry, innovative self-efficacy was found to be more fundamental in leading to greater attention to the services needed by customers and fulfilling customer expectations.

2.7 Previous Research on Self-efficacy in the Health Sector

Studies targeting self-efficacy in the health sector have also been conducted. For instance, Rutten et al. (2016) considered the variable among individuals suffering chronic health conditions. Through a cross-sectional survey, Rutten et al. (2016) evaluated the connection between the burden of chronic illnesses and health-related self-efficacy. In addition, the above researchers assessed whether there was a link between patient-centered communication and self-efficacy. Rutten et al. (2016) measured self-efficacy using the degree of confidence that patients had while taking care of themselves. With a greater level of confidence, patients were able to take care of themselves even with the absence of healthcare providers. By asking

questions regularly, patients built their self-efficacy to understand their own situations and effectively take care of themselves with the support of healthcare practitioners.

Based on the outcome of the study, health-related self-efficacy happened to be significantly lower for individuals who encountered increased illness burden. Upon the adjustment of the analysis, Rutten et al. (2016) established a positive relationship between centered communication and levels of self-efficacy. In other words, those patients who witnessed high levels of patient-centered communication tended to show increased levels of self-efficacy. Further, the association was found being stronger among individuals facing greater burden of illness. In conclusion, Rutten et al. (2016) observed that for patients suffering from chronic illnesses, patient-centered communication led to high levels of self-efficacy.

In their study, Wang et al. (2017) established that a rich body of literature on the self-efficacy effects in the health sector exists. According to the above authors, many of these studies show an association between patient-centered communication and self-efficacy and the subsequent outcomes from such relationships. Wang et al. (2017) observed that a greater level of self-efficacy was critical in leading to the improvement in quality of care and resilience among nurses, as well as patient satisfaction. For this reason, self-efficacy has a positive effect in the health sector as it enhances outcomes. This cannot be overemphasized given that patients suffering from chronic illnesses require special but effective care.

More so, Chiocchio et.al (2016) investigated the role that informational role self-efficacy played in enhancing professional collaboration in healthcare contexts. The sample of the study was made up of 290 participants with physicians and nurses. Chiocchio et.al (2016) used a five-item questionnaire for data collection and their results revealed that informational role self-efficacy is a key predictor of proactive teamwork behaviors among healthcare workers and is also vital in leading to the similarities of the goals, interdependence, intra-team trust, and coordination. What could be argued from the findings is that, as healthcare workers become

more self-efficacious with the use of information in the organization, they get to work in a more effective manner.

In a different study, Zamani-Alavijeh et.al (2019) utilized a sample of 23 health workers with an average of 10-year work experience to investigate the role that self-efficacy plays in leading to better delivery of healthcare education. Using the qualitative research between 2015 and 2016, Zamani-Alavijeh et.al (2019) found that innovative self-efficacy among healthcare workers with self-efficacy were able to properly provide education to their clients because of the belief in their quality and quantity of experience, building client trust, and application of professional knowledge. There is a better approach to understanding the needs of patients because of the self-efficacious nature of healthcare workers who have massive experience in the field. Therefore, the greater the experience in the healthcare field, the greater the self-efficacy among healthcare workers to deliver quality education to their patients.

2.10 Innovation and Innovative Behavior

2.10.1 Innovation

Innovation is a term that has gained much significance in recent times. This is due to its role in the development of organizations. Innovation is defined as the change that is connected to the creation and implementation of new ideas to the world. This definition is further expanded by Guellec and Potterie (2004) who describe innovation as consisting of two essential stages: invention and diffusion. Therefore, in the invention-based stage, this entails the development of new forms of technologies, as well as processes. However, the second stage comprises the adoption and the re-adoption of both technologies and processes that are already in existence. Within the public sector, there exist several definitions of innovation. One of these definitions includes the aspect of having new ideas, developing good ones, and overseeing their

implementation in a way that will ensure they will result in improved performance of an organization. Mulgan (2007) adopts a more refined definition of innovation in the argument:

“The simplest definition is that public sector innovation is about new ideas that work at creating public value. The ideas must be at least in part new (rather than improvements); they must be taken up (rather than just being good ideas); and they must be useful. By this definition, innovation overlaps with, but is different from, creativity and entrepreneurship” (p. 6).

Extant studies have shown that innovation as it relates to governments means the modernization of the government and therefore the state (Mulgan, 2007; Torfing & Sørensen, 2011). Further, innovation is also perceived as the modernization of knowledge management practices and processes, encouraging creativity and public entrepreneurship (Torfing & Sørensen, 2011). It is, however, essential to point out that literature on innovation as presented in this manner is incomplete. Instead, there is vast literature on innovation as it relates to the private sector. This can be attributed to the belief that an innovative government is paradoxical. In this case, the assumption formed is that innovation is a concept that can only thrive in the public sector due to its flexible nature and high competition. The public sector, however, is rather rigid, and there are different bureaucratic factors that stifle innovation.

Innovation has distinct characteristics when it comes to the public sector organizations. Literature indicates that there are three essential differences that are linked to the public sector, which in turn impact how the government organizations operate regarding innovation (Torfing & Sørensen, 2011). These three differences are extent of mandated changes, weaker ecological sense of competition, and increased diffused public sector organizational goals. In relation to the first key difference, the changes that impact the way a governmental organization operates can come about because of legislation or policy changes. For the second key difference, ecological sources of competition in the public sector organizations is in terms of relevant

resources, such as public finances or legislative time. These are found to have a much weaker influence on innovation in these organizations as compared to the private sector organizations. For this reason, innovation within the private sector tends to occur much faster and more intensively. This is most certain in the case where there is a new wave of start-up firms that try to increase and therefore to ultimately colonize the entire industrial sector (Long, 2014). For the third key difference, in most instances, the government-related programs often entail goals that are multiple in nature, which are then pursued at the same time. This also usually involves several expensive considerations and citizens being treated equally. In this case, this leads to providing public services as guided by the rule of law, which takes place all over the country by ensuring that the rights of all citizens are well protected. As a result, this leads to the generation of outputs that are quite difficult to determine.

Innovation has over time come to be perceived as a critical extension of creativity. This has, therefore, been responsible for the innovation coming to be perceived as being synonymous in meaning with creativity. This is demonstrated by Ghosh (2015) who notes that innovation and creativity have become critical in the contemporary organizational environments, and they tend to be confused in some instances. However, Ghosh (2015) further clarifies the confusion related to creativity and innovation by stating that creativity is what ultimately leads to innovativeness among individuals. Essentially, creativity is an individual and cultural phenomenon that gives individuals the opportunity to transform possibilities into reality while innovation is mainly concerned with converting ideas into goods or services that create value (Primi & Wechsler, 2018). Therefore, both creativity and innovativeness are vital for an organization to produce quality products and perform at the desirable level in its given market.

2.10.2 Innovation within the UAE Government

Innovation in the UAE is perceived as a key part in its development due to its contribution in facilitating the building of a competitive economy (UAE Ministry of Cabinet Affairs, 2015). Therefore, there are several reasons for innovation being encouraged within the government organizations in the UAE. Besides its role in enabling the development of a competitive economy, innovation is essential because it is a key driver of the implementation of sustainable investment towards the UAE's human capital. Further, innovation is taken as a means of enhancing the state's global sense of competitiveness. This fact is even more essential due to the current high rate of innovation within the organizations. This rate, as experienced globally, has ensured that many countries continue to engage in research and development as not only a means of developing innovation, but also adapting and adopting it.

According to the Mohammed Bin Rashid Centre for Government Innovation (2015), the UAE government has fostered innovation in the country using the developed vision 2021, which is the United in Knowledge vision (Vision 2021, 2020). Through this vision, the government hopes to use innovation to build a competitive economy in the UAE as per the global innovation index. This index shows that the UAE reports much improvement in the recent 2017 index. Specifically, the UAE was determined to be the top Arab nation on the index and therefore global innovation. Thus, the UAE has come to be identified among the world's most innovative nations. This has been essential in allowing the UAE to develop and adopt its own personal innovation index, known as the Abu Dhabi innovation index (UAE Ministry of Cabinet Affairs, 2015). This index serves the role of continuously monitoring its progress in relation to innovation. In doing this, the index has been developed in a way that will allow it to reflect innovation that matters. This is through its ability to provide data that is more persuasive in nature. Further, the ability of this index to generate a better comparison among economies has enhanced its role.

There are several steps that the UAE has taken in order to encourage innovation in the country. Many of these steps have been structured to correspond with the vision 21. The main aim of these steps is to place the UAE among some of the best global economies. A critical component of these steps includes the Mohammed bin Rashid Centre for Government Innovation (Mohammed Bin Rashid Centre for Government Innovation, 2015). This step has been pursued as a critical initiative that was adapted in the country with the intent of facilitating the promotion of innovation in the government agencies and organizations. Therefore, this has been significant for the country because it has transformed the UAE government into one of the most innovative public sectors in the world. In particular, the Center has been able to achieve this high innovation through several programs. One of these programs is the government innovative labs. These labs encompass various levels of sessions, as well as workshops. These are carried out using various innovative methods meant to achieve effective performance in inspiring the development of innovative ideas. This has proven quite essential as it has enabled several solutions to be found regarding the various problems that governmental organizations are facing. Another one of these programs is the *Ibtikar* talks. This program was started with the aim of enabling the comprehension of transformation of the operation of the government.

In both the U.S. and the U.K., innovation within the government is encouraged. Interestingly, there is a challenge for senior management to provide effective incentives that support innovation within the governmental environment. The senior managers in the government organizations are expected to ensure that they create innovative and competitive environments, which ensure that their respective organizations are moving in the right direction (Torfing & Sørensen, 2011). This is an indication of the fact that in these countries, middle managers can engage in innovative capabilities because of the chance that is given by higher-level managers.

The top-level managers are the facilitators of innovation for middle managers, hence boosting the level of performance in the governmental organizations.

2.10.3 Innovative Behavior

Innovative behavior in organizations is characterized in several ways as illustrated in literature. Scott and Bruce (1994) show that, individuals' innovative behavior within the workplace entails acts that include discovering new ideas, championing them, and seeking funds for the development of these ideas. This shows that middle managers that exhibit innovative behavior are those that tend to bring up new ideas and are constantly looking for the ways for the organizations to adopt these new ideas. Farr and West (1990) provide a more meaningful definition of innovative behavior. According to their definition, this behavior is what is shown by individuals with the intent of fostering the achievement of both the initiation and intentional introduction of ideas that are not only new but also useful. Further, problem-solving skills are also perceived as innovative behavior. This is significant as these skills provide a way of dealing with uncertainties and failures associated with the process of creating new ideas and thus innovation.

Innovative behavior has further come to be perceived as entailing the process of generating and implementing innovative ideas in the workplace as defined by Zhou and George (2001). Therefore, this insinuates to an extent that creativity is a form of innovative behavior in the organizations. Kor and Mahoney (2000) in their study opine that innovative behavior has over the last few years come to be perceived as a critical component of human capital. Therefore, it has come to be an equally critical contributor to the competitive advantage of the organizations. This is attributed to the fact innovative behavior has emerged to be regarded as the epitome of the successful implementation of novelty and useful innovative ideas and thus creativity within the organizations. Much emphasis has been placed on the uniqueness of innovative individuals and personality traits on innovative behavior.

Within the public sector, which to an extent can be perceived as encompassing a service setting, innovative behavior comes about as a result of interaction with the citizens in the view of Mulgan (2007). It comes about in the dynamic process of service delivery whereby the public sector employees must show innovative behavior in their work. This includes applying creativity to address the problems of the citizens, such complains. This is significant especially for middle managers. They can cope well therefore with failures and any uncertainties through the show of confidence and implementation of tasks.

The above discussion is an indicator of the fact that there has not really been a clear-cut way of defining innovative behavior as well as activities related to it. This might come about because of some researchers applying the same terms to refer to different concepts. At the same time, different terms are also used to refer to the same activities. Thus, there has been no consensus regarding the components of innovative behavior. This is vital because, it has thus made it difficult to identify innovative potential among employees (Koberg & Chusmir, 1987). This might be a present issue within the Dubai government. That is, this can, to an extent, explain why it has been a struggle for the government to identify the connection between the innovative self-efficacy of their managers and innovation. Subsequently, this reveals the slow process of innovation in this government.

2.11 Middle Managers and Innovation

Researchers such as Fischer and Rohde (2013) have demonstrated that middle managers tend to slow down innovation in the organization in some instances because of resistance. They at times resist innovation despite the positive impact it has on the organization. The arguments that many of these managers present for their resistance of innovation include: no time, interference with daily operations, and the fact that current product can just be enhanced. This

resistance is most present in the rejection of new ideas (Fischer & Rohde, 2013). This is evidenced in their rejection of new ideas through discouragement or finding ways and means of blocking these ideas. Overall, this indicates a kind of general resistance to change by these managers. While middle managers' resistance to innovation has always been the status quo, especially within the public sector, changes have come to be noted in recent times (Saari, et al., 2015). In this case, middle managers have come to be perceived as the drivers of change and thus innovation. This is more so following their expanded role in the integration of innovation. This comes about due to the strategic position of these managers between upper management and frontline employees. Therefore, in this case, middle managers are thus able to successfully bridge informational gaps that cause the inhibition of successful integration of innovation. Further, middle managers can contribute to the integration of innovation by directing the frontline staff that they oversee. They can take up the ideas that these employees offer and communicate them to upper management (Escribá-Esteve & Montoro-Sanchez, 2012). They can also offer relevant information about the integration of innovation, as well as the ways of ensuring consistency of innovation in their organizations.

Within the public sector, middle managers have come to recognize the significance of achieving increased innovations. Kanter (1982) points out, due to this reason, that these managers have thus worked to initiate and develop innovation. Accordingly, it is essential to mention that for many of these managers, the feeling is that government officials, including politicians and senior management teams, need to contribute much more towards ensuring the success of innovation. This calls for the identification of top priority actions. One of these actions is identified as setting in place a strategic direction that is clear in relation to innovation. Further, these actions emphasize the significance of managers as well as staff being involved within the discussions aimed at implementing potential innovation. It is also quite essential to set adequate time and resources to be set aside in the development of innovations.

In line with the review presented above, it is evident that middle managers are the informational valve of an organization. This also includes serving as an informational valve for innovation. This is the reason as to why they can serve as a bottleneck or gateway for innovation in the organizations (Sternberg, 2006). Regarding the organization of focus, the Dubai government, it is advisable to cultivate the positive aspects of middle managers as an informational valve. This will be essential in ensuring that they become the necessary gateway for effective innovation. In addition, appealing to their sense of innovative self-efficacy will further have a positive angle to this.

2.1.2 Innovative Work Behaviors

There are several definitions of innovative work behavior presented in existing literature. Innovative work behavior is the behavioral series which enables employees in an organization to think creatively for optimization of work performance and its procedure and routines (Samma et al., 2020). Innovative work behavior has also been defined as a person's behavior that aims to achieve the initiation and intentional introduction of new and useful ideas, processes, products, or even procedures (Jong & Hartog, 2010). Further, innovate work behavior has been defined as the discretionary employee actions which are beyond their established role expectations (Hsiao, et al., 2011). Thus, the one thing that is common in these definitions of innovative work behaviors is that it is about improvement of how things are done through generation of new ideas or adapting to behavior that goes beyond the expected.

These behavioral series usually encompass the identification of work-related problems, introduction of innovative and better ideas, and the implementation of these ideas. It is essential to mention that innovate work behavior is different from the creativity of employees focused on the discovery and generation of ideas. The reason for this is, creativity focuses mainly on processes for the initiation of relatively latest and improved ideas (Jong & Hartog, 2010).

Therefore, in comparison to creativity, innovative work behavior has more sense of focus and purpose (Samma et al., 2020). That is, innovative work behavior is one which goes beyond creativity and instead encompasses the adoption, production, and even the implementation of novel and considerably useful ideas (Hsiao, et al., 2011). This is because innovative work behavior includes the identification, analysis, design, implementation, and evaluation of new ideas. This includes connection of this with improvement in work processes and subsequent performance.

Organizational leadership is instrumental in fostering innovation work behavior among the employees. This entails enabling employees to work beyond expectations and thus practice innovation (Setiawan, et al., 2020). Therefore, realization of innovative work behaviour in an organization encompasses ensuring that the employees have confidence. This means that the employees believing that they can carry out their work successfully (Setiawan, et al., 2020). Employees who possess such a belief are the ones who will enjoy and value their work. Further, such level of enjoyment is one which can lead to an employee to perform better in the long run. This includes being able to come up with brilliant ideas.

2.13 Innovative Self-efficacies

An assessment of literature provides several definitions of innovative self-efficacy. Innovative self-efficacy refers to the confidence that people have that they can be innovative (Ma, et al., 2016). Additionally, innovative self-efficacy is defined as the belief that a person has in their ability to carry out tasks essential for innovating (Jäkel, 2018). Therefore, innovative self-efficacy is one which is quite specific to innovation (Mokhber, et al., 2016). Innovative self-efficacy demonstrates that self-efficacy is an integral component of innovation. This is quite vital given that innovation is a development that requires a high level of persistence to deal with the associated setbacks. Therefore, positive self-efficacy beliefs are necessary as they are

tied to persistence and the potential to influence innovation. This is through enhancing creative performance, increasing the likelihood to engage in expended effort, and inducing people to learn from failure.

2.13 Summary

The literature review raises several issues. For example, it is evident that despite their significant role in organizations, middle managers are underestimated. Some researchers have even gone ahead to recommend their role to be done away with and their position replaced with technology. The second issue is that creativity is vital in organizations due to its impact on the development of new ideas. It is evident that the characteristic of creativity makes it connect well with innovation, which is all about creation of new and improved ideas. The third one is that innovative self-efficacy is essential in demonstrating the extent of creativity among the staff. This is due to innovative self-efficacy being a type of appraisal to the innovative potential that a person possesses.

Essential lines of argument developed out of this literature review are as follows. In the first place, while the role of middle managers appears to be insignificant in some organizations, it cannot be completely done away with. This is because the role of these managers remains significant since their contribution is essential in organizations achieving various levels of strategic development. Secondly, another line of argument is organizations and those within the public sector are yet to realize the significance of creativity in their development and success. This provides an explanation as to why the Dubai government is yet to adequately utilize its middle managers to advance.

The final line of argument is that organizations may not be able to identify innovative behavior among employees due to their lack of understanding of the fact that this behavior is exhibited in different ways. The review of literature has shown that innovative behavior can be expressed

in various forms. Some of these ways as reviewed include discovering new ideas, finding new ways of doing things, and developing and applying high problem-solving skills. Therefore, organizations need to widen their scope of what consists of innovative behavior. This will make it possible to identify these behaviors among their employees.

This review is also essential in terms of identifying several existing research gaps regarding the relationship between middle managers' innovative self-efficacy and innovation. First, there is a considerable gap in relation to the specific contribution of middle managers to innovation through their individual innovative self-efficacy. To an extent, this review has shown that this may come about because of dismissal of the role of middle managers altogether within the organizations. Second, there is minimal research on the fluctuations of innovative self-efficacy and creativity within the context of organizations. This is a significant line of thinking because it provides an essential way of gaining an understanding of the way self-efficacy changes, factors that influence this change, and how organizations can take advantage of this to develop creativity in the staff. Finally, there is also a gap in the form of understudy of whether those with innovative self-efficacy can show innovative behavior.

Based on the literature that has been explicated in this chapter, it is evident that there is limited literature in the area of self-efficacy. Zhou (1998) established that the area of self-efficacy is underexplored. This makes the literature quite insufficient in the field. More specifically, the amount of literature that explores the link between innovative self-efficacy and innovation is still very scarce. There is also a concern about the literature that focuses on the contributions of middle managers towards innovation using their innovative self-efficacy. Despite middle managers being perceived key individuals to the organization, the literature review does not provide sufficient evidence on their contribution to innovation in a precise manner. As most studies are from the Western context, there are still gaps in the literature that mainly focuses on the innovative self-efficacy of middle managers and their innovation in the organization. To

fill the existing gap, the present study investigates the role of self-efficacy in influencing innovativeness within the UAE government context.

The current research adds to the knowledge on the relationship between middle managers' innovative self-efficacy and innovation in the following critical ways. Firstly, this study is among one of the first attempts in hypothesizing and testing the connection between innovative self-efficacy and innovation outside of the western nations. Most researchers have mainly explored this from the angle of the western nations. Therefore, it will be interesting to gain perspective of this from a slightly differing angle of an Arab state, like the UAE. This is even more significant given that the UAE is a nation that competes well with the western nations on innovation. Secondly, this study will be essential in contributing to an increased understanding of innovative self-efficacy on the development of innovation within the public sector. This is given the fact that the focus is on the Dubai government. Finally, research in this area is in the developmental phase. This can be attributed to the fact that since a considerable amount of research has been mainly regarding the private sector, little is known concerning the public sector.

CHAPTER THREE: CONCEPTUAL FRAMEWORK AND HYPOTHESES

DEVELOPMENT

3.1 Introduction

In the construction of the conceptual framework, reference is made to the theoretical and empirical literature. From the social cognitive theory, organizations must enhance innovative self-efficacy by providing an environment that prioritizes motivation and learning, which are critical aspects for goal realization (Bandura, 1977). It is worth noting that middle managers must be motivated first for them to learn how to engage in innovative activities in the organization. If the organizational environment is not supportive, they lose the focus to learn and dedicate their focus on goal realization in the organization.

Based on TPB, it also emerges that motivation is an intervening variable between self-efficacy and performance of tasks (Razak, et al. 2014). Similarly, individuals with a high level of self-efficacy depict an elevated level of perceived control behavior which is central to the execution of individual responsibilities. In addition, based on the TPB theory, a supportive organizational environment facilitates high levels of self-efficacy levels which are consistent with the practice of self-control and improvement of self-image. The information presented in this review has been essential in illustrating that there is a relationship between the innovative self-efficacy of middle managers and innovation. The following conceptual framework will attempt to provide a kind of visual representation of this relationship.

From the review of the literature and the theoretical framework, innovative self-efficacy is perceived as a factor that influences innovative work behavior (Bandura, 1977). In other words, the conception of the association is that high levels of innovative self-efficacy are related to high levels of innovativeness on the work of the middle-level managers. Further, innovative self-efficacy is broken down into three components namely: efficacy to guiding groups, using tasks to influence employees and towards using innovations. Slåtten (2014) opines that

innovative self-efficacy could play an instrumental role in leading to innovative work behaviors in cases where individuals have autonomy and a learning opportunity within the organization. Autonomy means that individuals can effectively make decisions concerning the roles that they are given in the organization and work effectively on the given goals. Learning presents an opportunity for growth in the knowledge that sets the ground for innovations. Anggarwati and Eliyana (2015) noted that with job satisfaction as an intervening variable, innovative self-efficacy is always bound to lead to greater levels of innovation in the organization. Therefore, the environment that organizations develop for their employees directly influences their innovativeness.

3.2 Hypothesis Development

Self-efficacy is known to influence the performance of employees because of the confidence that they work with on the given tasks. This is because of attendant alterations to behavior in terms of task completion and goal attainment. According to Chen (2016), persons with a high degree of self-efficacy reach better levels of performance since they depict increased motivation, clarity in objectives, stability in emotions and capacity to deliver. As discussed earlier, it is evident that innovative self-efficacy has a connection with the creativity of middle managers and that a positive relationship exists between creativity and innovation. Specifically, based on the social cognitive theory, the organization's environment can enhance self-efficacy through motivation and learning, and based on TPB, motivation intervenes between self-efficacy and performance of tasks, and, a supportive organizational environment facilitates high levels of self-efficacy which are consistent with the practice of self-control and improvement of self-image. On this basis, the following hypotheses are proposed.

1. Innovative self-efficacy towards Guiding Groups has a positive relationship with innovative work behavior.

2. Innovative self-efficacy towards Influencing Employees has a positive relationship with innovative work behavior.
3. Innovative self-efficacy towards using Innovations has a positive relationship with innovative work behavior.

In line with the above hypotheses, the following conceptual framework is developed to illustrate the relationships that exist between the independent variable (innovative self-efficacy) and the dependent variable (innovative work behavior) among middle managers. This is as in figure 3.2 below.

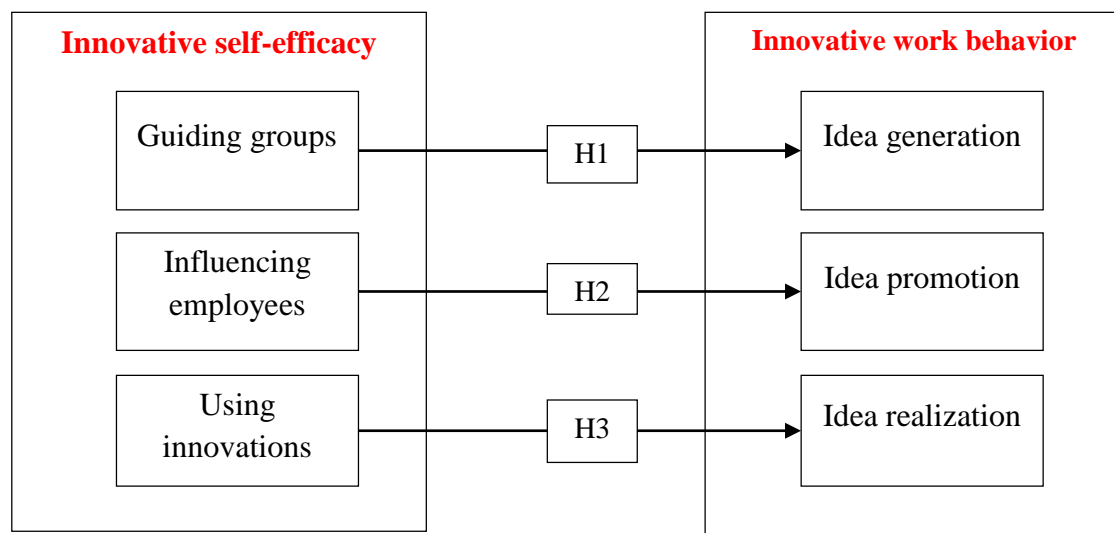


Figure 3.2: Conceptual Framework

Figure 3.2 above presents the conceptual framework of the study. From the conceptual framework, the independent variable is innovative self-efficacy of middle managers. It is demonstrated that the innovative self-efficacy of middle managers is investigated in terms of their innovative self-efficacy in guiding groups, innovative self-efficacy in influencing employees, and innovative self-efficacy in using innovations. The hypotheses are generated

based on the relationships that are generated with innovative work behavior in the form of idea generation, idea promotion, and idea realization.

A summary of each hypothesis is given below.

3.2.1 Innovative Self-Efficacy towards Guiding Groups and Innovation

Self-efficacy can provide some insight into guiding groups in a manner that is differentiated. This can take place through involving the groups in tasks. Thus, for persons with innovative self-efficacy, they can undertake guiding groups in instances where members experience some difficulty in their tasks (Anggarwati & Eliyana, 2015). These are persons that provide guidance by stepping in and helping them to remain with the right course. At the same time, they have great awareness regarding the work of the group and identify instances in which the group is working in a troublesome manner. People with innovative self-efficacy can find ways of promoting cooperation within a group when there are challenges experienced among members that are preventing them from working together. This includes guiding a group that appears to be disruptive. They use their sense of innovative self-efficacy to provide the groups with the opportunity to deal with their issues and get back to working together and therefore thwart those factors that are limiting cooperation (Al-Harbi et al., 2019). Additionally, innovative self-efficacy facilitates a means of guiding groups because through it, there is the possibility of pointing out to groups the fact that they are responsible for good results. Based on this, the following is developed to demonstrate the nature of the relationship between innovative self-efficacy and guiding groups and the effects on innovative work behavior.

Innovative self-efficacy towards Guiding Groups has a positive relationship with innovative work behavior.

3.2.2 Innovative Self-Efficacy towards Guiding Employees and Innovation

Innovative Self-efficacy is a factor that impacts employees by affecting their behavior. It serves as a driving force of the behavior that the employees apply within the workplace and thus towards their work. Thus, innovative self-efficacy possessed by employees within organizations impacts organizational success. In this case, innovative self-efficacy enhances the role performance of the employees (Anggarwati & Eliyana, 2015). Further, employees that possess innovative self-efficacy tend to become a vital asset to organizations. In this regard, the employees become a vital prerequisite for organizational survival. These types of employees thus develop innovative work behavior because they are the ones that can think a bit more critically and are constantly working towards change. They are the employees that will introduce and use new things that will benefit the organizations where they work (Al-Harbi et al., 2019). That is, they are the set of employees that are willing to make changes and add value to the organization. They are constantly undertaking research to discover new ways that they can undertake their role and responsibilities. These are the set of employees that are willing to introduce new ideas to the organizational management to promote improved ways of carrying out tasks. Thus, based on this discussion, the relationship that exists between innovative self-efficacy and employees and its effects on innovative work behavior is summarized as follows.

Innovative self-efficacy towards Influencing Employees has a positive relationship with innovative work behavior.

3.2.3 Innovative Self-Efficacy towards Innovations and Innovative Work Behavior

Innovative self-efficacy is a trait among people that drives innovation. Persons with innovative self-efficacy can cope well with stress that is related to the implementation of innovations (Al-Harbi et al., 2019). The same thing applies for this people in that they can cope well with stress

that comes from innovation changes they encounter. That is, these are persons that can remain focused on their task despite the issues they may be facing including any doubts thrown their way by colleagues, management, or other parties in their lives (Anggarwati & Eliyana, 2015). Innovative self-efficacy is essential because it acts as the foundation of innovative ideas which is an essential component of innovation. This self-efficacy and its impact on innovation are demonstrated in how people can realize confidence in their own sense of creativity. This impacts their ability to adapt to innovations and impacts their innovative work behavior (Anggarwati & Eliyana, 2015). That is, they can use their innovative self-efficacy to transform their ideas into new ideas that can result in newly developed products and services. As per this discussion, the connection between innovative self-efficacy and innovations and its effects on innovative work behavior is captured as below.

Innovative self-efficacy towards using Innovations has a positive relationship with innovative work behavior.

3.3 Summary

The research is composed of various variables. These variables include the dependent variables and the independent variables. The dependent variables are the types of variables that experience the manipulation of the researcher. In the case of this research, the dependent variable is the innovation of the middle managers. The independent variable on its part is the one that has an impact on the dependent variable. This is the type of variable that is, therefore, manipulated by the researcher with a view of imposing change on the dependent variable. The independent variable in this research is the creativity and innovative self-efficacy of the middle managers. With these variables, the relationship between innovative self-efficacy and the innovative work behavior of middle managers will be examined.

CHAPTER FOUR: METHODOLOGY

4.1 Introduction

The methodological section of any given study presents the way that is utilized by researchers in the identification collection and analysis of data that is useful to provide answers to a specified research problem. Various criteria are used in this section in order to address the problem of the interplay between self-efficacy and the innovative work behavior among middle-level managers. For the purpose of this study, therefore, the methodological section provides the type of research design that is taken into consideration by the researcher, besides providing a discussion of the methods of collecting the data for the study.

The present study takes a quantitative approach. Quantitative research involves the adoption of a structured way in the collection and analysis of data that is obtained using a variety of methods (Soeters, et al., 2016). Often, computational mathematical or statistical tools are applied in this type of research. The methodological approach is deemed conclusive since it allows problem quantification and exploration of frequencies by examining projectable results, and the use of predictive power for purposes of facilitating generalizations.

In practice, quantitative research is contrasted with qualitative research. In this regard, qualitative research takes a generally explorative approach. Largely, the methodology is dependent upon the collection of behavioral, verbal, or observational data (Silverman, 2011). Such data are interpreted taking a subjective perspective (Silverman, 2011). Unlike the quantitative method, qualitative research takes a broader scope and often, it is used to explore factors behind certain problems and reasons for existence of phenomenon.

When using the quantitative research method instead of qualitative approach, the objective is to measure the extent of an issue besides pursuing statistical results which are interpreted in an objective manner. Whereas results from qualitative research could differ depending on the skills of the observer, results from quantitative research depict similarity owing to the nature

of the method (Silverman, 2011). A key difference in the two methods relies on the approaches deployed in the collection of data. Before determining the methods to use, being clear on the objective is critical (Silverman, 2011). Similarly, sample selection emerges as a major phase in these types of research. A variety of data collection methods such as experiments and surveys are at the disposal of the researcher for deployment. The use of questionnaires is among the most common tools that are used in collecting data for quantitative research. Further, interviews through face to face, computer assisted or online ones are also available for consideration.

Upon the collection of data, another logical step is data analysis. According to Silverman (2011), the use of systematic processes and tools is critical in the analysis of statistical data. Analytical tools such as t-test, variance calculations, correlation and regression are also proposed. Using the above approaches would facilitate the generation of informative analyses. T-tests apply to the testing for significance while variance calculations are relevant to measures of central tendency (Silverman, 2011). On the part of correlation, the point of focus is to establish the strength of association between or among variables. On the other hand, regression analysis goes a step further to demonstrate the nature and degree of association among or between variables (Silverman, 2011). As Silverman (2011) observed, in the latter approach, it is possible to determine causality.

4.2 Variable Measurement

Innovative behavior at the place of work entails all actions that seek to introduce new ideas, support the ideas, and secure funding for their execution. Hence, innovative persons are those who initiate, introduce new ideas, and facilitate their implementation leading to the production of new or improved products and services.

To measure innovation, the study proposes the use of the Work Behavior Scale which was developed by Janssen (2000). The scale comprises nine items. Each of the items follows a 7-point answer scale which ranges from 1 (for very strongly disagree) to 7 (for very strongly

agree). The scale comprises three components namely: Idea Generation, Idea Promotion, and Idea Realization. The following are the sample items considered for inclusion in the questionnaire.

1. I can create novel ideas for challenging activities at work;
2. I always mobilize support for new ideas; and,
3. I can introduce innovative ideas within the organization in a systematic manner.

The items are adapted to fit the current study.

To measure middle managers' self-efficacy, the research makes use of Evers et al. (2002) scale. As already indicated the scale comprises three elements, namely: beliefs about self-efficacy concerning guiding groups in a unique way; self-efficacy centered on involvement of employees in various tasks; and self-efficacy beliefs regarding the use of innovative work practices. All items/ prompts are to be rated using the Likert-type items. Some of the sample items take this line: "I often assess events when a group does not work according to expectations; I always give necessary clues to workers when they are handling assigned tasks". Another one is, "I am able to cope well with the pressure that comes with adopting new working ways". Thus, in the development of the question, the focus will be on previous studies on the topic.

4.3 Data Collection Method and Justification

The process of data acquisition for the study was the questionnaire method. This entailed the use of a set of standardized questions to collect individual data concerning the research topic. This was done along with several choices of answers that were developed in a sequence to acquire information from the research participants. These were people selected from public organizations and because of this, it was necessary to seek permission from the government before using them as participants for this study. This entailed approaching the relevant

government officials to seek permission to use some of their employees as participants for the present research study.

The data used for this study was gathered from research participants acquired from the Dubai Smart City. The reason for selecting this government organization is, it offers survey solutions to government workers. This is usually overseen by the department of information technology for each entity. Thus, the researcher at the time of conducting this research study was a government employee working in the department of economic development. For this reason, the researcher was able to make a request for this service and gain access to potential research participants.

As for the process of data collection, this was done by creating a questioner through the system and creating a link to be distributed to the research participants from the database depending on the agreed demographics of the study and the selected entities. The link is shared with participants who are regarded as high contributors, to guarantee receiving feedbacks. The researcher following selection of the relevant research participants asked the department of information technology to share the link. The link is active for one month, and after that, the information technology shares the outcome of the questioner to the researcher.

There are several points of justification for using the questionnaire method for acquisition of data used for this study. Using the questionnaire for data acquisition was justified because of its uniformity in terms of how all the respondents are presented with the same questions. Therefore, this makes their response to equally show uniformity reducing problems of bias. In further justifying the use of the questionnaire for data acquisition in this study, this was done because of its large coverage. That is, the questionnaire made it possible for the researcher to collect data from a relatively large number of participants in a short time. The final point of justification for using the questionnaire method is it is a cost-effective method of data

collection. This was especially significant because this was a research study that was not sponsored.

4.4 Questionnaire Design and Administration

The questionnaire was designed in a way that it was made up of three sections (See Appendix A). The first section was dedicated to the demographic data of the participants including their age, gender, and the companies that they work for in the UAE. The significance of this was to get a clear perspective of the population that was involved in the study. The second section of the questionnaire focused on the middle-managers' self-efficacy with the key constructs including self-efficacy towards guiding groups, self-efficacy towards influencing employees, and self-efficacy towards using innovation. Under each construct, relevant items in the form of questions were developed. The third section was about the innovative work behavior of middle managers with the key constructs including idea generation, idea promotion, and idea realization. For each of these constructs, relevant items in the form of questions were also developed.

The table below, table 4.1, shows the interplay among variables, research questions and hypotheses. More specifically, it has innovative self-efficacy as the independent variable. Innovative self-efficacy is further split into three sub-independent variables including innovative self-efficacy towards guiding groups, innovative self-efficacy towards influencing employees, and innovative self-efficacy towards using innovation. The dependent variable is innovative work behavior. Both research questions and hypotheses as shown in table 4.1 below are developed based on the relationship between the independent variable and the dependent variable in the study.

Table 4.1: Variables, research questions, and hypotheses

Independent variable	Research Questions	Hypotheses	Dependent variable
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a) Innovative self-efficacy towards Guiding Groups	What is the relationship between innovative self-efficacy towards Guiding Groups with innovative work behavior?	Innovative self-efficacy towards Guiding Groups has a positive relationship with innovative work behavior.	Innovative work behavior
b) Innovative self-efficacy towards Influencing Employees	What is the relationship between innovative self-efficacy towards Influencing Employees and innovative work behavior?	Innovative self-efficacy towards Influencing Employees has a positive relationship to innovative work behavior.	
c) Innovative self-efficacy towards Using Innovations	What is the relationship between innovative self-efficacy towards Using Innovations and innovative work behavior?	Innovative self-efficacy towards Using Innovations has a positive relationship with innovative work behavior.	
Innovative Self-Efficacy	What is the relationship between middle managers' self-efficacy and innovativeness?	There is a positive relationship between innovative self-efficacy and innovative work behavior.	

The specific structure of the questionnaire is demonstrated below indicating the constructs as well as the items in the form of questions for each using Evers et al. (2002) scale.

4.4.1 Part 2: Self-efficacy

Self-efficacy towards Guiding Groups

- If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action.
- I always assess well what is going on when a group works in a troublesome way.
- I am able to foster co-operation in a group when the workers experience difficulties in their duties.
- When a group is disruptive, I am able to get them back to work again quickly.
- I can quickly set a worker to work who is undermining co-operation with others.
- I am able to point out to the workers that they are responsible for positive organizational performance.

Self-efficacy towards influencing Employees

- I am able to find reasons for low motivation among workers.

- I am able to provide appropriate clues to workers when looking for relevant information to complete a task.
- If workers experience challenges in carrying out tasks, I guide them to find solutions I am able to establish if a task has suitable level of difficulty.

Self-efficacy towards Using Innovations

- In general, I cope well with stress that comes with routine organizational work.
- I can cope well with pressure originating from innovative work changes.
- Despite failure, I keep introducing new innovative projects.

4.4.2 Part 3: Innovative work behavior

Idea Generation

- I am able to create new ideas for handling difficult issues.
- I often search for new working methods or instruments.
- I always generate original solutions for problems.

Idea Promotion

- Often, I mobilize support for innovative ideas.
- I always rally for the approval of innovative ideas.
- I work towards making important organizational members enthusiastic about innovative ideas.

Idea Realization

- I always focus on transforming innovative ideas into useful practical applications.
- I often introduce innovative ideas into the work environment in a systematic way.
- I always evaluate the utility of innovative ideas before implementing them.

The following Likert Scale was used to measure the items in the questionnaire, as responses were collected. The 7-point Likert Scale was suitable for this questionnaire because the scores provide a more accurate measure of the participant's true evaluation and it also more suitable for unsupervised usability questionnaires (Finstad, 2020). The questionnaires were self-administered. This gave participants the autonomy to freely answer the questions without feeling pressured by the researcher. The Likert scale is as illustrated in table 4.2 below.

Table 4.2: Likert Scale

Description	Score
very strongly disagree	1
strongly disagree	2
Disagree	3
neither agree nor disagree	4
Agree	5
strongly agree	6
very strongly agree	7

As per the table above, the representation of the Likert scale was 7 – very strongly agree, 6 strongly agree, 5 – agree, 4 – neither agree nor disagree, 3 – disagree, 2 – strongly disagree, and 1 – very strongly disagree.

4.5 The Application of the Cross-sectional Study Design

Study designs are of great value to the research process. In the proposed study, the researcher intends to make use of the cross-sectional study design. As a research approach, a cross-sectional design interrogates relationships between or among variables based on their state of existence within a defined population at a specific point in time (Soeters, et al., 2016). On this basis, the overriding idea is that studies of this nature are crucial towards the provision of a snapshot regarding the frequency of an occurrence, or characteristics of a certain phenomenon. Against this backdrop, the design is common among researchers that seek to report states of affairs as pertains to selected phenomenon. In the proposed study, the goal is to study self-efficacy and innovation based on the characteristics of middle managers at a specific point.

Like many other types of designs, the cross-sectional approach also comes with variants. For instance, the design is subdivided into descriptive and analytical types. Under the descriptive category, reference is made to a survey that is purely descriptive that is adopted for the purposes of assessing a particular phenomenon (Soeters et.al., 2014). For instance, in the current study, it is possible to deliver the research questionnaire to be filled by middle-level managers drawn from various public organizations in the Dubai. On the other hand, an analytical cross-sectional design is one that seeks to examine associations between variables. Such a design is especially useful in this research since it is likely to play a critical role towards the determination of the relationship between self-efficacy and innovation among middle level managers.

4.6 Sample and Sampling Approach

The sample population involved in this study will be drawn from the UAE. The population will be mainly made up of middle managers drawn from departments within the government sector in the UAE. In terms of the specific population, the research participants were acquired from the Dubai Smart city and they consisted of 40 middle-level managers. Consequently, the research revises its target to sample at least 151 participants. The process of identifying the sample will begin with identifying relevant government departments. The second step will be the identification of middle managers in these respective organizations. The third step will involve application of purposive sampling in picking the needed sample from the population of middle managers. Thus, the study takes a larger sample unlike the one taken by Anggarwati and Eliyana (2015) who selected 38 employees from an advertising firm while studying the impact of innovative self-efficacy towards creativity with job satisfaction. The reason for comparing these two studies is because they both focus on explicating the impact of self-efficacy. The larger sample preferred in this study is to ensure that the results are more generalizable. More so, the sample will be mainly drawn from different government departments in Dubai.

The sampling approach selected for a study depends on the nature of the population as well as the objectives of the study. Sampling is important because it offers the opportunity for the researcher to get the best possible segment of the target population for analysis. Accordingly, various sampling approaches exist. As mentioned before, the choice of the approach to use is dependent on the study design. As a result, the current research intends to employ the purposive sampling technique. According to Saunders et.al (2012) purposive sampling depends on the judgment of the researcher to select participants that will ensure the research questions are answered effectively and to meet the study objectives. For this study, middle managers would particularly help answer the research questions as well as ensure the study objectives are met.

Thus, the technique is non-probabilistic and likely to be prone to biases. However, according to Saunders et.al (2012), researchers can obtain a representative sample if applied judiciously. Owing to the nature of the current study (seeking to measure self-efficacy and innovativeness), the purposive sampling technique is deemed ideal. That is, purposive sampling was the method of sample selection recommended by the department of information technology for the researcher to use. More so, this was the method that the department uses to select their participants. In further justifying the use of purposive sampling for selection of the research participants this was used because as explained by Saunders et.al (2012), purposive sampling technique will help to effectively address the research questions and objectives developed in the study. More so, the use of purposive sampling is justified by the fact that generalizations are made based on theory rather than the population (Saunders et.al., 2012, p.283). For this study, it was easier to apply purposive sampling because government organizations in the UAE provide access to individuals to do surveys and this is a service that is provided to help employees. Choosing purposive sampling technique was anchored on the need to get the best possible outcomes and responses according to the policy by service providers. Therefore, the purposive sampling approach will be effective in ensuring that the study research questions as well as the objectives are attained and that generalizations are made based on theory. After the department recommends for use of purposive sampling technique, it then requests for the details of the participants that will participate in the research. Therefore, regarding this research study, the participants were middle managers who are categorized at level 4 of the human resource law. These are employees that fall within four grades consisting of 12, 13, 14, and 15.

4.6.1 Justification for Choice of Dubai

The choice of the geographical area for research is important. For instance, one needs to consider the appropriateness of the region to the study in terms of the capacity to provide

adequate data to address the research problem. In the current case, Dubai is selected because of two major reasons. First, the choice is based on the government's approach to policy-making. In this regard, the researcher notes that the Emirate provides the policy framework outlining guidelines and strategies. These provisions cascade to various governments for implementation. Against this backdrop, the expectation is that the policy guiding management of government bodies is reflective of organizational practices in the Dubai city.

Secondly, Dubai is a major hub not only in the Middle East region but also at the global stage. Besides, Dubai is a center for quality and development matters within the Middle East region. This is based on the initiatives that the city has taken to assist other governments through the development of the 4G quality model. In addition, the city undertakes many initiatives to aid in training and development. On this basis, it appeals to academics because it provides the right context to base the research.

Dubai is an exotic city that has experienced significant growth and development in the recent past. The Emirati city has expanded to become not only a regional but also a global hub in term of business. Thus, it is not surprising that the city hosts a high number of business organizations as well as charitable entities. Besides, the center plays administrative roles. On this basis, its choice as the case for the research is justified because it provides a good context with eligible organizations for selection. In this regard, reference is made to its capacity to provide firms with the workforce comprising of middle level managers who form the primary target participants for the study. What is more, the literature on the topic is predominantly from the West. Thus, to a large degree, the GCC region has inadequate literature on the topic. This justifies the choice of the area because it will enrich the existing literature on the topic.

4.7 Description of the Participants Involved in the Study

The individuals that will take part in the study will be middle managers from various governmental entities of the UAE. In this regard, the research will target organizations operating within the public sector in the city of Dubai. The population will be particularly sampled for the study because it occupies the rank or management level that is targeted for study. The population will be made up of both male and female participants and will also be made up of individuals drawn from different ages. What this means is that the population is fully representative of all demographic characteristics of the population that ensures better representation. Middle managers within this band are mainly concerned with the use of best practices and knowledge of the internal and external aspects of the business to improve company performance, resolution of complex problems within the organization, as well as acting as a strong link between low level managers and top management in the organization. Besides, such a group has the information concerning the relationship innovative self-efficacy in middle management and innovation in the government of Dubai. Based on the classification by the Dubai Government Human Resource Law No. (27) of 2006, middle managers are professionals on band 4 and grades 12 to 16 (Dubai Government, 2007). The group also comprises three positions who are in most cases; directors, senior managers, and managers. This population will be effective for this research for several reasons. As stated above, the managers occupy the position of interest which is middle-level management and work within the government sector, hence appropriate for the study.

The sample size could easily be managed by the researcher. Essentially, the researcher intends to enhance proportionality/representativeness in the choice of the sample size by taking various aspects into consideration. In this regard, participants will be drawn from various departments to enhance representation. It is also essential to note that the researcher will ensure that the participants work in the government entities of Dubai as middle managers, by cross checking

their designations and grades. The demographic profile of the respondents will be based on various aspects including but not limited to gender, age, nationality, income level, and education. These demographics will prove crucial in an event that study seeks to clarify any commonalities or variations across them.

4.8 Analysis of the Quantitative Data

The analysis of the data is crucial to the attainment of the objectives of research. To enhance the possibility of successful study completion, questionnaires will be received gradually from the respondents thus allowing for the reception of the data in a satisfactory manner. Before the analysis, it is worth noting that there are four key factors that affect the way the quantitative data is analyzed (Stallings, 2003). The first factor that affects the way the data is analyzed is the number of variables under consideration, the level of variable measurement, whether the data is to be used for inferential or descriptive purposes, and the ethical issues arising in the study. Thus, it is of great significance to consider all these factors (Castellan, 2010). In this study, both univariate and bivariate approaches would apply. The univariate aspect will be used for the frequency counts, while the bivariate will apply to cross tabulations. The cross tabulations will be critical in understanding the relationship between the innovative self-efficacy of middle managers and their innovative abilities.

4.8.1 Reliability and Validity

It is significant to determine the reliability of the data collection tool. This is done through the measurement of the internal consistency of the items in measuring the developed constructs in the questionnaire. According to Tang et.al (2014), the internal consistency of a test illustrates whether the items on the test, which are intended to measure the same construct, produce consistent scores. A reliability test will be done to measure the internal consistency of the items.

The measurement of internal consistency will be done using Cronbach's alpha with the focus on attaining Cronbach alphas that exceed 0.70 acceptable reliability threshold (Fornell & Larcker, 1981). While working towards estimating the internal consistency based on Cronbach Alpha, the necessary conditions as explained by Sideridis et.al (2018) will be met. The first notable condition is that the scores of the items should be on an interval level data without restrictions of range. The second condition concerns linearity and homoscedasticity of the errors emerging from the scale (Sideridis et.al, 2018). The third condition is *uni-dimensionality* and the fourth condition is the independence of the items based on content. Accordingly, the Cronbach Alpha scores range from 0-1 and the greater the scores are to 1, the greater the level of internal consistency for the scales (Sideridis et.al, 2018). Internal consistency will be reported in the results chapter.

Validity is concerned with how well the research instrument measures what it was intended to measure (Taherdoost, 2016). What this means is that the research instrument must be accurate in the measurement of the intended area of study. For this study, there was need to make sure that the developed questionnaire accurately measured the impact of the middle managers' innovative self-efficacy on their innovative work behavior. The four key types of validity include criterion validity, face validity, construct validity, and content validity (Ghazali, 2016). Face validity is the subjective judgment of the accuracy of the instrument based on the perception of whether it accurately represents the relationship between the constructs (Taherdoost, 2016). Content validity describes the extent to which the instrument reflects the content universe to which the instrument can be generalized (Ghazali, 2016). Construct validity refers to how well the instrument measures the theoretical construct that it is designed to measure (Ghazali, 2016). It effectively demonstrates causal relationships. Lastly, criterion validity explains the extent to which the measure is related to the outcome of the study. For this study, the data collection instrument is expected to have construct validity that will help

determine the causal relationship between middle managers' innovative self-efficacy and their innovative work behavior.

4.8.2 The Dependent Variable

The dependent variable in a research is that which faces manipulation or control from the researcher. It is the major focal point of the researcher. The changes that are made on the dependent variable are what the researcher seeks to measure. The conceptual framework drawn above is reflective of both the independent, dependent, and intervening variables. The middle managers innovative behavior is, therefore, the dependent variable in this research. The innovation on the part of the middle managers is the dependent variable in the research due to various reasons. To begin with, the innovative nature of the middle managers influences various aspects. These aspects include their ability to be innovative, thus impacting positively in an organization. The innovative nature of the middle managers thus results in their innovative self-efficacy. This, in turn, impacts innovation in the government of Dubai.

The middle managers innovation takes various forms. In most cases, middle management is viewed as the informational valve of a business entity. Middle managers play the role of innovational bottleneck in an organization, hence controlling the flow of ideas in each organizational structure. Managers play a significant role in diffusing information. Organizational middle managers are in the frontline in the provision of significant information on the implementation of innovation. Middle managers also play the role of the synthesis of information with respect to innovation (Ahearne et.al., 2014). Through the integration and the interpretation of facts, the organizational middle managers provide general information on the implementation of innovation that is relevant to the organization and the organizational employees. Middle managers can therefore be referred to the engines of change in an organization.

Middle managers are, therefore, significant in influencing successful change. The most appropriate technique of influencing successful change in an organization is by blending the skills of the organizational top managers and the middle managers. This is significant in doing away with any form of semblance in relation to the blame culture (Zhou & George, 2001). This is mostly in the cases whereby the middle managers are constantly criticized for the lack of enthusiasm. Middle managers have a high proximity to the organizational employees and the use of technologies in an organization. One of the significant takeaways is the fact that there is the amplification of the middle managers with the support of the senior managers. Middle managers, therefore, have the capability of influencing innovation in any government agency. It is essential to mention that for many of these managers, the feeling is that government officials, including politicians and senior management teams, need to contribute much more towards ensuring the success of innovation. Innovation is related to the identification of the most significant information needed for its implementation. This calls for the identification of top priority actions (Amabile & Conti, 1999). One of these actions as identified is setting in place a strategic direction that is clear in relation to innovation. Further, these actions emphasize the significance of the managers as well as staff being involved within the discussions aimed at implementing potential innovation. It is also quite essential to set aside adequate time and resources that could be applied in the development of innovations. Middle managers, therefore, come in handy for supporting innovation. Therefore, with the manipulation of the innovative nature of the middle managers, the researcher can gain significant insight into their innovative self-efficacy. The researcher is also able to gain insight into their ability of fostering innovation in an organization. This dependable variable, therefore, influences the independent variable in the research. The middle managers' innovative abilities are the dependent variables as reflected in the conceptual framework. The ability of the

managers to be innovative and get ready for transformation is because of their self-efficacy (De Waal & Frijns, 2016).

4.8.3 The Independent Variable

The independent variable is the type of variable that has an impact on the dependent variable. This is the type of variable that is, therefore, manipulated by the researcher with a view of imposing change on the dependent variable. As envisaged in the conceptual framework above, the middle managers' innovative self-efficacy and creativity are the independent variables. The creativity and efficacy of the middle managers are manifested in various aspects of the organization (Woodman, et al., 1993). First, their efficacy and creativity are manifested in the technical aspect of the organization. Middle managers are vested with the responsibility of the facilitation of the changes that are required in a business entity. They are also vested with the responsibility of the creation of a working environment that is effective and efficient. They engage in the administration of daily routine and monitoring performance in the organization. They are also required to ensure that every activity in the organization is carried out in line with the needs of the organization.

The second factor is that of human resources. Middle managers are significantly required to take the initiative of the motivation of their subordinates. They are also required to lead and inspire their subordinates. This involves engaging in team building and providing support to team members at their moment of need (Tierney & Farmer, 2002).

The third factor is the strategic aspect of the organization (Mulgan, 2007). The strategic functions of an organization are such as the analysis of the subordinate groups within the organization. This is in relation to the productivity and financial effectiveness of the organization. This is also related to the creation of strategies towards the improvement of the

current organizational situation and the provision of the reports to the leadership of the organization.

There are various competencies that are associated with middle managers that make them innovative and effective in the facilitation of innovation in the organization. The first one is the leadership competency. This is the most significant competency on the part of the middle managers. As the inherent leaders, the middle managers are required to have not only sense making skills but also persuading ones (Zhou & George, 2001). Middle managers play a significant role of motivating, influencing, and guiding their subordinates. They act as good role models to their subordinates. They provide a demonstration of the work quality needed for the success of the organization. They also take part in continuous personal learning and personal development. This has a positive impact on their ability to facilitate innovation.

The second one is the creativity and visioning competency. Middle managers always have a clear vision in relation to the implementation of strategies within the organization. They also embrace creativity at the highest level with the major objective of being able to overcome the possible difficulties within the organization.

The third one is the performance management competency. This competency involves the management of the performance of their subordinates. This particularly refers to the management of the performance of the line managers through the establishment of the objectives that are clear and measurable (Abele & Spurk, 2009). They also provide coaching to their subordinates. Middle managers, therefore, play a huge role in presenting, persuading and the influencing the individuals within the organization.

The fourth one is the decision-making competency. Middle managers have the ability of solving problems in a quick manner. They also have the ability of making decisions under pressure, in addition to taking responsibility for the impact of the decisions.

The managers' ability to perform effectively in the varying organizational conditions is quite significant in explaining the roles that they are likely to face in the organization and the way in which they are treated within the organizational environment (Abu-Rahma & Jaleel, 2017). It is worth stressing that self-efficacy is vital in determining their contribution in the organization and in leading to the attainment of the set goals. Without their input, their self-efficacy is negated. Therefore, the middle managers take into consideration their competencies in influencing innovation in the organization. They also make use of their creativity skills in the promotion of their self-efficacy. This is essential in promoting organizational change and success. It is also significant in fostering innovation in the organization on a wide range of levels.

Overall, innovative self-efficacy is taken as the independent variable because the idea of the research is that the level of the attribute influences the innovative behavior of middle-level managers. In line with the of Evers, et al's (2002) scale, the study breaks down the variable further into three key attributes namely: a) innovative self-efficacy towards Guiding Groups; b) innovative self-efficacy towards Influencing Employees; c) innovative self-efficacy towards Using Innovations.

Data from the completed questionnaires will be analyzed using the Statistical Package for the Social Science (SPSS) for both the univariate and the bivariate analysis. This is important for generating frequencies and the relationships between variables. Overall, the approach to analysis is instrumental in the establishing the relationships between the innovative self-efficacy of the middle managers and their innovativeness. Given that statistical approaches such as regression and correlation analyses are to be used, the implication is that the focus is on inferential evaluations rather than descriptive analyses.

According to Creswell and Clark (2011), regression is a statistical approach that facilitates the study of relationships between/or among variables. Thus, through the statistical process it is possible to estimate the association among the variables of interest. Creswell and Clark (2011) observed that the estimation method is preferred because it helps in the determination of how the dependent variable changes in connection with variations in the independent variable. Further, the above authors indicated that, in many cases, regression-based analysis is crucial in estimating the conditional probability of the dependent variables alongside independent variables.

For this study, the main regression model that will apply will take the form below.

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$$

Where;

y_i – Is the dependent variable

x_i Is the independent variable

ε_i the random error terms

β_0 and β_1 – are the parameters (coefficients)

Thus, the regression model above will help to effectively establish the relationship between middle manager innovative self-efficacy and their innovative work behavior.

4.9 Pilot Study

Before conducting the full-scale study, doing a pilot study is deemed necessary. The objective is to avoid committing costly mistakes and proceeding too far with them. In addition, the pilot research gives the researcher the chance to assess the validity of the study instrument by examining the appropriateness of the questions or prompts for the study. Based on the feedback and initial analysis of the data generated, a researcher is in pole position to make adjustment to

suit the area of study. Against this backdrop, the section reviews the pilot study and proposes minor adjustments to the questionnaire instrument based on the respondents' responses.

A pilot study generally comes with many benefits for the researcher. First, the pilot study presents an opportunity to determine the feasibility of the study (Enago Academy, 2020). The determination of the feasibility of the study ensures that the researcher does not waste time and resources to conduct the study if it is not feasible in respect to the potential outcomes. Second, the pilot study is important because it helps in the assessment of the problems and the resources that may occur in the main study (Cadete, 2017). For instance, it helps in the determination of the amount of time that the main study will take as well as the feasibility of any resources in the final study. Third, a pilot study helps reveal potential challenges related to the management of the collected data and the team that takes part in the study (Cadete, 2017). For instance, it provides a clear picture of areas that may need further analysis of data. The last notable advantage of a pilot study is that it presents an opportunity to test the proposed study design and the process (Enago Academy, 2020). This could alert the researcher of potential negative effects that the research design may have on the study hence presenting an opportunity for needed corrections. Essentially, a pilot study is undoubtedly important before moving to the main study.

It is worth noting that the pilot research highlights its benefits as well as drawbacks. Regarding the advantages, it facilitates the establishment of the validity of the study because it allows for the evaluation of the appropriateness of statements or questions used to assess a topic. In addition, such studies generate valuable feedback, which aids the researcher in re-examining his work regarding the structuring of study prompts. The response assists the researcher in improving the work before proceeding into the ultimate study.

Despite the beneficial outcomes, pilot studies pose some setbacks. For instance, a pilot study leads to a lengthy delay in research and could withhold the publication of findings. The process

takes considerably long time thus disadvantaging the researcher. Besides, in cases where the reviewers of research on a field are limited in number, the possibility of protecting their anonymity declines significantly. However, the benefits outweigh the limitations, a reason that justifies the method's employment. Despite the adoption of the changes suggested during the pilot research, it is noted that, overall, the questions that the research presents are appropriate for the intended task.

While carrying out the pilot study, the researcher began by preparing an invitation letter (See appendix B). Thereafter, the second step entailed the sending of the letters to the middle level managers. Subsequently, the researcher gave time for the respondents to provide feedback as to their availability to take part in the research. An excel sheet for questionnaire was developed in both English and Arabic (See Appendix C). In the next step, the researcher proceeded to table the questions and interview those who agreed to be part of the study. The exercise was conducted in both Arabic and English. Through the exercise, answers and comments were recorded based on the overview report (See Appendix D). The researcher followed this by analyzing the responses to contemplate the possible areas for improvement. Following the analysis, it was possible to consider and implement adjustments to the initial questionnaire. The adjustments were deemed necessary as a part of the measures to localize it to the Dubai context.

Several observations are made based on the pilot study and comments from respondents. Carrying out the pilot study generates insight about the relevancy of the questions. For instance, the participants suggested the replacement of the word worker with employee (See Appendix E). This underscores the perspective that the people from Dubai take about work and employment since worker highlights some form of coerciveness. From the pilot study, suggestions have also been made touching on the inclusion of additional questions on behavior in new places to aid the research. For instance, the following additions are proposed: “when I

move to a new department with a new team, I impact positively on the team behavior and performance; within my network, I normally transfer my innovative behavior to others positively”. In the assessment of the researcher, it is discerned that the statements are likely to enrich the data collection instrument.

Another suggestion is on checking the validity of the answers given. The proposal entails the introduction of other questions to that effect. However, this does not warrant a change since the researcher believes that there is no motivation for the respondents to falsify their responses to the study. Nonetheless, the researcher finds the suggestions from the pilot research regarding the sixteenth question compelling. Hence, the prompt ‘I often search for the best practices and solutions’ is adopted.

The participants in the pilot study also indicated that the questions that had been developed in the questionnaire were clear and represented what middle managers were doing in the government sector in the UAE. This is a demonstration of the validity of the research instrument as had been envisaged in this study where it accurately measured the required constructs. The format of the questionnaire was also deemed easy to understand and was also indicated to directly relate to the roles of middle managers in the UAE government sector. The participants in the pilot were also of the view that the questionnaire represented their capabilities in terms of self-efficacy and the capacity of being innovative within the government organizational framework. Despite the changes suggested on question 16, participants in the pilot study indicated that all the questions were well formulated and accurately tackled the job of middle managers in the UAE government sector.

Regarding the sample, the researcher included 10 participants in the pilot study (See Appendix F). The participants included 4 directors, 4 senior managers, 2 managers, 7 males and 3 females. 5 of the participants were drawn from Dubai Economics and 5 from Dubai Exports. These participants are not included in the main research. As the pilot study mainly focused on

evaluating the validity and the reliability of the research instrument, the researcher opted to use different participants in the main research. All the participants in the pilot study were Emirati nationals. However, the next variable of sex shows differences. There were divisions based on sex, as both male and female respondents were involved. In total, males accounted for 70 per cent of the sample. Female respondents accounted for the remaining 30 per cent. This is an indicator that males are more likely to occupy management positions than females. The other variable that came up for consideration was the age of the participants. The range was 18 years since the youngest person was aged 30 years while the oldest was 48 years. On average, the middle manager who participated in the pilot study was aged 40.1 years. Overall, the participants who took part in the pilot study were excluded from the main study.

4.9.1 Adjusted Questionnaire

Following the observations made in the pilot study, some minor adjustments were made to the research questionnaire to make it more valid and reliable. Adjustments to the questionnaire were made based on the feedback that was given by participants to ensure that it directly measured the constructs and helped establish the relationship between the innovative self-efficacy of middle managers and their innovative work before. From the adjusted questionnaire, two questions were added. The adjustments were made to directly reflect the role of the middle manager in the UAE government sector as recommended by the participants during the pilot study. Table 4.3 below is a presentation of the questionnaire before and after adjustment.

Table 4.3: Initial and adjusted questionnaire after pilot study

Question Number	Initial Questionnaire	Adjusted Questionnaire
1.	If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action.	If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action.

2.	I always assess well what is going on when a group works in a troublesome way.	I always assess well what is going on when a group works in a troublesome way.
3.	I am able to foster co-operation in a group when the workers experience difficulties in their duties.	I am able to foster co-operation in a group when the workers experience difficulties in their duties.
4.	When a group is disruptive, I am able to get them back to work again quickly.	When a group is disruptive, I am able to get them back to work again quickly.
5.	I can quickly set a worker to work who is undermining co-operation with others.	I can quickly set a worker to work who is undermining co-operation with others.
6.	I am able to point out to the workers that they are responsible for positive organizational performance.	I am able to point out to the workers that they are responsible for positive organizational performance.
7.	I am able to find reasons for low motivation among workers.	I am able to find reasons for low motivation among workers.
8.	I am able to provide appropriate clues to workers when looking for relevant information to complete a task.	I am able to provide appropriate clues to workers when looking for relevant information to complete a task.
9.	If workers experience challenges in carrying out tasks, I guide them to find solutions.	If workers experience challenges in carrying out tasks, I guide them to find solutions.
10.	I am able to establish if a task has suitable level of difficulty.	I am able to establish if a task has suitable level of difficulty.
11.	In general, I cope well with stress that comes with routine organizational work.	In general, I cope well with stress that comes with routine organizational work.
12.	I can cope well with pressure originating from innovative work changes.	I can cope well with pressure originating from innovative work changes.

13.	Despite failure, I keep introducing new innovative projects.	Despite failure, I keep introducing new innovative projects.
14.	I am able to create new ideas for handling difficult issues.	When I move to a new department with a new team, I impact positively on the team behavior and performance.
15.	I often search for new working methods or instruments.	Within my network, I normally transfer my innovative behavior to others positively.
16.	I always generate original solutions for problems.	I am able to create new ideas for handling difficult issues.
17.	often, I mobilize support for innovative ideas.	I often search for new working methods or instruments.
18.	I always rally for the approval of innovative ideas.	I often search for the best practices and solutions.
19.	I work towards making important organizational members enthusiastic about innovative ideas.	Often, I mobilize support for innovative ideas.
20.	I always focus on transforming innovative ideas into useful practical applications.	I always rally for the approval of innovative ideas.
21.	I often introduce innovative ideas into the work environment in a systematic way.	I work towards making important organizational members enthusiastic about innovative ideas.
22.	I always evaluate the utility of innovative ideas before implementing them.	I always focus on transforming innovative ideas into useful practical applications.
23.		I often introduce innovative ideas into the work environment in a systematic way.
24.		I always evaluate the utility of innovative ideas before implementing them.

4.10 Ethical Issues in the Study

Since this study involves human subjects, middle managers, it will be important to identify relevant ethical issues and ensure that they are addressed in the required manner. The ethical issues will be subject to the university's ethics committee and will be vital in driving the research toward its success. The first ethical issue that has been determined as being significant in influencing the study is the privacy and confidentiality of the participants in the study (Bryman & Bell, 2015). In research, the privacy and confidentiality of the participants is always at risk because of the potential exposure of their details and names, hence leading to victimization. Thus, it will be imperative for the researcher to ensure that their privacy and confidentiality are secured. The privacy and confidentiality of the participants will be provided through ensuring that their names are undisclosed and that every detail is upheld. The data will not be used in a way that risks their lives, but will be utilized in an effective way that does not put them at risk. Thus, they will be secured during the research.

The second relevant ethical issue that might emerge during the research is the tendency of the research being imposed upon the participants without their consent. There is always a risk of imposing the research on the individuals who might not be willing to be part of it (Shaughnessy, et al., 2014). It is important to ensure that the participants take part in the study with their consent. The researcher will have to seek the consent of the participants using the consent forms that are to explain the research in terms of what it entails, the purpose, and the levels at which it is going to be applied. The participants will be asked to consent to the study and will be given the opportunity to withdraw from it at any point as they deem fit. The consent will be vital in ensuring that all participants have the knowledge of the study and the intentions of the study (Bryman & Bell, 2015). It is important to ensure that participants are not forced into the study as this will be an infringement on their ethical rights, hence affecting the credibility of the entire

study. In this regard, the support and permission to send the survey will be obtained from the HR department of each section of agency being targeted.

4.11 Summary

This chapter has underlined the methodological approach that will be followed to address the research questions and objectives of this study. Particularly, the chapter highlights the research design, the sample population and sampling strategy, research instrument, as well as the pilot study and the observations made from it. This chapter, therefore, reflects a clear indication of the direction of the research by following the quantitative research design.

CHAPTER FIVE: FINDINGS AND DATA ANALYSIS

5.1 Introduction

This chapter presents the findings that were derived from the collection of data and subsequently data analysis. The findings were generated based on the analysis of the responses given to the questionnaire by a sample of 151 participants. These were middle managers that worked in different departments within the UAE government.

The findings as presented in the below sections are divided into two critical parts. The first part is the descriptive statistics. According to Lacort (2014), descriptive statistics help to summarize the components of the data set. They are broken down into measures of measures of central tendency and measures of variability. Particularly, the descriptive statistics were applied to the findings to help understand the demographic components of the data in terms of the age range, position, corporation, and the gender of the participants. This helps communicate the characteristics of the sample population in the clearest way possible. Before progressing with the analysis of the data, a reliability test was done to determine the internal consistency of the items and if they actually measure what is supposed to be measured in the study. The second part of the results is made up of inferential statistics. The critical conclusions drawn from the data will be made based on these statistics including the regression analysis (Hokimoto, 2017). The examples of inferential data applied in this section include Pearson correlation and regression. The essence of all these statistics was to establish the correlation between the variables. The results will be related to both the research questions and the objectives that were developed at in chapter 1, hence ensuring that the study meets its aim as was set out from the beginning. The regression analysis will be critical in examining the relationship between middle managers' innovative self-efficacy and their innovative work behavior within the UAE government departments. The findings of the study are as presented below.

5.2 Data Analysis

5.2.1 Demographic characteristics of the sample

The descriptive statistics helped understand the demographic characteristics of the study. It is worth noting that the demographics need to be understood in terms of the nature of the population that was involved in the study. In this particular study, the key items of demographics that are defined include gender, age range, grade, position, and the corporation of the participant. The demographic characteristics of the selected sample are demonstrated below with the accompanying statistical analysis.

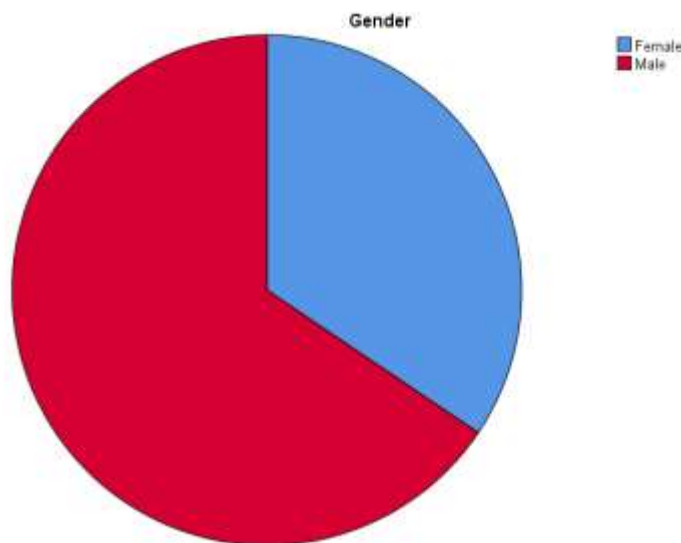
GENDER

The sample of the present study consists of 151 participants of middle managers in Dubai government entities. The sample includes both genders males and females. More specifically, of the 151 participants, there were 99 (65.6%) males and 52 (34.4%) females as per table 5.1 and figure 5.1 below. This indicates that there were more male participants in the study as compared to females, which is not unusual in the case of the typical organizational environment in the UAE where it is mainly-male dominated. Therefore, the findings, as related to gender are emphatic of the higher numbers of males in UAE organizations. The general point from the findings is that there is dominance of men in the middle-management level in different UAE organizations. Hence, there is a gap in terms of gender representation at the different organizations in the UAE. Nevertheless, what could be concluded from the findings is that there are a greater number of males as represented in the UAE organizational environment as compared to females. The characteristics are as illustrated in the table 5.1 and pie-chart below in figure 5.1 for clear differences in the populations.

Table 5.1: Frequency distribution: Gender of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	52	34.4	34.4	34.4
	Male	99	65.6	65.6	100.0
	Total	151	100.0	100.0	

Figure 5.1: Distribution of participants by gender



AGE RANGE

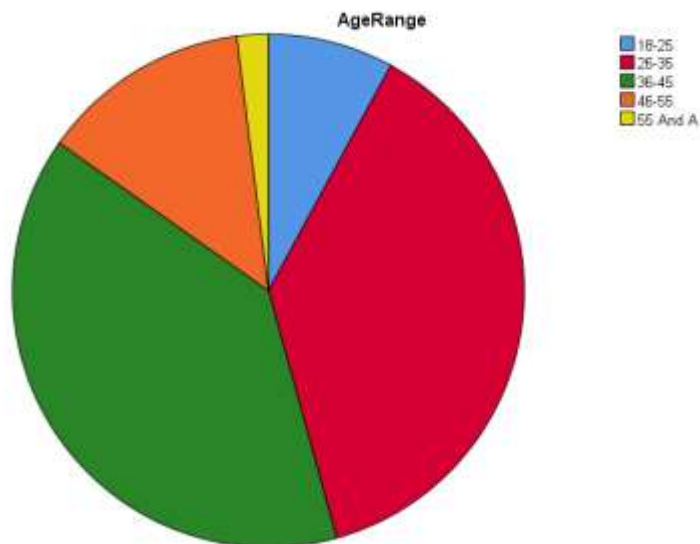
The age range of the participants was critical in illustrating the general distribution across the organizational environment. Through the age range, it would be easier to understand the significant role that age plays when it comes to understanding middle manager's innovative self-efficacy and innovation in the organization. For simpler explanation of the ages of the sample studied, the age was set out based on the age ranges of the participants. Table 5.2 showed that 59 (39.1%) participants were aged between 36-45 years, 57 (37.7%) were aged between 26-35 years, 20 (13.2%) were aged between 46-55 years, 12 (7.9%) were aged between 18-25 years, while those aged 55 years and above were 3 (2%). Generally, most of the middle-managers included in the study were below the age of 45 years. The key conclusion that could be drawn from the findings is that majority of the individuals within the middle

management category are at least from the age of 26 years and up to 45 years. This is in line with the age range representations of the participants. The gradual experience that is gained by individuals as they begin working is what gets them to the category of the middle-management by the time they are within these identified age ranges. The frequency distribution of the age-ranges of the participants are presented in the Table 5.2 and Figure 5.2 below.

Table 5.2: Frequency distribution: Age of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	12	7.9	7.9	7.9
	26-35	57	37.7	37.7	45.7
	36-45	59	39.1	39.1	84.8
	46-55	20	13.2	13.2	98.0
	55 and above	3	2.0	2.0	100.0
	Total	151	100.0	100.0	

Figure 5.2: Distribution of participants by age



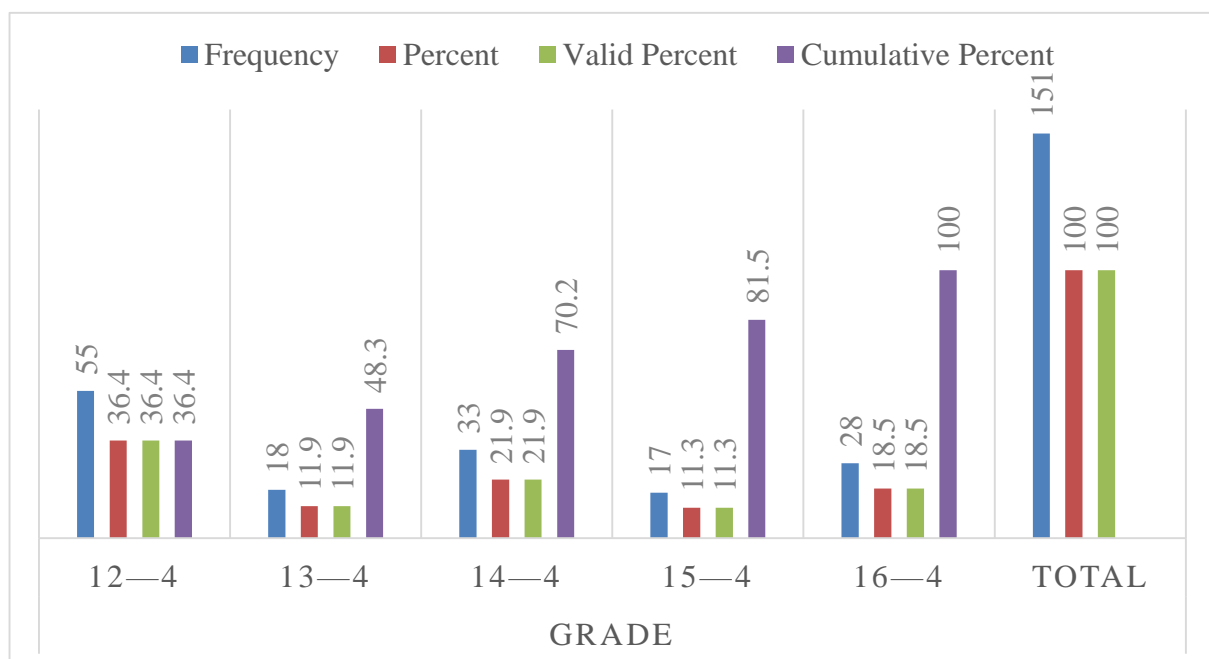
GRADE

The participants were also evaluated based on their grade level, which subsequently establishes their position within the organization. It is worth noting that managers are categorized based on the career bands and grades that help define their seniority within the organizational environment. Moreover, the grade level of the managers helps in identifying their general profile in terms of their responsibilities as well as the career levels, and their disciplines within the organization as middle managers. In this research, as can be seen from Table 5.3 and Figure 5.3 below, 55 (36.4%) of managers are at grade 12-4, 33 (21.9%) are at grade 14-4, 28 (18.5%) are at grade 16-4, 18 (11.9%) are at grade 13-4, and 17 (11.3%) are at grade 15-4. In the UAE, the Dubai Government Human Resource Law No. (27) of 2006 classifies middle managers as professionals on band 4 and grades 12 to 16 (Dubai Government, 2007). Hence, the demographic profile of the participants agrees with the classification by the Dubai Government Human Resource Law of 2006 on the classification of middle managers. What can be noted from the jobs' category reported here is that *the* majority of the middle managers are still at a lower level with grade 12-4. By being at this level, most of these managers are charged with different responsibilities including the managing professional employees, are accountable for the performance and results of the specific teams that they work with, help in addressing departmental challenges, and also provide the necessary technical guidance to employees. However, there are those at the highest level at grade 15 and 16. Hence, they have a closer interaction with employees in their daily tasks at the organization. The results are as demonstrated in the Table 5.3 below to show the distribution of the grade level among the participants.

Table 5.3: Frequency distribution: Grade level of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Grade	12—4	55	36.4	36.4	36.4
	13—4	18	11.9	11.9	48.3
	14—4	33	21.9	21.9	70.2
	15—4	17	11.3	11.3	81.5
	16—4	28	18.5	18.5	100.0
	Total	151	100.0	100.0	

Figure 5.3: Distribution of Grades



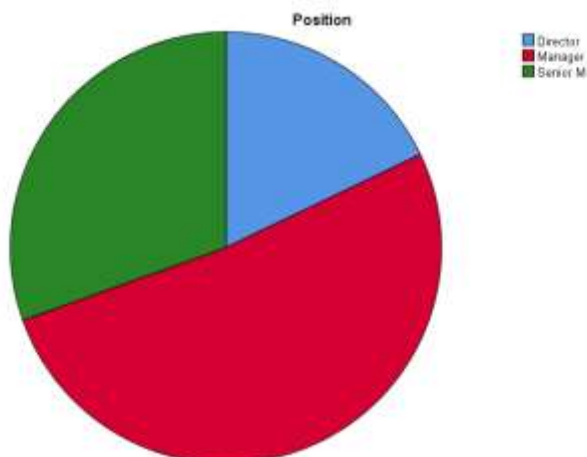
POSITION

The researcher also focused on understanding the position of the participants in their respective organizations. The identification of the position is vital in helping to explain the roles that the middle managers play in the organizational environment especially when it comes to working with the rest of the employees. In addition, it will help in identifying their seniority levels in the organization. From the results related to the position of the participants, Table 5.4 shows that 78 participants (51.7%) held the position of manager, 46 (30.5%) held the position of senior management, and 27 (17.9%) held the position of director. All the individuals included in the study were mainly at a position of responsibility in the given organizations illustrating the significant role that they play in ensuring that employees perform their designated duties in the best way possible. Generally, what can be seen from the findings is that most of the middle managers are at the management level. The frequency distribution of participants based on the positions held in the organization is as summarized in Table 5.4 and the Figure 5.4 below.

Table 5.4: Frequency distribution: Position of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director	27	17.9	17.9	17.9
	Manager	78	51.7	51.7	69.5
	Senior Manager	46	30.5	30.5	100.0
	Total	151	100.0	100.0	

Figure 5.4: Distribution of participants by position



TYPE OF BUSINESS

The participants were drawn from different types of business entities. These entities are mainly within the Dubai government sector. This would be critical in explaining the varied roles of middle managers across different government entities that operate in Dubai. Table 5.5 shows that the participants were drawn from different types of government organizations including the Department of Economic Development, Land Department, Dubai Municipality, Dubai Media Incorporated, Dubai Health Authority, Dubai Customs, Dubai Government Human Resources Department, Dubai Corporation for Ambulance Services, Department of Tourism and Commerce Marketing, and Academic and Training Institutions. Across Dubai, middle managers are spread out in different organizations based on the number of companies that were involved in the study as shown in Table 5.5 below. All these institutions provided an opportunity to learn and understand the significance of middle-managers' innovative self-efficacy and innovation. From the table, majority of the participants, 23%, were from the Department of Economic Development, and this was followed by the Dubai Corporation for Ambulance Services, Dubai Government Human Resources Department, Dubai Health Authority, Dubai Media Incorporated, Dubai Municipality, and Land Department each with 10% each, and the Department of Tourism and Commerce Marketing had an 8% representation. Other departments including Academic and Training Institutions at 5% and Dubai Customs had the least representation of 4%. Importantly, the Department of Economic Development had the greatest representation in this study. The frequency distribution of the business entities that the participants work for are as presented in the table 5.5 below.

Table 5.5: Frequency distribution: Business entities of participants

		Frequency	Percent
Valid	Academic and Training Institutions	7	5
	Department of Economic Development	35	23
	Department of Tourism and Commerce Marketing	13	8
	Dubai Corporation for Ambulance Services	15	10
	Dubai Customs	6	4
	Dubai Government Human Resources Department	15	10
	Dubai Health Authority	15	10
	Dubai Media Incorporated	15	10
	Dubai Municipality	15	10
	Land Department	15	10
	Total	151	100.0

5.2.1.1 Descriptive Statistics for Innovative Self-Efficacy

The descriptive statistics of innovative self-efficacy including the minimum, maximum, mean, standard error, and standard deviation are presented in this section. From table 5.6 below, the most important items for each of the independent variable (middle-manager's self-efficacy) are illustrated. Regarding the minimum and the maximum values for the items that explain each construct, the minimum value for the items in self-efficacy towards guiding groups is 1. More specifically, the items "If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action" and "I am able to foster co-operation in a group when the workers experience difficulties in their duties" have the minimum value of 1. The minimum value here is representative of a strong disagreement recorded for each of these items. The maximum value is 7 showing strong agreement with the aspects of the questions. Looking at self-efficacy towards influencing employees, the minimum value is 1 and the maximum value is 7. The minimum value is mainly on "If workers experience challenges in carrying out tasks, I guide them to find solutions" which shows an aspect of strong disagreement. The highest value is 7 for all the items in self-efficacy towards influencing employees. For self-efficacy

towards using innovations, the minimum value is 2 for “In general, I cope well with stress that comes with routine organizational work” and “Despite failure, I keep introducing new innovative projects” showing disagreement while the highest value is 7 for all the items of the construction illustrating strong agreement.

In regard to the mean, for self-efficacy towards guiding groups, the most important item is “If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action” with a mean of 6.20, for self-efficacy towards influencing employees, the most important item is “I am able to provide appropriate clues to workers when looking for relevant information to complete a task” with a mean of 6.06, and for self-efficacy towards using innovations, the most important item is, “I can cope well with pressure originating from innovative work changes” with a mean of 6.00. Generally, for the independent variable, middle-manager’s innovative self-efficacy, the most important item is, “I am able to help him or her on the right course of action” with a mean of 6.20. However, the least important item as reported by the samples in line with the independent variable is, “I can quickly set a worker to work who is undermining co-operation with others” with a mean of 5.77. Hence, middle-managers tend to be more focused on helping employees with the right course of action based on the independent variable and less concerned about setting the worker who is undermining cooperation with others. The help that is granted to employees in regard to the right course of action is vital in ensuring that employees are working towards the right direction in the organization. Employees always need the right direction to be successful in the realization of the goals of the organization. Therefore, middle managers in the UAE always play the central role of ensuring that employees are well-equipped to execute the tasks that they are given following the right course of action.

Middle-managers in the execution of their roles in the UAE organizations tend to be more focused on helping employees follow the right course of action. As part of their innovative self-efficacy, their role is to ensure that the organization is moving in the right direction and that employees are at the center of it. As a finding, this is a positive implication on the overall organization because there is assurance that the organization is moving to the right direction in terms of realizing its goals. Employees given proper direction are always bound to work perfectly hence signifying the critical role that middle-managers play in the UAE. This mainly applies to their self-efficacy towards guiding groups in the organization. Apart from helping employees stay in the right course of action, it was established that middle-managers apply their innovative self-efficacy in the provision of the appropriate clues to workers when looking for relevant information to complete a task. Within the organizational context, employees are always bound to face challenges in the completion of their work. Middle managers come in handy with their innovative self-efficacy in influencing employees to take the appropriate course of action hence complete their needed tasks. Again, this is a notable contribution that middle-managers make to the organization in the course of influencing employees to take the right course of action to complete organizational tasks. In regard to their self-efficacy towards using innovations in the organization, it was established that middle-managers can cope well with pressure emanating from innovative work changes. They are in a greater position to deal with any form of pressure because of their innovative self-efficacy towards using innovations in the organization. The innovative self-efficacy connected to innovations is critical in giving them a wider approach to thinking about dealing with the different problems that they face in the organization. However, as much as middle managers through their innovative self-efficacy attain these activities, they are less involved in quickly setting a work to work especially those undermining the cooperation of others. The key thing here is that with their innovative self-efficacy, middle managers always expect to work with employees who respect cooperation

with others for the delivery of organizational goals. Essentially, it can be concluded from the findings that the innovative self-efficacy of middle managers ensures that they prioritize helping workers experiencing problems in doing tasks to follow the right course of action, provide appropriate clues to workers to help them complete particular tasks, and cope well with pressure originating from innovative work changes.

The standard error is always demonstrative of the reliability of the mean (DataStar Inc, 2020). Essentially, a small standard error is a more accurate reflection of the actual population mean. The highest standard error for self-efficacy towards influencing groups is 0.087 for “When a group is disruptive, I am able to get them back to work again quickly” while the lowest is 0.079 for “I always assess well what is going on when a group works in a troublesome way”. Generally, the standard errors are lower and within the same range emphasizing the more accuracy of the means for self-efficacy towards guiding groups. Additionally, the highest standard error for self-efficacy towards influencing employees is 0.084 for “If workers experience challenges in carrying out tasks, I guide them to find solutions” and “I am able to establish if a task has suitable level of difficulty” and the lowest standard error is 0.098 for “I am able to find reasons for low motivation among workers.” Notably, the standard errors, 0.84 is representative of a more accurate mean compared to 0.098. Nevertheless, the spread is not significant emphasizing the accuracy of means for all the items of self-efficacy towards influencing employees. Lastly, for self-efficacy towards using innovations, the lowest standard error recorded was 0.086 for “I can cope well with pressure originating from innovative work changes” and the highest was 0.088 for “In general, I cope well with stress that comes with routine organizational work.” Again, the standard errors are lower and within the same range showing the accuracy of means for self-efficacy towards using innovations.

The standard deviation is always a measure of the average distance between the values of data in the set and the mean. Accordingly, a higher standard deviation is critical in illustrating the fact that the data points are more spread out while a lower standard deviation shows that the data points are close to the mean (Lakey, 2019). In the analysis of standard deviation as it emerged from the table below, from the self-efficacy towards guiding groups, the item, “When a group is disruptive, I am able to get them back to work again quickly” has a higher standard deviation of 1.067. This indicates that the middle managers in across different companies in Dubai have a larger variation when it comes to getting them back to work when a group is disruptive. This is generally illustrative of the different and diverse approaches that are undertaken by the middle managers when it comes to handling disruptive groups and getting them back to work. However, the item, “I always assess well what is going on when a group works in a troublesome way” has the lowest standard deviation of 0.966. This suggests that, middle managers across Dubai organizations deal with employee almost with similar strategies when assessing what is going on in cases where the group works in a disruptive way. This is because the responses in relation to the item were not spread out, but were closer to the mean as derived in the table below. Therefore, it can be concluded that when a group is disruptive, middle managers vary significantly in their reaction in getting them back to work, but have a closer reaction when it comes to assessing the situation on what is going on when the group works in a troublesome way.

In the evaluation of the standard deviation on self-efficacy towards influencing employees, it was established that the factor, “I am able to find reasons for low motivation among workers” had a higher standard deviation of 1.204. The meaning here is that there is a higher variation between middle managers when it comes to finding reasons for low motivation among workers. Middle managers apply significantly varied approaches in the identification of low motivation among workers. Nevertheless, when it comes to the factor, “If workers experience challenges

in carrying out tasks, I guide them to find solutions” the standard deviation is lower at 1.029. The meaning here is that the actions of middle managers in guiding workers find solutions to challenges in carrying out the tasks, are closer based on the responses. The middle managers in ensuring that the organization is working toward the set goals tend to have a little variation in finding solutions to help employees work toward the set goals of the organization. The most important thing is that there is a greater variation in the actions of middle managers in relation to finding solutions to the low motivation of employees, but their actions vary less when it comes to the issue of finding solutions when they experience challenges in the performance of their duties in the organization.

In the measurement of the standard deviation for self-efficacy towards using innovations, it was established that the factor “In general, I cope well with stress that comes with routine organizational work” had the highest standard deviation of 1.080. The meaning of the result was that when it comes to coping with the stress that comes with routine organizational workers, middle managers have widely varied approaches to this. With the challenges that they experience with the routine work environments, they have widely varied approaches to dealing with such work environments. The item that was found to have the lowest standard deviation was “I can cope well with pressure originating from innovative work changes” meaning that there is no greater variation in terms of how middle managers cope with the pressure that originates from the innovative work changes. With the significance of innovations in changing the work environment and leading to the changes in the work, middle managers tend to have almost similar approaches in coping with the pressure that comes from these innovative work changes. Overall, the approach to coping with the pressure among middle managers is of little variation among the managers who participated in the study.

Table 5.6: Descriptive statistics for innovative self-efficacy

Item	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
Self-Efficacy (SE)						
<i>Self-efficacy towards Guiding Groups (GG)</i>						
If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action	151	1	7	6.20	.080	.980
I always assess well what is going on when a group works in a troublesome way	151	2	7	6.00	.079	.966
I am able to foster co-operation in a group when the workers experience difficulties in their duties	151	1	7	5.89	.084	1.027
When a group is disruptive, I am able to get them back to work again quickly	151	2	7	5.83	.087	1.067
I can quickly set a worker to work who is undermining co-operation with others	151	3	7	5.77	.086	1.061
I am able to point out to the workers that they are responsible for positive organizational performance	151	3	7	5.97	.083	1.016
<i>Self-efficacy towards influencing Employees (IE)</i>						
I am able to find reasons for low motivation among workers	151	2	7	5.85	.098	1.204
I am able to provide appropriate clues to workers when looking for relevant information to complete a task	151	2	7	6.06	.085	1.041
If workers experience challenges in carrying out tasks, I guide them to find solutions	151	1	7	6.05	.084	1.029
I am able to establish if a task has suitable level of difficulty	151	2	7	5.97	.084	1.035
<i>Self-efficacy towards Using Innovations (UI)</i>						
In general, I cope well with stress that comes with routine organizational work	151	2	7	5.92	.088	1.080
I can cope well with pressure originating from innovative work changes	151	3	7	6.00	.086	1.058
Despite failure, I keep introducing new innovative projects	151	2	7	5.86	.087	1.071

5.2.1.2 Descriptive statistics for innovative work behavior:

From the table 5.7 below, the minimum, maximum, means, and the standard **deviation** for the dependent variables were conducted to rank the most important to the least important items as mentioned by the samples. In regard to the minimum and maximum values, the minimum value for idea generation items was 2 for “When I move to a new department with a new team, I impact positively on the team behavior and performance” representative of disagreement while the maximum value is 7 for all the items representing a very strong agreement. For idea promotion, the minimum value is 4 or all the items representing neither agree nor disagree and the maximum value is 7 for all the items illustrating very strongly agree. Lastly, for idea realization, the minimum value is 3 which illustrates disagreement and the maximum value is 7 that illustrates very strongly agree.

In interpreting the mean, the most important item in regard to idea generation is “Within my network, I normally transfer my innovative behavior to others positively” with a mean of 6.10. The most important item on idea promotion is, “I often search for the best practices and solutions” with a mean of 6.15 and for idea realization, the most important item is “I work towards making important organizational members enthusiastic about innovative ideas” with a mean of 6.07. Generally, for the dependent variable, the most important item as in the table below is “I often search for the best practices and solutions” with a mean of 6.15. However, the least important item as given by the samples was “I always rally for the approval of innovative ideas” with a mean of 5.93. Therefore, as compared to the rest of the roles, middle-managers tend to be more focused on making important organizational members enthusiastic about innovative ideas and less concerned about rallying for the approval of innovative ideas. It was also critical to establish the significant role that middle managers in the UAE play in regard to their innovative work behavior. From the findings as in table 5.7 below, it was established that middle managers in regard to idea generation frequently transfer their

innovative behavior to others positively. With their innovativeness, they also want other members in the organization to share in their innovative knowledge and hence the active role that they play in transferring their innovative knowledge. The ultimate outcome is the spread of innovative ideas across the organization. Besides sharing innovative information with the rest of the employees, it was also established that middle managers through their innovative capabilities search for the best practices and solutions when it comes to idea promotion. It can be stated that they are a massive asset to the organization especially because of the capacity to deliver best practices to solve problems facing the organization. It is their innovative solutions that organizations need for the attainment of proper outcomes and deal with the challenges that they face in the course of their operations.

More so, for idea realization in the organization, it can be emphasized from the results that middle-managers work toward making important organizational members enthusiastic about innovative ideas. Getting employees enthusiastic is a recipe for the realization of newer ideas by members in the organization. Without enthusiasm especially for the important workers in the organization, it becomes more challenging to deliver on the set goals. What can be concluded from this data as shown in the table is that middle-managers through their innovative work behavior are active when it comes to transferring their innovative behavior to others in a positive manner, search for the best practices and solutions to help the organization, and help in making important members of the organization enthusiastic about innovative ideas and this ultimately sets the organization on a strong path of innovations.

The standard error helps reflect the accuracy of the mean. For idea generation, the lowest standard error is 0.072 for “I am able to create new ideas for handling difficult issues” while the highest standard error is 0.085 for “When I move to a new department with a new team, I impact positively on the team behavior and performance.” With these outcomes, it can be noted that “I am able to create new ideas for handling difficult issues” has a more accurate mean

because of the lower standard error. In respect to idea promotion, the lowest standard error is 0.069 for, “I often search for the best practices and solutions” and the highest is 0.077 for “I often search for new working methods or instruments.” Again, “I often search for the best practices and solutions” has a more accurate mean compared to the rest of the items to measure idea promotion. More so, the lowest standard error for idea realization is 0.076 for “I work towards making important organizational members enthusiastic about innovative ideas” and the highest is 0.085 for “I always evaluate the utility of innovative ideas before implementing them.” From the outcome, the mean for “I work towards making important organizational members enthusiastic about innovative ideas” is more accurate compared to the rest of the items. Overall, the standard errors of the items across all the constructs are not very high reflecting a more accurate mean for all the items of the constructs.

In line with the standard deviation analysis of the idea generation, it was established that the item, “When I move to a new department with a new team, I impact positively on the team behavior and performance” had a higher standard deviation of 1.046. What this means is that when it comes to impacting the behavior and performance of a new team in departments, the actions that middle managers undertake are significantly different and largely spread out. Middle managers have different strategies when it comes to handling new departments. Each of them will come up with a unique strategy to deal with new teams in new departments in terms of positively impacting their behaviors and performance. However, the standard deviation for the item, “I am able to create new ideas for handling difficult issues” is the lowest here at 0.891. This means that the actions that are undertaken by middle managers when creating new ideas for handling difficult situations are closely similar. The similarity is what drives the spread of the values closer to the mean with a lower standard deviation. Hence, the key thing that could be noted in this case is that there is a significant diversity in the actions of middle managers when impacting positively on the team behavior and performance when they

move to new departments while there is only a small difference in their actions when creating new ideas for handling difficult issues in the organization.

From the outcome of the standard deviation on idea promotion, it was established that the item, “Often, I mobilize support for innovative ideas” had a higher standard deviation of 1.052. The meaning here is that when it comes to the mobilization of support for innovative ideas, middle managers have varied actions that are widely spread out. Every manager tends to take a different step in reacting to the mobilization of innovative ideas in their respective organization. The varied and widely spread out actions by middle managers is also emphatic of the point that every middle manager tends to react differently to the mobilization of innovative ideas in the organization. On the other hand, the item, “I often search for the best practices and solutions” had a lower standard deviation. The meaning of this is that when it comes to searching for best practices and solutions in the organization, middle managers always have strategies that are closely related. The overall conclusion on the standard deviation is that for the mobilization of innovative ideas, middle managers have widely varied actions, but undertake actions that are similarly related when searching for the best practices and solutions to the problems that face the organization.

Lastly, from the result on the aspect of idea realization, it was established that the item, “I always evaluate the utility of innovative ideas before implementing them” had the higher standard deviation of 1.039. The meaning here is that there is a wider spread and variability in the actions of middle managers in evaluating the utility of innovative ideas before implementing them. Middle managers have actions that are significantly different when evaluating the utility of innovative ideas before implementing them. This ensures that the innovative ideas that are adopted in the organization are always sensible because of the progress analysis that is done by middle managers in the organization. However, the item, “I work

towards making important organizational members enthusiastic about innovative ideas” had a lower standard deviation of 0.929. What can be understood from this is that the actions of middle managers in working towards making important organizational members enthusiastic about innovative ideas are closely similar. Therefore, the notable conclusion here is that middle managers have highly varied actions when it comes to evaluating the utility of innovative ideas before implementing them, but have an almost similar approach when working towards making important organizational members enthusiastic about innovative ideas.

Table 5.7: Descriptive statistics for innovative work behavior

Item	N	Mini mum	Maxi mum	Mean	Std Error	Std. Deviation
Innovative Work Behavior (IWB)						
<i>Idea Generation (IG)</i>						
When I move to a new department with a new team, I impact positively on the team behavior and performance	151	2	7	5.99	.085	1.046
Within my network, I normally transfer my innovative behavior to others positively	151	3	7	6.10	.078	.957
I am able to create new ideas for handling difficult issues.	151	3	7	6.08	.072	.891
<i>Idea Promotion (IP)</i>						
I often search for new working methods or instruments	151	4	7	6.11	.077	.946
I often search for the best practices and solutions	151	4	7	6.15	.069	.847
Often, I mobilize support for innovative ideas	151	4	7	5.97	.086	1.052
<i>Idea Realization (IR)</i>						
I always rally for the approval of innovative ideas	151	4	7	5.93	.083	1.024
I work towards making important organizational members enthusiastic about innovative ideas	151	4	7	6.07	.076	.929
I always focus on transforming innovative ideas into useful practical applications	151	3	7	6.00	.081	.993

I often introduce innovative ideas into the work environment in a systematic way	151	3	7	5.99	.078	.959
I always evaluate the utility of innovative ideas before implementing them	151	3	7	5.97	.085	1.039

5.2.2 Factor Analysis

This section presented the process and outcomes of factor analysis performed in the context of this study to develop a reliable regression model addressing key hypotheses and questions of the research. The objective of factor analysis methodology application was related to a reduction in a large number of study variables into a fewer number of the factors that could be applied in the context of regression analysis. This methodology served for the assessment of the maximum common variance level and the definition of the optimal combination of the variables that should be applied in order to describe each of the regression model factors (Howard 2015). The objective of the researcher using a factor analysis instrument was to define internal interdependency between the factors of the study and to integrate a large number of factors into a smaller set of dependent and independent parameters applied in the regression analysis.

5.2.3 Factor Analysis types

In the context of factor analysis objectives realization, different types of analysis could be performed. Two key types of factor analysis methods are applied in modern research: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The objective of the EFA research is that the researcher tries to identify complex interrelationships between the factors included in the study (Maskey, Fei, & Nguyen 2018). The outcomes of the EFA could be applied to determine the factor structure of the measures used in the regression analysis procedure. Such a method of factor analysis is sensible for practical application in case the

researcher has no reliable hypotheses concerning the structure of each end variable in the study, and the factors should be grouped in the context of the factor analysis procedure (Wright 2017). In the context of the EFA method application, the researcher applied three key steps, including the definition of the number of factors applied in terms of each specific variable of the study, the selection of the extraction method, and the choice of the rotation method for the study. Furthermore, it is imperative to consider specific tools applied in each of the stated phases of the EFA procedure.

In the phase of the definition of the final number of the factors included in the study, the researcher applied principal component analysis based on the assessment of the eigenvalues parameter. The level of variance for each underlying factor in the study and the impact of specific factors for end variables of the future regression model were assessed in this stage. As a result of the definition of the end number of the factors included in the study, the factor extraction procedure took place. In this context, the objectives of the researcher were to assess the level of loading for each specific factor describing the end variables of the model and to define whether specific factors should be included or excluded from the model.

For the aims of factor extraction in the context of the EFA approach utilization, five key methods should be considered. The following methods were applied: principal component analysis; maximum likelihood analysis; alpha factoring; image factoring and principal axis factoring. The idea of the principal component analysis is to define the factor with the highest variance and to structure the list of factors according to the criterion of the variance level reduction (Jolliffe & Cadima 2016). In this way, an eigenvalues parameter was assessed, demonstrating the contribution of each specific parameter to the final scheme of variables in the study. However, it should be noted that common factor analysis is an approach to factor extraction that puts a common variance level into the factors under analysis (Winter & Dodou 2015). From this perspective, the unique variance level for each specific parameter was not

assessed.

The image factoring method of factor extraction was based on the assessment of basic correlation among factors. The maximum likelihood method was based on the application of the correlation matrix assessment outcomes to estimate the maximum likelihood of variance among factors. According to the results of the discussion of the main methods of factor extraction, it was found that the principal component analysis is one of the most reliable and persuasive methods of factor analysis, especially in the conditions when the researcher does not obtain a reliable set of the hypotheses describing the relationship among the study variables. The final phase of the EFA procedure included the rotation of factors, which is aimed at maximizing high loading and minimizing low loadings for the specific parameters to achieve the simplest structure of variables definition. Different methods of rotation were applied to deliver a reliable model of factors for each variable, including the assessment of correlation between factors and loadings of each factor for the end study variables.

The following category of factor analysis methods included confirmatory factor analysis (CFA). The main difference between the EFA and the CFA approaches is that a CFA method could be effectively applied in the conditions when the researcher obtains a clear vision of the relationship between factors and key variables of the study, whereas the factor analysis procedure is applied solely to check the reliability of such a vision. A hypothesized measurement model is developed, and the CFA method is applied to check the level of fitness of actual data on the study factors to the character of the model (Willmer, Jacobson, & Lindberg 2019). Furthermore, the application of the CFA methodology is justified in the conditions when the researcher has reliable knowledge of the format of the relationship between study factors and variables supported with the existing theory and findings of previous studies.

One of the main limitations of the CFA methodology for factor analysis is that the researcher bases his/her analysis procedure on the predefined set of hypotheses and constraints, applying

the analysis instruments solely to assess the relevance of the proposed model. The outcomes of the CFA procedure could contribute to the assessment of the specific model's relevance and reliability in the context of the selected data and factors analysis. Therefore, it is evident that the CFA method could not contribute to the generation of new knowledge of the factors of the study due to low opportunities for new hypotheses development.

From this perspective, for the aims of the following study, the researcher mainly focused only on the application of the EFA methodology. While the researcher proposed a specific theoretical framework model explaining the relationship between parameters in the study and developed a set of hypotheses describing the impact of specific factors and variables for the desired study problem, such a model could not be considered as significant and theoretically reliable. Moreover, the lack of theoretical knowledge of and strong arguments for support of this framework in previous academic papers makes it necessary to perform a detailed analysis of factors and their interconnections using the EFA methodology.

In the context of the applied methodology of the study, it is important to consider specific methods applied in all phases of the EFA. For the aims of the definition of the variance level among the factors of the survey, the Eigenvalue parameter was assessed. Moreover, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity were applied to assess the general level of the hypothetical factors model reliability. Finally, the Promax rotating model was applied to develop the final scheme of the factors and variables applied in the context of regression analysis. The following section of the study will present the results of factor analysis and the outcomes of EFA method application for the aims of regression variables definition.

5.2.4 Factor Analysis Results

For the aims of the EFA methodology realization, a set of software platforms was applied. Mainly, the researcher utilized the SPSS software platform, including the AMOS module for factor analysis. The first element of the factor analysis process that should be presented in the context of the research is the factor analysis diagram demonstrating the relationship between the key factors (questions in the survey form) and the expected variables of the regression model. The scheme of the factor analysis diagram is presented in Figure 5.5. Together with the presentation of the scheme of the factor analysis diagram, general description of the variables applied in the context of factor analysis was provided in Table 5.8. The description of the factor analysis variables correlated with the independent and dependent variables identified in the theoretical framework of the study.

Table 5.8: Construct Codes

Construct	Construct Code	Construct Number
Self-efficacy towards Guiding Groups	SETGG	1
Self-efficacy towards influencing Employees	SETIE	2
Self-efficacy towards Using Innovations	SETUI	3
Innovative Work Behaviour Idea Generation	IWBIG	4
Innovative Work Behaviour Idea Promotion	IWBIP	5
Innovative Work Behaviour Idea Realization	IWBIR	6

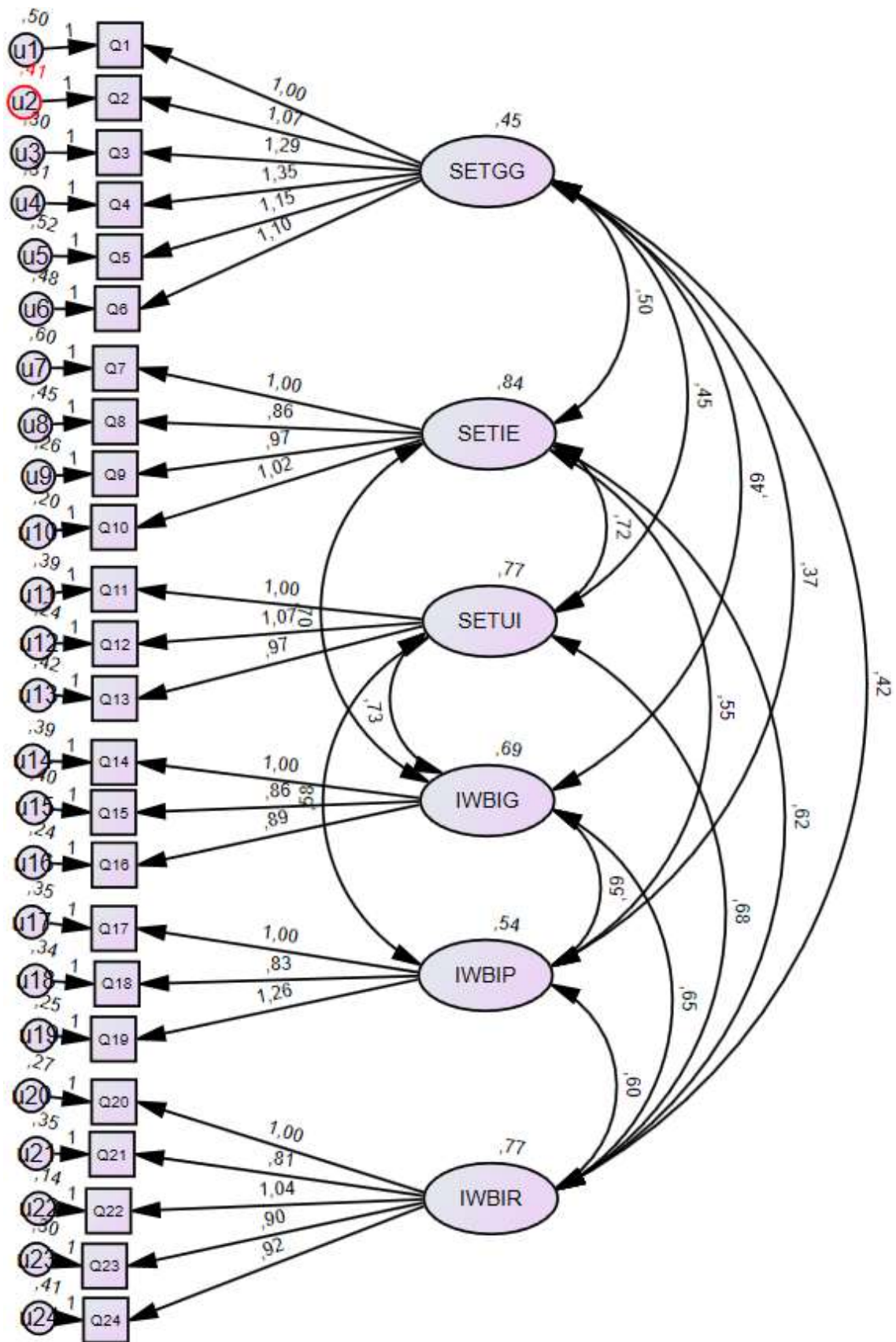


Figure 5.5: Factor Analysis Diagram

As evident from the above-presented diagram, six key variables were defined for the aims of further regression analysis. Three of these variables, including SETGG, SETIE, and SETUI, were the variables that described the independent parameter of the study – innovative self-efficacy of the middle-level managers. As for the other three variables, they were applied to describe the dependent parameters of the regression model – innovative work behaviour of the employees.

In the context of the factor analysis of the selected parameters of the survey, a value of Eigenvalues was assessed for the key parameters. The results of the Eigenvalues graph development using SPSS software were presented in Figure 5.6 and Table 5.9. Commonalities assessment should also be presented to demonstrate whether specific factors should be excluded from the final regression model for the description of the concrete parameters (see Table 5.10). The main criterion for the exclusion of the specific factors was the extraction level lower than 0.3. In the context of the given findings of the analysis, neither of the study parameters demonstrated the level of extraction ratio lower than the defined value, which argues for the relevance of all factors' inclusion into the regression model.

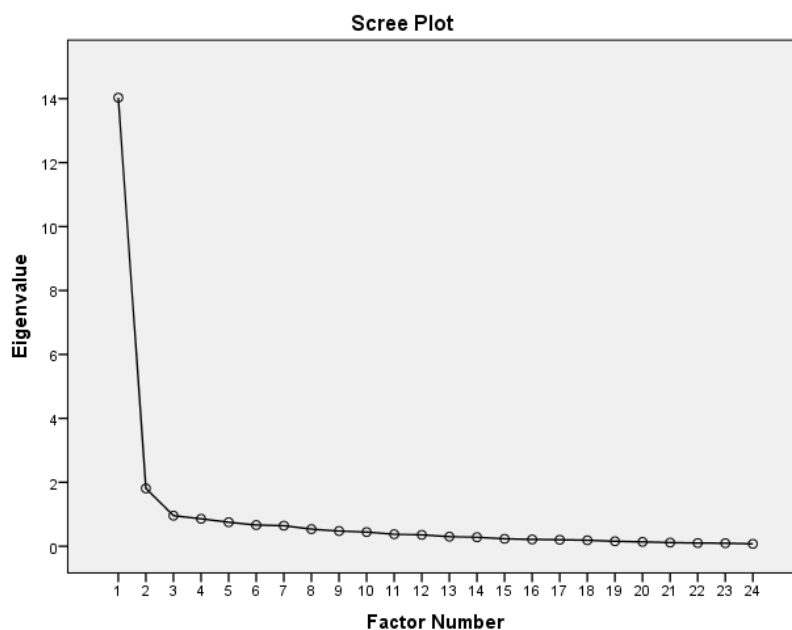


Figure 5.6: Eigenvalues Graph

Table 5.9: EFA Findings

Latent variable name	Eigenvalue extracted	Variance extracted	Factor loading	Factor code	Factor statement
Component 1: Self-efficacy towards Guiding Groups	19.072	3.413	1.00	Q 1	If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action
			1.07	Q 2	I always assess well what is going on when a group works in a troublesome way
			1.29	Q 3	I am able to foster co-operation in a group when the workers experience difficulties in their duties
			1.35	Q 4	When a group is disruptive, I am able to get them back to work again quickly
			1.15	Q 5	I can quickly set a worker to work who is undermining co-operation with others
			1.10	Q 6	I am able to point out to the workers that they are responsible for positive organizational performance
Component 2: Self-efficacy towards influencing Employees	2.101	2.845	1.00	Q 7	I am able to find reasons for low motivation among workers
			.86	Q 8	I am able to provide appropriate clues to workers when looking for relevant information to complete a task
			.97	Q 9	If workers experience challenges in carrying out tasks, I guide them to find solutions
			1.02	Q 10	
Component 3: Self-efficacy towards Using Innovations	1,033	2,427	1.00	Q 11	In general, I cope well with stress that comes with routine organizational work
			1.07	Q 12	I can cope well with pressure originating from innovative work changes
			.97	Q 13	Despite failure, I keep introducing new innovative projects
Component 4: Innovative Work	0.728	2.317	1.00	Q 14	When I move to a new department with a new team, I impact positively on the team behavior and performance

Behaviour Idea Generation			.86	Q 15	Within my network, I normally transfer my innovative behavior to others positively
			.89	Q 16	I am able to create new ideas for handling difficult issues
Component 5: Innovative Work Behaviour Idea Promotion	0.543	2.343	1.00	Q 17	I often search for new working methods or instruments
			.83	Q 18	I often search for the best practices and solutions
			1.26	Q 19	Often, I mobilize support for innovative ideas
Component 6: Innovative Work Behaviour Idea Realization	0.524	4.126	1.00	Q 20	I always rally for the approval of innovative ideas
			.81	Q 21	I work towards making important organizational members enthusiastic about innovative ideas
			1.04	Q 22	I always focus on transforming innovative ideas into useful practical applications
			.90	Q 23	I often introduce innovative ideas into the work environment in a systematic way
			.92	Q 24	I always evaluate the utility of innovative ideas before implementing them

Table 5.10: Communalities Analysis

Communalities

Question (Factor)	Initial	Extraction
Q1	1.000	.663
Q2	1.000	.647
Q3	1.000	.741
Q4	1.000	.690
Q5	1.000	.558
Q6	1.000	.610
Q7	1.000	.598
Q8	1.000	.566
Q9	1.000	.672
Q10	1.000	.713
Q11	1.000	.674
Q12	1.000	.714
Q13	1.000	.667
Q14	1.000	.689
Q15	1.000	.594
Q16	1.000	.703
Q17	1.000	.628

Q18	1.000	.520
Q19	1.000	.739
Q20	1.000	.728
Q21	1.000	.599
Q22	1.000	.787
Q23	1.000	.683
Q24	1.000	.655

Extraction Method: Principal Component Analysis.

Following step in the context of factor analysis was related to the definition of the definition of the extracted variance and eigenvalue for the key factors and parameters of the study.

Summary of the construct eigenvalue and variance assessment was presented in Table 5.11.

Table 5.11: Components Variance Extracted and Eigenvalue

Constructs	No of Items	Factor loading	Eigen-Value	% of Variance	% of Cumulative Variance
SETGG	6	1.00 1.07 1.29 1.35 1.15 1.10	19.072	79.463	79.463
SETIE	4	1.00 .86 .97 1.02	2.101	8.751	88.214
SETUI	3	1.00 1.07 .97	1.033	4.304	92.518
IWBIG	3	1.00 .86 .89	0.728	3.036	95.554
IWBIP	3	1.00 .83 1.26	0.543	2.264	97.818
IWBIR	5	1.00 .81 1.04 .90 .92	0.524	2.182	100.000

In following parameter assessed in the context of the factor, the analysis procedure was the level of correlations between separate dependent and independent parameters of the potential regression model identified based on the AMOR factor analysis model assessment. The summary of the outcomes of the analysis was presented in Table 5.12. The results of correlation analysis for the identified parameters of the study demonstrated a high level of correlation between the potential dependent and independent parameters of the study. Such a finding argued for the reliability of the proposed model's application for the aims of further regression analysis, which will include the main three constructs:

- A. (1) Guiding Groups \leftrightarrow (4) Idea Generation
- B. (2) Influencing Employees \leftrightarrow (5) Idea Promotion
- C. (3) Using Innovations \leftrightarrow (6) Idea Realization

Table 5.12: Correlations Analysis

Variable	Code		Code	Variable	Estimate
Guiding Groups	SETGG	<-->	IWBIG	Idea Generation	.870
Guiding Groups	SETGG	<-->	IWBIP	Idea Promotion	.754
Guiding Groups	SETGG	<-->	IWBIR	Idea Realization	.706
Guiding Groups	SETGG	<-->	SETIE	Influencing Employees	.807
Guiding Groups	SETGG	<-->	SETUI	Using Innovations	.763
Influencing Employees	SETIE	<-->	IWBIG	Idea Generation	.919
Influencing Employees	SETIE	<-->	IWBIP	Idea Promotion	.815
Influencing Employees	SETIE	<-->	IWBIR	Idea Realization	.776
Influencing Employees	SETIE	<-->	SETUI	Using Innovations	.891
Using Innovations	SETUI	<-->	IWBIG	Idea Generation	1.000
Using Innovations	SETUI	<-->	IWBIP	Idea Promotion	.905
Using Innovations	SETUI	<-->	IWBIR	Idea Realization	.879
Idea Generation	IWBIG	<-->	IWBIP	Idea Promotion	.963
Idea Generation	IWBIG	<-->	IWBIR	Idea Realization	.890
Idea Promotion	IWBIP	<-->	IWBIR	Idea Realization	.933

In the context of the EFA, the researcher also performed a pattern analysis to define the combination of components and the variance of the survey factors for each of them (see Table 5.13). In addition, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity were performed to assess the general reliability of the proposed factor analysis model (see Table 5.14). The findings of the performed analysis led to the conclusion concerning the sufficient level of the factor analysis model reliability and opportunities for the application of the proposed network of factors for the aims of the description of the independent and dependent variables of the study.

Table 5.13: Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.934
Bartlett's Test of Sphericity	Approx. Chi-Square
	df
	Sig.
	276
	.000

Table 5.14: Pattern Analysis

Communalities

	Initial	Extraction
Q1	1.000	.663
Q2	1.000	.647
Q3	1.000	.741
Q4	1.000	.690
Q5	1.000	.558
Q6	1.000	.610
Q7	1.000	.598
Q8	1.000	.566
Q9	1.000	.672
Q10	1.000	.713
Q11	1.000	.674
Q12	1.000	.714
Q13	1.000	.667
Q14	1.000	.689
Q15	1.000	.594
Q16	1.000	.703
Q17	1.000	.628
Q18	1.000	.520
Q19	1.000	.739
Q20	1.000	.728
Q21	1.000	.599
Q22	1.000	.787
Q23	1.000	.683
Q24	1.000	.655

Extraction Method: Principal Component Analysis

Based on the performed factor analysis, an optimal framework of the factors included for the aims of the description of the dependent and independent variables of the study was developed. In this context, the researcher utilized the methodology of means assessment for each set of factors to identify the end value of each independent and dependent variable used during the regression analysis process. The following section will present the outcomes of regression analysis and assessment of each of the earlier stated study hypotheses.

5.3 Inferential Statistics

Inferential statistics play a critical role in leading to the drawing of key conclusions about the sample based on the variables of the study. According to Sahu, et al. (2015), inferential

statistics help the researcher to come up with key conclusions about the collected data based on the relationship that exists between variables. The entire process to inferential statistics was done in a strategic and procedural manner that would ensure the data was understood. More importantly, the inferential statistics would help demonstrate if the study was meeting its established objectives as provided in the introduction. By determining whether to accept or reject a particular hypothesis, the study was anchored on effectively establishing the relationship between the independent and the dependent variables of the study. As identified in the study, the independent variable is middle managers' innovative self-efficacy and this is broken down into sub-variables including self-efficacy toward guiding groups, self-efficacy toward influencing employees, and self-efficacy towards using innovations. The dependent variable as explained before is innovative work behavior that is broken down into idea generation, idea promotion, and idea realization. The developed survey questions were developed in line with each of these themes and hence were helpful in helping determine the relationship between the independent and the dependent variables.

5.3.1 Pearson Correlation

The Pearson Correlation between the variables is as illustrated below. From the table 5.15 below, correlation is significant at 0.01 (2-tailed). In line with the correlation results, there is a positive and significant correlation between innovative self-efficacy and innovative work behavior of middle managers when different constructs are correlated. For instance, there is a positive and significant correlation between self-efficacy towards guiding groups and idea generation (.462^{**}, p=0.000). More so, there is a positive and significant correlation between self-efficacy towards influencing employees and idea promotion (.481^{**}, p=0.000) and there is also a significant and positive correlation between self-efficacy towards using innovations and idea realization (.617^{**}, p=0.00). What these correlations mean is that as the innovative self-

efficacy of middle managers increase, the innovative work behavior of managers also increases.

However, this cannot be used to conclude the existence of causation between the two variables. The critical point that was established based on the analysis of Pearson correlation is that there is a positive correlation between the middle-managers' innovative self-efficacy and the middle-managers' innovative work behavior. The key point is that the variables middle-manager innovative self-efficacy and innovative work behavior are moving to the same direction based on their correlation. However, the researcher appreciates the fact that the positive correlation does not necessarily translate to causation. The positivity is indicative of the close and significant correlation that exists between the variables developed in the introduction chapter of this study. However, the key point to note is that the independent variable and the dependent variable have a strong correlation.

Table 5.15: Pearson correlation

Correlations							
		Self-efficacy toward guiding groups	Self-efficacy toward influencing employee	Self-efficacy towards using innovation	Idea generation	Idea promotion	Idea realization
Self-efficacy toward guiding groups	Pearson Correlation	1	.439**	.373**	.462**	.373**	.366**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	151	151	151	151	151	151
Self-efficacy toward influencing employees	Pearson Correlation	.439**	1	.484**	.536**	.481**	.499**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	151	151	151	151	151	151
Self-efficacy towards	Pearson Correlation	.373**	.484**	1	.671**	.461**	.617**
	Sig. (2-tailed)	.000	.000		.000	.000	.000

using innovation	N	151	151	151	151	151	151
Idea generation	Pearson Correlation	.462**	.536**	.671**	1	.524**	.645**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	151	151	151	151	151	151
Idea promotion	Pearson Correlation	.373**	.481**	.461**	.524**	1	.454**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	151	151	151	151	151	151
Idea realization	Pearson Correlation	.366**	.499**	.617**	.645**	.454**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	151	151	151	151	151	151
**. Correlation is significant at the 0.01 level (2-tailed).							

5.3.2 Reliability Test

The reliability test was conducted to determine the internal consistency of the items as they measure the respective constructs within the study. According to Tang et.al (2014), the internal consistency is always demonstrative of whether the items on the test that are intended to produce the same score produce consistent results. The measurement of internal consistency was done using Cronbach's alpha and the focus was to ensure that the Cronbach alphas exceed the 0.70 acceptable threshold (Fornell & Larcker, 1981). For this research, the reliability analysis was conducted for each of the items of the construct (Cronbach alpha if item is deleted) and also the generalized Cronbach's alpha for all the items to determine if they consistently measure the given construct (See appendix G). Generally, it was established that all the items and generalized Cronbach alphas were greater than the 0.70 threshold hence demonstrating the internal consistency of the items in measuring the respective constructs. From table 5.15 below, the total Cronbach alpha for self-efficacy towards guiding groups is .893, the total Cronbach alpha for self-efficacy towards influencing employees is .889, the total Cronbach alpha for self-efficacy towards using innovations is 0.864, the total for idea generation is 0.838, the total for idea promotion is 0.839, and the total for idea realization is 0.918. All these values are greater

than the 0.70 threshold hence indicating greater consistency of the items in measuring each of the items. More so, the respective items have Cronbach alphas of greater than 0.70 illustrating their internal consistency. The summarized results of the reliability test, for each item as well as the total reliability, are as demonstrated in table 5.15 below.

Table 5.15: Reliability test

Variable Type	Construct	Number	Construct Code	No. of items	Items/Questions	Cronbach's Alpha	Cronbach's Alpha if Item Deleted
Independent Variable - Creative Self-Efficacy (SE)	Self-efficacy towards Guiding Groups	1	SETGG	6	Q.1: If an employee experiences difficulty in doing a task, I am able to help him or her on the right course of action	0.893	0.884
					Q.2: I always assess well what is going on when a group works in a troublesome way		0.873
					Q.3: I am able to foster co-operation in a group when the employees experience difficulties in their duties		0.859
					Q.4: When a group is disruptive, I am able to get them back to work again quickly		0.859
					Q.5: I can quickly set an employee to work who is undermining co-operation with others		0.883
					Q.6: I am able to point out to the employees that they are responsible for positive organizational performance		0.883
	Self-efficacy towards influencing Employees	2	SETIE	4	Q.7: I am able to find reasons for low motivation among employees	0.889	0.889
					Q.8: I am able to provide appropriate clues to employees when looking for relevant information to complete a task		0.872
					Q.9: If employees experience challenges in carrying out tasks, I guide them to find solutions		0.83
					Q.10: I am able to establish if a task has suitable level of difficulty		0.838
	Self-efficacy towards Using Innovations	3	SETUI	3	Q.11: In general, I cope well with stress that comes with routine organizational work	0.864	0.836
					Q.12: I can cope well with pressure originating from innovative work changes		0.733
					Q.13: Despite failure, I keep introducing new innovative projects		0.855
Dependent Variable - Innovative Work Behavior (IWB)	Innovative Work Behaviour Idea Generation	4	IWBIG	3	Q.14: When I move to a new department with a new team, I impact positively on the team behavior and performance	0.838	0.79
					Q.15: Within my network, I normally transfer my innovative behavior to others positively		0.751
					Q.16: I am able to create new ideas for handling difficult issues.		0.784
	Innovative Work Behaviour Idea Promotion	5	IWBIP	3	Q.17: I often search for new working methods or instruments	0.839	0.742
					Q.18: I often search for the best practices and solutions		0.797
					Q.19: Often, I mobilize support for innovative ideas		0.788
	Innovative work behavior Idea realization	6	IWBIR	5	Q.20: I always rally for the approval of innovative ideas	0.918	0.903
					Q.21: I work towards making important organizational members enthusiastic about innovative ideas		0.911
					Q.22: I always focus on transforming innovative ideas into useful practical applications		0.883
					Q.23: I often introduce innovative ideas into the work environment in a systematic way		0.896
					Q.24: I always evaluate the utility of innovative ideas before implementing them		0.905

5.3.3 T-test Analysis

An independent sample t-test was conducted to determine if there is a significant difference in the means of innovative work behavior between male and female middle managers. Given that the government departments in Dubai have both male and female middle managers, it was vital to establish if there is a significant difference in their innovative work behavior. Gerald (2018) opines that the independent samples t-test is used in the comparison of two groups whose means are not dependent on one another. In this study, the two groups considered are male and female middle managers in the UAE. First, group statistics were derived (See appendix H). Next, the output of the independent sample test, that is presented in this work was obtained for each of the innovative items as per the table below. At 95% confidence interval, based on the results in the table below, the p-value for Levene's tests, for each of the items measuring idea generation, idea promotion, and idea realization are greater than 0.05 ($p > 0.05$). For instance, the p-value of Levene's test for "When I move to a new department with a new team, I impact positively on the team behavior and performance" is 0.148, which is greater than 0.05. With the greater p-values, equal variances assumed were used to test the difference in the means for innovative behavior between males and females (Ken State University, 2020). Again, all the p-values for equal variances assumed were found to be greater than 0.05 ($p < 0.05$). What could be concluded here is that there is no significant difference in the mean innovative work behavior between male and female middle managers in the Dubai government departments.

Table 16: Independent sample Levene's test for equality of variances

Independent Samples Test								
	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference

									Low er	Upper
Q1 4	Equal variances assumed	2.112	.148	.541	14 9	.589	.097	.179	-.258	.452
	Equal variances not assumed			.583	12 7.0 55	.561	.097	.167	-.232	.427
Q1 5	Equal variances assumed	.536	.465	-.864	14 9	.389	-.142	.164	-.466	.182
	Equal variances not assumed			-.905	11 8.0 60	.367	-.142	.157	-.452	.168
Q1 6	Equal variances assumed	.034	.855	1.180	14 9	.240	.180	.152	-.121	.481
	Equal variances not assumed			1.144	95. 01 1	.256	.180	.157	-.132	.492
Q1 7	Equal variances assumed	3.384	.068	.453	14 9	.651	.074	.162	-.247	.395
	Equal variances not assumed			.476	11 8.9 69	.635	.074	.155	-.233	.380
Q1 8	Equal variances assumed	2.517	.115	.792	14 9	.430	.115	.145	-.172	.402
	Equal variances not assumed			.797	10 5.5 63	.427	.115	.144	-.171	.401
Q1 9	Equal variances assumed	.879	.350	.915	14 9	.362	.165	.180	-.191	.521
	Equal variances not assumed			.933	10 9.3 89	.353	.165	.177	-.186	.515
Q2 0	Equal variances assumed	3.567	.061	1.266	14 9	.207	.222	.175	-.124	.568
	Equal variances not assumed			1.318	11 5.9 60	.190	.222	.168	-.111	.555
Q2 1	Equal variances assumed	.023	.881	1.754	14 9	.082	.277	.158	-.035	.589

	Equal variances not assumed			1.754	10 3.8 57	.082	.277	.158	-.036	.590
Q2 2	Equal variances assumed	.241	.624	1.736	14 9	.085	.293	.169	-.041	.627
	Equal variances not assumed			1.749	10 5.9 84	.083	.293	.168	-.039	.626
Q2 3	Equal variances assumed	.127	.722	1.309	14 9	.193	.214	.164	-.109	.538
	Equal variances not assumed			1.282	98. 02 7	.203	.214	.167	-.117	.546
Q2 4	Equal variances assumed	.149	.700	.267	14 9	.790	.048	.178	-.305	.400
	Equal variances not assumed			.270	10 7.0 29	.788	.048	.177	-.302	.397

5.3.4 Regression Analysis

The regression analysis is a critical element of the inferential statistics. Montgomery, et al. (2013) reveal that regression analysis is a critical tool that helps establish the relationship between the independent and the dependent variable. This study entailed the application of ordinal least squares (OLS) regression with the aim of establishing the relationship between middle-managers' innovative self-efficacy and innovative work behavior. With the OLS regression, it is easier to understand the link that exists between the independent and the dependent variable in the study (Fox, 2015). Given that there were multiple items for both the independent and the dependent variables, OLS was more appropriate for the determination of the relationship with the inclusion of all the items into the model.

At this point, the results are also linked back to the research objectives and questions that were developed at the beginning of this study. In this case, the focus is to make sure that the study is explicated in line with its capacity to meet the objectives that were set out at the beginning of the study. The OLS regression in this study was done for each hypothesis that were developed earlier in this study in chapter 3.

H1: Innovative self-efficacy towards Guiding Groups has a positive relationship with innovative work behavior.

In order to test hypothesis 1, the following OLS regression model will be estimated.

Regression 1 (y = Construct 4 scores, x = Construct 1 scores)

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$$

where y_i is the dependent variable Innovative Work Behaviour Idea Generation (IWBIG) which is explained by (1) x_i , is the independent (explanatory) variable, Self-efficacy towards Guiding Groups (SETGG) , and (2) ε_i random error term. β_0 and β_1 are the parameters (coefficients) of the regression model, the intercept term and the slope parameter, respectively.

Table 5.17 shows the result of the regression 1 (Model 1). This model examines the hypothesized relationship (positive) between innovative self-efficacy towards guiding groups (SETGG) and innovative work behaviour idea generation (IWBIG). As can be seen from Table 5.17, the overall model is statistically significant (F -statistic = 314.1481, p -value = 0.0000) and the proportion of variance (R-squared) for the dependent variable that is explained by the independent variable (SETGG) is 0.586. As expected, the coefficient on SETGG is positive and statistically significant at less than 15 level (p -value < 0.0001). Therefore, the null hypothesis is rejected and the alternative hypothesis is supported. This suggests that the innovative self-efficacy towards guiding groups has a positive relationship with innovative work behavior.

Table 5.17: Innovative self-efficacy idea generation towards guiding groups

Model 1: OLS, using observations 1-151					
Dependent variable: IWBIG					
Heteroskedasticity-robust standard errors, variant HC1					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Constant	0.00000	0.0525323	-2.454e-015	1.0000	
SETGG	0.765553	0.0431925	17.72	<0.0001	***
Mean dependent var	0.000000		S.D. dependent var	1.000000	
Sum squared resid	62.08921		S.E. of regression	0.645528	
R-squared	0.586072		Adjusted R-squared	0.583294	
F(1, 149)	314.1481		P-value(F)	1.60e-38	
Log-likelihood	-147.1623		Akaike criterion	298.3246	
Schwarz criterion	304.3591		Hannan-Quinn	300.7761	

Notes: *** indicates significance at $P < 0.001$. Regression is based on factor scores. IWBIG is Innovative Work Behaviour Idea Generation (dependent variable). SETGG is Self-efficacy towards Guiding Groups (explanatory variable).

Innovative self-efficacy in guiding groups is basically about the capacity to work with a team of employees. It is worth noting that within the different UAE organizations where managers in this study were drawn from, there are employee groups made up of different ages and genders. This means that middle managers always have the role of ensuring that they effectively manage the different groups of employees as an exhibition of their innovative self-

efficacy and working within the organizational environment. The capacity to guide groups by a middle manager depends on their innovative self-efficacy that ultimately results in their innovative work behavior within the organization. When it comes to the aspects of guiding groups, middle managers exhibit their innovative self-efficacy in different ways. The first notable way that helps measure the innovative self-efficacy of middle managers in guiding groups as was established is that they are always able to help workers with the right course of action in cases where the worker has trouble in doing a task. As they deal with different employees in the organizational groups, they have to continuously identify employees who need assistance with the challenges that they face in their work. The second notable way that middle managers demonstrate their innovative self-efficacy towards groups is when they have the capacity to effectively assess what is going on when the group is working in a troublesome way. The point in this case is that they are always there to stand in the gap and ensure that all the major problems that the group is facing are either alleviated or completely eliminated. The third point that shows the demonstration of self-efficacy towards guiding groups by middle managers is their capacity to foster cooperation in a group in cases where workers experience difficulties in delivering on their duties. With a group, there are always bound to be differences among people because of their varied personalities and capabilities. Hence, the middle manager must always exhibit innovative self-efficacy by having the capacity to foster cooperation among all members regardless of their differences.

The fourth point that helps reveal the innovative self-efficacy of the middle manager is the capacity to get a disruptive group back to work quickly. Again, disruptions are unavoidable in a group setting and as shown by the participants, they are always needed to immediately ensure that the disruptions are overcome and that the group is working seamlessly regardless of the challenges. The fifth point as per the results is that middle managers show their innovative self-efficacy by quickly setting a worker that is undermining cooperation with others in the group.

Every worker is always expected to remain cooperative within the workings of the group. However, those who emerge with differences especially those affecting cooperation always have to be brought to work in an effective manner. The middle managers exhibit their innovative self-efficacy by quickly fixing issues related to uncooperative employees. The last notable aspect is the one related to the capacity of middle managers to point out to the workers that they are responsible for positive organizational performance. In this case, middle managers make groups realize their own contribution to the company and hence become more responsible for their own actions in the organizations. The point here is that middle managers are more efficacious when they make employees within organizational groups to realize the value of quality performance and continuously apply it to the benefit of the organization in both the short-term and the long-term.

The research objective that relates to this hypothesis was the second research objective which focused on establishing the relationship between innovative self-efficacy in guiding groups and innovative work behavior. This objective was met by drawing a relationship between the innovative self-efficacy of middle managers and their innovative work behavior in the organization. For instance, the greatest item that was considered regarding the innovative behavior of middle-level managers was their capacity to transfer their innovative behavior to others positively within their network. Hence, this objective was attained by developing a clear link between innovative self-efficacy towards groups and the innovative work behavior of middle-level managers in Dubai organizations. Other innovative work behavior attributes that were linked to the innovative self-efficacy of middle managers towards groups was the capacity to impact positively on a new team in terms of behavior and performance in a new department and the capacity to create ideas for handling difficult issues in the organization. Every department with a team of employees requires the input of new ideas, and the capacity of middle managers to bring new ideas to handle difficult tasks by these managers reflects the

innovative capabilities that they bring to the organization. More so, through the link between the innovative self-efficacy of middle managers and their innovative work behavior, they always have the capacity to positively impact the new teams that they work with in terms of behavior and performance. Given every opportunity, middle managers always need to show their capacity to work effectively with innovative capabilities related to better ways of encouraging employees to perform in a better way. When they get the best out of employees, they exhibit their own great extent of innovative self-efficacy and innovativeness.

To summarize the results, it is worth noting that innovative self-efficacy towards groups has a positive relationship with the innovative work behavior of middle-managers in Dubai organizations. The regression results as presented in the table below are critical in illustrating the positive relationship that exists between these two variables. Thus, with a greater level of innovative self-efficacy among middle managers, the greater the innovative work behavior within the organizational environment in the Dubai.

This hypothesis supports the theory of planned behavior (TPB), and is in line with the social cognitive theory regarding the belief of managers on their creativity.

H2: Innovative self-efficacy towards influencing employees has a positive relationship with innovative work behavior.

In order to test hypothesis 2, the following OLS regression model will be estimated.

Regression 2 (y = Construct 5 scores , x = Construct 2 scores)

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$$

Where: y_i is the dependent variable Innovative Work Behaviour Idea Promotion (IWBIP) which is explained by (1) x_i , is the independent (explanatory) variable, Self-efficacy towards influencing Employees (SETIE), and (2) ε_i random error term. β_0 and β_1 are the parameters (coefficients) of the regression model, the intercept term, and the slope parameter, respectively.

Table 5.15 presents the result of regression 2 (Model 2), which examines if there is a positive relationship between innovative self-efficacy toward influencing employees and innovative work behavior. As shown in Table 5.18, the overall model is statically significant (F -statistic= 150.7195, p -value = 0.0000). The R-squared is 0.499117 indicating that the proportion of variance for the dependent variable (IWBIP) that is explained by the independent variable (SETIE) in the regression model is 49.9%. As hypothesized, the coefficient on SETIE is positive and statistically different from zero (p -value<0.0001). Thus, the null hypothesis is rejected and the alternative hypothesis is supported. Therefore, it can be concluded that innovative self-efficacy towards influencing employees has a positive relationship with innovative work behavior.

Table 5.18: Innovative self-efficacy idea promotion towards influencing employees

Model 2: OLS, using observations 1-151					
Dependent variable: IWBIP					
Heteroskedasticity-robust standard errors, variant HC1					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Constant	0.00000	0.0577873	1.141e-015	1.0000	
SETIE	0.706482	0.0575461	12.28	<0.0001	***
Mean dependent var	0.000000		S.D. dependent var	1.000000	
Sum squared resid	75.13251		S.E. of regression	0.710102	
R-squared	0.499117		Adjusted R-squared	0.495755	
F(1, 149)	150.7195		P-value(F)	2.23e-24	
Log-likelihood	-161.5587		Akaike criterion	327.1174	
Schwarz criterion	333.1520		Hannan-Quinn	329.5690	

Notes: *** indicates significance at $P < 0.001$. Regression is based on factor scores. IWBIP is Innovative Work Behaviour Idea Promotion (dependent variable). SETIE is Self-efficacy towards Influencing Employees (explanatory variable).

Innovative self-efficacy towards influencing employees is concerned with the capacity of the middle manager to impact the behavior of individual employees within the organization. Innovative self-efficacy towards influencing employees is manifested in different ways by middle-level managers in the different organizations in the Dubai. The first way that demonstrates middle-manager's innovative self-efficacy towards influencing employees is the capacity to find the reasons for low motivation among employees. There are some employees

who experience low rates of motivation while undertaking their tasks. That is, they have minimal desire to become engaged in their work a factor that causes them to move slowly in their work and thus makes it difficult for them to meet their deadlines as well as meet the set organizational goals. Each employee is driven by a different level of motivation and it is critical that the extent of the motivation is established. Middle-level managers always exhibit their innovative self-efficacy by identifying the reasons for low motivation and subsequently helping address these reasons. It is important that the reasons for low motivation are identified so that improvements are made to get employees working toward the delivery of the needed goals in the organization. The second factor that helps emphasize the innovative self-efficacy of middle-level managers towards influencing employees is their capacity to provide appropriate clues to workers when looking for relevant information to complete a task. With middle-level managers directly involved with employees, it is always vital that they simplify the working of individual employees by providing the needed clues for the needed information to help them complete organizational tasks. Middle-managers make it easier for the employees they are managing to be successful in the delivery of their respective duties by closely supporting them by giving relevant clues to help them work in a better way. This also works to the benefit of the entire organization as employees are the backbone of greater performance in the organization. The evidence is in the organizations represented in this research including Dubai Municipality, Dubai Incorporated Media, Academic and Training Institutions, Department of Economic Development, Department of Tourism and Commerce Market, Dubai Customs, Dubai Government Human Resources Department, Dubai Health Authority, Dubai Media Incorporated, Land Department, and Dubai Corporation for Ambulance Services. The third way in which middle-level managers show their innovative self-efficacy in the context of the organization is to help workers find solutions in cases where they are experiencing challenges in their work. Challenges are inevitable especially because of the complexity of the work that

employees are supposed to undertake in the organization. Hence, the with innovative self-efficacy towards influencing employees, middle managers play a critical role by stepping in and ensuring that the needed solutions are found. As per the findings, the last notable illustration of self-efficacy towards influencing employees is the capacity of middle managers to establish if a task has a suitable level of difficult. This mainly exists based on their analysis of the task and how the task can be done. With the determination of the suitable level of difficult, there is always an opportunity to react by ultimately simplifying the work. In all these tasks, middle managers tend to stand out more in the provision of appropriate clues to workers when looking for the relevant information to complete a task.

In responding to the objectives and the research questions that were developed in the introduction chapter, this finding effectively addresses the third objective and research question, which was to explain the relationship between innovative self-efficacy towards influencing employees and innovative work behavior. This objective was attained by linking the factors of innovative self-efficacy toward influencing employees to innovative work behavior factors such as idea promotion. Accordingly, when working towards influencing employees in the organization, middle managers show their innovative self-efficacy by being innovative in different ways. First, the innovative work behavior is seen when it comes to searching for new methods or instruments of working. The best way to get employees achieving their set goals in the organization is to use new methods that will make work more efficient. The impact of innovative self-efficacy towards influencing employees leads to subsequent innovativeness in the identification of new methods or instruments for task performance. That is, employees that are innovative can find new ways of carrying out their task in ways that are more than the usual set practices. These are the employees that are constantly trying to find new ways of carrying out their tasks so that they achieve the best results possible.

Second, with the innovative work behavior especially on idea generation to help employees, middle managers search for the best practices and solutions. Having the best practices and solutions to problems in the organization ensures that everything is streamlined and that goals are being realized as desired. Work that is done following the best practices is always bound to demonstrate the highest standards. Thus, innovative self-efficacy towards influencing employees positively impacts aspects such as the search for best practices and solutions to the problems that employees face at their work areas. Lastly, middle managers through their innovative self-efficacy in influencing employees positively help in the mobilization of innovative ideas. The organization is always in need of new perspectives and innovative ideas to promote the performance of tasks by employees. With the innovative self-efficacy to influence employees, middle managers always mobilize support for such innovative ideas hence simplifying the performance and delivery of tasks. Most importantly, they ensure that workers are empowered by searching for new instruments or methods of work in the organization.

To summarize the results, it is worth noting the fact that the innovative self-efficacy of middle managers in influencing employees is significantly and positively related to their innovative work behavior. This is then something that these middle managers work to pass on to the employees that they are tasked with managing. The initiatives as explained above are to ensure that employees are performing at the best level are a demonstration of the positive relationship. This in turn has a positive impact on their productivity and therefore the organizational performance. Therefore, it is worth emphasizing that innovative self-efficacy towards influencing employees is a predictor of the innovative work behavior of middle managers in different organizations in the UAE government. This is something that the government needs to remain sufficiently aware of and take up steps to promote. This is even more so essential

that the UAE government is working towards emerging as a leading economy in the world. That is, the country is working on transforming itself away from its emerging economy status and instead emerge as among the leading economies of the world.

This hypothesis supports the theory of planned behavior (TPB), and is in line with the social cognitive theory regarding the belief of managers on their creativity.

H3: Innovative self-efficacy towards using Innovations has a positive relationship with innovative work behavior

In order to test hypothesis 3, the following OLS regression will be estimated.

Regression 3 (y = Construct 6 scores, x = Construct 3 scores)

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$$

where y_i is the dependent variable Innovative Work Behaviour Idea Realization (IWBIR) which is explained by (1) x_i , is the independent (explanatory) variable, Self-efficacy towards Using Innovations (SETUI), and (2) ε_i random error term. β_0 and β_1 are the parameters (coefficients) of the regression model, the intercept term, and the slope parameter, respectively. Table 5.19 shows the result of regression 3 (Model 3), which examines if there is a positive relationship between innovative self-efficacy toward influencing innovations and the innovative work behavior. As can be seen from Table 5.19 below, the value of F -statistic is 291.7910 with p -value of 0.0000, suggesting that the overall model is statistically significant. The R-squared is 0.631420 indicating that 63.1% of the variation in the dependent variable can be explained by the independent variable, which shows a good fit regression model. As expected, the coefficient on SETUI is positive and statistically significant at less than 1% level (p -value<0.000). Thus, the null hypothesis is rejected and the alternative hypothesis is supported. Hence, the conclusion that can be drawn here is that innovative self-efficacy towards influencing innovations has a positive relationship with innovative work behavior.

Table 5.19: Innovative self-efficacy towards using innovations

Model 3: OLS, using observations 1-151					
Dependent variable: IWBIR					
Heteroskedasticity-robust standard errors, variant HC1					
	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Constant	0.00000	0.0495712	-6.756e-016	1.0000	
SETUI	0.794620	0.0465183	17.08	<0.0001	***
Mean dependent var	0.000000		S.D. dependent var	1.000000	
Sum squared resid	55.28693		S.E. of regression	0.609141	
R-squared	0.631420		Adjusted R-squared	0.628947	
F(1, 149)	291.7910		P-value(F)	6.45e-37	
Log-likelihood	-138.4016		Akaike criterion	280.8032	
Schwarz criterion	286.8378		Hannan-Quinn	283.2547	

Notes: *** indicates significance at $P < 0.001$. Regression is based on factor scores. IWBIP is Innovative Work Behaviour Idea Realization (dependent variable). SETUI is Self-efficacy towards Using Innovation (independent variable).

Innovative self-efficacy towards influencing innovations is about the capacity of middle managers to come up with new ways of working in the organization. It is reflective of the input that they have in shaping new ways of working in the organization through new ideas. As established in the study, several actions explain the middle managers' innovative self-efficacy towards using innovations. First, middle managers demonstrate their self-efficacy towards using innovations by being able to cope well with the stress that emanates from the routine organizational work. Work tends to come up with a particular routine of action and innovative thinking is always required to get the best out of it. By being able to cope with the pressure of routine work schedules, middle managers demonstrate their resilience within the organization and the strength to stand out of the daily tasks. The second action that emphasizes the middle manager's self-efficacy towards using innovations is the capacity to cope well with the pressure emanating from innovative work changes. With innovations, new ideas of working are always put up and it is always critical that middle managers effectively respond to these ideas. The capacity to cope with the new pressure originating from the innovative work changes is a demonstration of their innovative self-efficacy. The last activity that is emphatic of the innovative self-efficacy of middle managers in the Dubai organizations is that they keep

introducing new ideas despite the failure that they experience. The organizational work environment is always set up in such a way that failure is inevitable. However, the capacity to overcome failure and still introduce new innovative work behavior is a demonstrates the innovative self-efficacy of middle managers in getting their organizations working well toward the attainment of the set goals.

In relation to the objectives and research questions, this finding helps address the fourth objective and research question respectively. Here, the researcher focused on establishing the relationship between innovative self-efficacy towards using innovations and the innovative work behavior of middle managers. The innovative self-efficacy of middle managers towards using innovations was related to the different aspects of innovative behavior of middle managers in the organization. This is especially with the capacity of ideal realization. Hence, with the use of innovations, middle managers have the capacity to rally for the approval of innovative ideas within their respective organizations. Because of the understanding of such innovations and the advantages that they bring to the organization, middle managers can shape the approval of such ideas in their given organizations. More so, with their innovative self-efficacy in using innovations, it was established that middle managers work towards making important organizational members enthusiastic about innovative ideas. Employees are the center of better performance of tasks in the organization. As such, a middle manager helps spread innovative ideas by having these employees involved in defining innovative ideas in the organization.

Additionally, with the innovative self-efficacy towards using innovations, it was established that middle managers play a critical role in the introduction of new innovative ideas into the work environment in a systematic way. With the changes in work and organizational demands, it is always critical that new ideas are brought up to help the organization realize its goals. Middle managers are always at the center of the introduction of new ideas in the organization

and this only demonstrates their unique innovative behaviors in the organization. The last critical illustrator of the linkage between the innovative self-efficacy towards using innovations and innovative work behavior is the capacity of middle managers to implement innovative ideas before implementing them. In this case, middle managers evaluate the feasibility of innovative ideas in terms of helping the organization attain its work and simplify the work processes. The evaluation of innovations is a demonstrator of the strength that the middle managers have in terms of shaping the entire process of operations in the organizational environment. Therefore, the sum of all these activities constitutes the innovative self-efficacy on using innovations and the influence that it has on their innovative work behavior.

To summarize the results, it was found that the innovative self-efficacy of middle managers to use innovations has a positive relationship with their innovative work behaviors. Middle managers become the center of innovative actions in the organizations. Hence, the innovative self-efficacy of middle managers to use innovations is a predictor of their innovative work behavior in the organization.

This hypothesis supports the theory of planned behavior (TPB), and is in line with the social cognitive theory regarding the belief of managers on their creativity, and finally it supports the open innovation model by showing how middle managers allow for purposive inflows and outflows of knowledge.

5.4 Summary of Hypotheses

Table 5.20 below is illustrative of whether the hypotheses were supported or not supported based on the results of this study. As shown in the table 5.20 below, four key hypotheses were developed. The hypotheses were tested using OLS regression analysis as in the previous section above. Based on the table below, all the hypotheses as developed in the study were supported. For this study, the significant value was 0.001, and given that the outcomes of all regression

analyses were 0.0001, which are below the significance value ($p < .001$), all the hypotheses were supported. In summary, based on the acceptance of all hypotheses in the study, it was concluded that; 1. There is a positive relationship between innovative self-efficacy and innovative work behavior, 2. Innovative self-efficacy toward guiding groups has a positive relationship with innovative work behavior, 3. Innovative self-efficacy towards influencing employees has a positive relationship with innovative work behavior. Innovative self-efficacy towards using innovations has a positive relationship with innovative work behavior. Essentially, the hypotheses are critical in the confirmation of the fact that the innovative self-efficacy of middle managers in different Dubai organizations impacts their innovative work behavior. With greater innovative self-efficacy, there is a greater level of innovative work behavior among middle managers in Dubai. Therefore, the results set the opportunity for the realization of chances of innovative self-efficacy, which leads to the ultimate attainment of greater innovations among these middle managers in the future during their operations in the organization. This is as presented in table 5.20 below.

Table 5.20: Summary of hypotheses

Hypothesis	Supported/Not Supported
H1: Innovative self-efficacy towards Guiding Groups has a positive relationship with innovative work behavior	Supported
H2: Innovative self-efficacy towards Influencing Employees has a positive relationship with innovative work behavior	Supported
H3: Innovative self-efficacy towards using Innovations has a positive relationship with innovative work behavior	Supported

5.5 Summary

This chapter entailed the presentation of the findings of the study. Accordingly, data was analyzed using SPSS and the analysis of the hypotheses was done using OLS regression. The first part of the data presentation involves the presentation of demographic statistics including age, sex, organizational position, the organization that the participants work and their grade

level in terms of managerial positions in the organization. It was established that there are more males in the management positions as compared to females across the different organizations. Additionally, the grade level of management across most of the organizations is 12-4 meaning that majority of the middle managers are still at the lower band in terms of managerial positions within the organization. In the Pearson regression, it was established that the variables have a positive and significant correlation. Therefore, as innovative self-efficacy of middle managers increases, there is also an increase in the innovative work behaviors. All the hypotheses that were developed in the study were supported after conducting the regression analysis. With the confirmation, it could be concluded that there is a positive relationship between the middle manager's self-efficacy and innovations, there is a positive relationship between innovative self-efficacy in guiding groups and innovative work behavior, there is a positive relationship between innovative self-efficacy towards influencing employees and innovative work behavior, and that there is a significant and positive relationship between innovative self-efficacy towards using innovations and the innovative work behavior of middle managers. Overall, middle managers in the UAE organizations have a higher level of innovative self-efficacy which consequently translates to their high innovation levels in the organization.

CHAPTER SIX: DISCUSSION OF THE FINDINGS

6.1 Introduction

This chapter discusses and analyses the findings presented in chapter five. The chapter entails an in-depth explication of all the results of the study linking them to existing literature. The research questions that were developed in chapter one is also explicated with the link to the current findings. This was essential in demonstrating the extent to which the research questions were addressed and whether the hypotheses are supported or not supported. Therefore, the discussion is linked to the introduction of this thesis by way of both the research questions and hypotheses that were posed. Further, it is also connected to the literature review by assessing the extent to which the results aligned with existing research conducted on the research problem. This is through assessing the extent to which the research results align with what is already known concerning the research problem. That is, what is already known concerning the relationship between middle managers' innovative self-efficacy and innovation as it relates to the Dubai Government entities. At the same time, the discussion will also encompass new insights concerning the research problem by taking into considerations the results. Within this chapter, this is captured in the section which undertakes additional discussion of the results of this research study.

6.2 Discussion

6.2.1 Discussion of the Results Reliability Test and T-Test

A reliability test was done to determine the internal consistency of all the items in terms of how they measure the intended constructs. According to Tang et.al (2014), doing a reliability test is critical because it helps evaluate the internal consistency of items on the test to produce the same consistent results in measuring a given construct. In this study, it was established that all the items had an excellent internal consistence because they were all above the 0.70 threshold.

The 0.70 threshold is reflective of the capacity of the items to produce same consistent results for the constructs (Fornell & Larcker, 1981). In this study, the obtained excellent internal consistency was reflective of the fact that the researcher included enough items to measure each of the constructs such as self-efficacy towards guiding groups, self-efficacy towards influencing employees, self-efficacy towards using innovations, idea generation, idea realization, and idea realization.

An independent sample T-Test was done to determine if there was a significant difference in the means of innovative work behavior between male and female middle managers. It was established that there is no statistically significant difference in the means of innovative work behavior between male and female middle managers in the sampled Dubai companies. What this means is that, with innovative self-efficacy, both male and female middle managers in Dubai organizations have a similar output regarding innovations. The findings are reflective of the view that gender is not a determinant of the innovative capabilities of middle managers in the organizations that were sampled. This agrees with the findings by who established that naturally, both male and female employees create ideas in different processes and criteria. However, the ultimate outcome of their processes is the innovative work behavior that is needed by the organization to attain quality performance. Given a quality and supportive working environment, both male and female managers exhibit similarity in their innovation attributes. In fact, Hess (2019) pointed out that innovation is 6 times higher in companies where men and women are treated equally. Both male and female middle managers in Dubai organizations only deserve to be given equal opportunities to realize consistent innovative work behaviors, as there is no significant difference in their approach to innovations. Therefore, organizations are bound to gain more in their innovative work behaviors if they have both male and female employees who exercise similar innovative work behaviors based on their innovative self-efficacy.

6.2.2 Discussion of Findings Relating to the Research Questions and Hypotheses

6.2.2.1 Research Question 1

The first research question for this study was: What is the relationship between innovative self-efficacy towards guiding groups with innovative work behavior? The hypothesis associated with this research question was: H1: *Innovative self-efficacy towards guiding groups has a positive relationship with innovative work behavior.* The findings of this research study indicated that there was a positive relationship between innovative self-efficacy towards guiding groups and innovative work behavior. This means that this research study supports the second hypothesis. The findings are in line with what Mair and Thurner (2008) found in their study that middle managers are directly involved in activities of the organization including working with the rest of employees. Hence, by guiding other employees, they develop greater innovative tendencies.

The findings of this research study show that middle managers can apply their innovative self-efficacy to guide groups that they manage. Hence, they can use this to provide these groups with the motivation to develop innovative work behavior. As Mair and Thurner (2008) explain, finding a greater understanding of the organizational environment is what makes it easier for middle managers to demonstrate their innovative work behavior. This is by finding ways through which these groups can overcome their ineffectiveness as demonstrated in several ways. Some of these ways include working in a troublesome manner, difficulty in carrying out tasks, inadequate cooperation among group members, group disruption, and getting the employees to embrace their role in positive organizational performance (Al-Hakim and Hassan, 2011). The results of this study as per the responses provided by the middle managers working within government entities in Dubai. Particularly, the middle managers can do this in several ways that include the following.

One of the ways that middle managers make use of their innovative self-efficacy as a means of guiding groups and therefore enable them to develop innovative work behavior is helping them carry out tasks that they were having trouble in doing. That is, the managers confirmed that when a worker has trouble in doing a task, they were able to provide them with help that would place them to remain on the right course of action. This agrees with Rouleau and Balogun (2011) who explain that middle managers have the responsibility of helping staff members gain a better understanding of change in the organization and subsequently implement it to help the organization. Hence, middle managers were motivated into helping the employees that they managed to develop innovative work behavior. Particularly, the specific innovative work behavior that they helped them develop was idea generation. Accordingly, based on what was established by Buenaventura-Vera (2017) in their study, it can be said that the middle managers helped the employees generate new ideas in how they carried out their tasks. By generating these new ideas, the employees thus were able to overcome the difficulty that they were experiencing in doing their tasks causing them to continue in the right course of action.

Another way that the middle managers were able to use their innovative self-efficacy in relation to guiding groups was in instances which involved them assessing what was going on when a group was working in a troublesome manner. Notably, through their innovative self-efficacy, the middle managers were able to find a way of addressing the issues that were leading to the troublesome functioning of the group. This is in line with the study by Hong-Da, et al. (2014) who opine that middle manager always need effective leadership capabilities to lead groups of employees in the organization. They must make groups of employees believe in the change that is being made in the organization for them to adopt it and implement it. Consequently, this became a source of motivation towards members of the affected group to adopt innovative work behavior.

Middle managers can as well use innovative self-efficacy by engaging the employees in the highly innovative activities of the organization and placing the employees in situations that they can identify and utilize to improve their performance in the company. Innovation is fostered when the manager is able to show an entrepreneurial influence on the employees (Engle, et al., 2015). This is because they are able to pose as role models and eventually lead to a stronger influential effect to the employees as they can participate in the decision-making process. In the UAE, the policy sector has had a positive effect based on the influence of encouraging innovative self-efficacy on organizational innovation. As per the study of Alameri, et al. (2019), innovative self-efficacy has a mediating effect on the empowerment of leadership and increased organizational innovation. This ultimately leads to the improvement of processes and routines in the organization that employ innovation and a culture of development. It is imperative therefore that for the increased innovative culture of an organization, the managers are able to employ staffs that are properly skilled, who have quality education and the skills needed to generate new ideas and furthermore apply them in the work area.

The findings of this research study further demonstrate the positive relationship existing between innovative self-efficacy towards guiding groups with innovative work behavior by showing that the middle managers played a role in fostering cooperation in their groups. That is, they are able to facilitate some cooperation among group members when the workers are experiencing difficulties while carrying out their duties. To achieve this, Mair and Thurner (2008) explain that middle managers are expected to be proficient communicators of the intended goals of the organization in a manner that is clear enough. Thus, the middle managers in this regard utilize their self-efficacy to find a way of dealing with this issue and thus motivate the employees towards adopting an innovative work behavior.

The positive relationship existing between innovative self-efficacy towards guiding groups and innovative work behavior is also demonstrated in instances in which the middle managers can

tackle the issue of a disruptive group. Kissi et.al. (2012) and Martin-Rios (2015) opined that within the organizational environment, middle managers are expected to play fundamental roles such as being negotiators and conflict managers. This way, they can deal with disruptive groups in a more effective manner and realize greater adoption of change in the form of innovations. Accordingly, the findings of this study have demonstrated that the middle managers in the government departments of the UAE applied their innovative self-efficacy in instance when groups became disruptive. That is, they utilized the self-efficacy as a means of getting the groups to work together again quickly.

Further on, the positive relationship between innovative self-efficacy towards guiding groups and innovative work behavior is demonstrated in instances in which the middle managers that participated in this study got a worker to cooperate with others. That is, the middle managers can make use of their innovative self-efficacy to quickly set a worker to work who is undermining cooperation with others.

The hypothesis of innovative self-efficacy towards guiding groups having a positive relationship with innovative work behavior was further supported in this study because the middle managers demonstrated to workers their role in organizational performance. That is, the middle managers are able to utilize their innovative self-efficacy as a means of showing the workers that they are responsible for positive organizational performance (Kissi et.al., 2012). Therefore, through their innovative self-efficacy the managers get the workers to adopt innovative work behavior that will contribute towards positive organizational performance.

By supporting the hypothesis that, innovative self-efficacy towards guiding groups has positive relationship with innovative work behavior, this study showed that the innovative self-efficacy of the middle managers has a positive relationship with idea generation. This current research was able to define idea generation as a form of innovative work behavior as including the following. Firstly, idea generation entails the ability to come up with new ideas that can be

used to handle difficult issues(Haiba, et al., 2017). This is further demonstrated in the results made in the present study as the middle managers motivation towards assessing well what was doing on when a group was working in a way that was troublesome. Accordingly, the middle managers made use of their sense of innovative self-efficacy to generate ideas on how best the group members can overcome this troublesome nature of how they worked with each other (Martin-Rios, 2015). This means that the middle managers sought new ways through which the members of the groups that they managed could overcome the factors that were resulting in their troublesome way of working with each other. Thus, by applying these ideas the employees were able to find new and better ways of working with each other. The managers thus through their innovative work behavior provided guidance to their employees fostering organizational performance through promotion of teamwork and cohesion.

Secondly, idea generation as a type of innovative work behavior can encompass often searching for new methods or instruments for working. This is captured in how the middle managers used in this research study can assist workers that are having trouble in doing their task and find ways of getting them on the right course of action. That is, through idea generation they find ways through which these workers can deal with the issues that are contributing to the difficulty that they are experiencing. According to Hsiao et al. (2011) who studied self-efficacy and innovation among teachers, the innovative self-efficacy and innovativeness entails working towards solutions that they will help these employees to get back on the right course of action relating to their work. This is quite significant given the fact that the difficulties that employees experience in the course of their work is a large hindrance to them completing their tasks. When there is no solution towards this, these employees will constantly not be able to complete their tasks or do so ineffectively. The middle managers in the UAE government entities thus contribute substantially to organizational effectiveness. They do this by utilizing their innovative self-efficacy to guide the employees under their supervision to adopt innovative

work behavior and therefore generate new ideas that will improve how they pursue their assigned tasks. As Mills (1951) observed, middle managers are mediators between the organizational strategy and the daily activities of the organization hence making them play a central role in the generation of new ideas that lead to new ways of working. Ways that ensure they remain on course and consequently accomplish their tasks successfully.

Thirdly, idea generation as a form of innovative work behavior can also entail generating original solutions for problems. Therefore, middle managers within the organizations in the UAE government help the employees they manage to generate solutions for problems such as those that entail the employees undermining cooperation with others to quickly work well with their group members. Kanter (1982) opined that middle managers have their fingers on the pulse of operations and hence at the center of generating new solutions that top-level managers may not think of. It is these new ideas that they generate that help in the realization of proper working among employees. This means that the middle managers work of generating new ideas that will improve how these employees will deal with the factors that are preventing them to cooperate with their colleagues. This can include findings ways in which group cooperation becomes an integral aspect of organizational culture. Further, some of the ideas that may be generated in tandem with this include improving communication among the employees. This is significant because lack of effective communication among employees is one of the factors that undermine their ability cooperate with each other. Drucker (1986) noted that middle managers are representative of overstuffed employees, but this is not a true reflection of the roles that middle managers play as has been reflected in this study. Middle managers are more of an 'engine' in the running of the organization because they ensure seamless cooperative working and innovativeness if given a chance. At the same time, it contributes to confusion and misunderstanding and because of this it undermines how the employees cooperate with each other. Further on, the middle managers generate new ideas of fostering cooperation among

the employees by finding ways of providing resources that will enable the groups to cooperate with each other. Because of developing these ideas into facilitating cooperation among the employees, the middle managers thus can enhance a sense of innovative work behavior among the employees. This includes enabling them to generate ideas on their own on how they can overcome conflict and work well with each other fostering cooperation in the long run.

In tandem to the variables of the hypothesis, idea generation by the middle managers served as a means of addressing what is going on when a group works in a troublesome way therefore fostering innovative work behavior among employees in the government departments in the UAE. The middle manager made use of their innovative self-efficacy to develop ideas in which the members of the group may overcome this troublesome way in which they are working. This is how they applied innovative work behavior to provide group guidance. Specifically, the middle managers developed new ideas that would help in the identification of the reasons as to the employees they supervised worked in a troublesome way (Al-Hakim and Hassan, 2011). Some of the ideas that they developed included getting the members of the group to get to know each other and thus enable them to assess their likes and dislikes. Another idea that many of these middle managers use is developing clear job descriptions that clearly defined the roles and responsibilities of each of the members of the group. For this reason, the members are able to undertake their work in a manner that does not undermine the role of the other team members. They are mainly a strong link in the organization (Mair & Thurner, 2008) At the same time, this served as an opportunity for the employees that the middle managers were managing to develop innovative self-efficacy and use it to adopt innovative work behavior that will allow them to overcome the challenges they face at work.

At the same time, idea generation becomes a method through which the middle managers were able to assess that which was going on in the group of employees that the managed and found solutions when group work became troublesome (Brockhus, et al., 2014). Importantly, the

middle managers through their innovative self-efficacy found new ways through which the groups that they managed could come more smoothly with each other. They facilitated innovative work behavior among the employees by getting them to participate in the solutions that they suggested. Thus, it is this enabled the employees to stop working in a troublesome manner and instead coexist well with each as they work towards attaining organizational goals. Another way that innovative self-efficacy towards guiding groups had a positive relationship with innovative work behavior was when the middle managers used their innovative self-efficacy provide the employees with some clues that enable them to look for relevant information that they can use to complete a task. Accordingly, this aspect of finding clues that would foster completion of tasks

The findings made regarding this research hypothesis are supported in a substantial amount of literature that shows the positive relationship that exists between innovative self-efficacy towards guiding groups and innovative work behavior. For instance, the study by Hsiao et al., (2011) demonstrates this positive relationship in several ways that are like the responses that were provided by the middle managers. As per the specific components of the research results, this was seen in how the middle managers responded that they were able to adequately assess what was going on when a group was working in a troublesome way. This is further confirmed in instance in which the middle managers were able to get a group that was disruptive to get them to work again quickly (Brockhus, et al., 2014). At the same time, this was demonstrated by the response that was provided by the middle managers that showed they were able to point out to the workers that they were responsible for positive organizational performance.

6.2.2.2 Research Question 2

The second research question for this study was: What is the relationship between innovative self-efficacy towards influencing employees and innovative work behavior? The hypothesis

associated with this research question was: *Innovative self-efficacy towards influencing employees has a positive relationship to innovative work behavior.*

As per the results of the present research study there is a positive relationship existing between innovative self-efficacy towards influencing employees and innovative work behavior. For this reason, this resulted in the third research hypothesis that was developed being supported. This has the meaning that innovative self-efficacy when it is applied by middle level managers acts as a means of them influencing the staff under them. In doing so, they can push these employees into engaging in innovative work behavior. That is, the middle managers can use their innovative self-efficacy to find ways of getting the staff under them to generate new ideas, promote these ideas, and bring them into realization (Engle, et al., 2015; Haiba, et al., 2017). This was confirmed by the results which showed that the middle managers affirmed that they were able to provide proper clues to workers when looking for relevant information to complete a task. This means that the middle managers generate ideas that they use to help their workers to identify relevant information for task completion. This is in tandem with the innovative work behavior by the middle managers that they can create new ideas to handle difficult issues and hence assisting staff gain a better understanding of change as explained by Rouleau and Balogun (2011). As it relates to this situation, this refers to the ability of the middle managers to find ways to deal with the difficult situation which affect the ability of staff to complete their tasks.

According to the results of this study, the middle managers that participated indicated that they used their innovative self-efficacy to influence the employees that they managed to become motivated in their work. Specifically, the managers used their innovative self-efficacy to find reasons for the low motivation in the employees. Therefore, this served as the beginning step for these employees to overcome their sense of low motivation. employees that are better motivated can engage more in innovative work behavior (Vally, et al., 2019). These are the

employees that are more likely to undertake idea generation, promotion, and realization. Accordingly, these are the employees that will be positively impacted by the middle managers in their departments with high innovative self-efficacy and therefore register higher performance. At the same time, these represent the employees that will adopt innovative work behavior. That is when the middle managers that are running their departments have high sense of innovative self-efficacy, they can also transfer their innovative work behavior to them. This agrees with the findings by Hsiao et al. (2011) who noted that teachers with a greater level of self-efficacy positively impact student learning. Middle managers through their innovative self-efficacy have the capacity to positively impact the innovativeness of employees in the organization. Consequently, the innovative self-efficacy of these managers has a positive impact on the employees. Further on, these are the collection of employees who can promote their ideas. They do this by constantly looking for new working methods as well as instruments. These employees because of the influence of their middle managers who possess high innovative self-efficacy they are able to try finding new ways of completing their tasks by looking for new methods and instruments to work with. This also includes mobilizing some support for their new ideas developed for dealing with issues that are considered difficult (Momeni et.al., 2014). These are also employees that receive a considerable amount of support from their managers regarding the ideas that they develop. This is demonstrated in how the managers are always trying to make the employees feel enthusiastic concerning their ideas. They also try to rally support for these ideas and get them approved by senior managers. This is quite an encouraging way of getting the employees to become increasingly willing to explore new ideas on undertaking tasks. Consequently, this also helps the different government entities they work for to enhance their sense of innovativeness.

The results of this study also demonstrate the connection between innovative self-efficacy of middle managers towards influencing the employees to adopt innovative work behavior in

terms of helping them to find solutions to challenges that they experience. The middle managers in the UAE government departments tend to use their innovative self-efficacy to help the employees they manage to find solutions when they experience challenges while carrying out tasks as established by Rutten et al. (2016) by stating that communicative efficacy positively impacts employees. Therefore, this contributes to these employees adopting innovative work behavior. One of the major ways that these managers achieve this as asserted in the results of this study is through innovative work behavior. For instance, these managers generate new ideas that can act as solutions for the employees they are managing and thus help them in instances in which they experience challenges (Mair & Thurner, 2008). This is something that they do in all the departments that they manage. This is asserted in the results of this study which showed that most of the middle managers held that they strive to have a positive impact on team behavior and performance whenever they move to a new department. This includes assisting these new teams deal with the difficulty they experience while carrying out their tasks (Haiba, et al., 2017). At the same time, these middle managers do this by transferring their innovative work behavior onto the employees. Further on, they work on creating new ideas that the employees can use to handle difficult issues such as those relating to them carrying out tasks. Additionally, idea promotion is also another aspect of innovative work behavior that the middle managers use to help the employees cope with the difficult challenges they face while carrying out their tasks (Kumarasinghe & Hoshino, 2010). Accordingly, they do this by regularly searching for new working methods and instruments. By doing this, they prevent the occurrence of these challenges therefore helping employees to carry out their tasks effectively. Further, these managers use idea promotion to improve the work of employees by eliminating challenges by transferring their innovative work behaviors to them. The managers enable their employees to become skilled in innovative work behavior which they then use to overcome the difficulty they experience while completing their tasks.

At the same time, idea promotion is significant for these managers because it further represents the concept of innovative work behavior that allow them to help their employees deal with the difficult challenges they face while working(Kumarasinghe & Hoshino, 2010). Specifically, the aspect of innovative work behavior that fosters this is the middle managers often search for the best practices and solutions for the problems that the employees face. This includes finding the best practices and solutions that the employees may apply to overcome the difficult experiences they have while carrying out their tasks.

These results concur with those of Newman et al., (2018) which show that leadership which is a means of influencing employers can impact innovative self-efficacy and the innovative behavior that they adopt. In this case, innovative self-efficacy has a more significant stronger impact on innovative behavior than when there is an absence of a way of influencing employees. Accordingly, the findings of this study are consistent with the social cognitive theory by Bandura (1986) who emphasized the significance of self-confidence among individuals in making decisions. The reason for this lies in the fact that these findings show that the role of modeling and encouragement that is done by the organizational leadership such as middle managers have a positive effect. That is, this role is essential in fostering the generation and implementation of the innovative ideas within the workplace. This is most likely to result in the employees having more confidence in their innovative abilities and thus become more likely to engage in innovative behavior at the workplace.

6.2.2.3 Research Question 3

The third research question for this study was: *What is the relationship between innovative self-efficacy towards Using Innovations and innovative work behavior?* The hypothesis associated with this research question was: *Innovative self-efficacy towards using innovations has a positive relationship with innovative work behavior.* The results of this research study showed

that there was a positive relationship between innovative self-efficacy towards using innovations with innovative work behavior. For this reason, this research study supported the hypothesis.

Innovative self-efficacy towards using innovations is positively related to the innovative work behavior of middle managers. The first evidence was provided by the response of the middle managers indicating that they generally tend to cope well with stress that comes with routine organizational work. This is possible because it is through their innovative self-efficacy that these managers make use of innovations and therefore develop innovative work behavior (Al-Hakim and Hassan, 2011). That is, the middle managers utilize the difficulty associated with their work including the related stress levels to carry out their work and apply innovations. To an extent, this acts as a source of motivation pushing them into discovering new innovative ideas (Vally, et al., 2019). These middle managers use the challenging work environment to use innovations to generate new ideas. Consequently, this allows them to generate new ideas which they can share in the new departments they are moved to, therefore positively impacting the teams that they are tasked with supervising (Brockhus, et al., 2014). This includes having a positive impact on the team. Further, the middle managers make use of the challenging work environment to undertake some innovations that allow them to transfer their innovative work behavior to the employees they manage resulting in positive effects.

This is also an opportunity for them to promote innovative ideas. At the same time, this also serves as the time for these managers to bring these ideas to life by carrying out their realization. This is evidenced in the way that they rally for these ideas among the members of top management as per the findings of Ikävalko (2005). Additionally, as per the results of this study this is demonstrated in instances in which the middle managers work towards making significant organizational members to become enthusiastic about the innovative ideas. It is

common for the middle managers therefore to approach the head of their departments and share their innovative ideas. They may also do this by approaching the organizational head to share these innovative ideas including providing core information as to why the organization should adopt these ideas because of their significance in the implementation of change in the organization (Huy, 2001). Other essential ways that the middle managers achieve this is by undertaking the transformation of their innovative ideas into some useful practical applications, introducing them to the organization in a systematic way, and evaluating the utility of innovative ideas before they are implemented.

Further, the positive relationship between innovative self-efficacy towards the use of innovations with innovative work behavior was confirmed by this study when the middle managers asserted that they coped well with pressure. Specifically, the middle managers responded that they were able to cope well with pressure that originated from innovative work changes. Through their innovative self-efficacy, the pressure that emanated from innovative work changes was not a major issue for the middle managers (Rezvani, 2017). To an extent, it served as a source of motivation for them to utilize innovation even more so. That is, this pressure enabled the middle managers to carry out more innovative work behavior. This is well captured in the category of innovative work behavior that is idea promotion. Through the pressure that the middle managers pass through relating to innovative work changes, they are able to undertake the mobilization of support for innovative ideas (Mills, 1956). This is a time for the middle managers to discover new ways of doing things and enable the organization they work for to adopt to new practices that will enhance their growth.

Additionally, the middle managers through their innovative self-efficacy are thus able to rally for the approval of innovative ideas. The pressure that is associated with innovative work changes has the impact of pushing these middle managers towards promoting innovative ideas as drivers of the work processes in their respective organizations (Kanter, 1982) That is, they

are constantly approaching senior management and sharing these innovative ideas as they seek for their approval. This is an aspect that has been essential in facilitating the government departments of the UAE to implement innovative ideas and thus emerge as among the most developed government departments of the world. Many of the middle managers working within these departments have been known to constantly suggest to senior managers the need to adopt different ways of carrying out tasks and approaching work (Ahearne et.al., 2014). In many instances, this has been essential in helping these organizations to overcome major weaknesses in their practices and approaches. It has led them to become more effective and thus contributed positively to their overall performance.

At the same time, the results of this study indicated that there was some positive relationship that existed between innovative self-efficacy and the use of innovations as it relates to innovative work behavior as it contributes to positive methods of coping with stress. This is asserted by the middle managers who responded that through using their innovative self-efficacy and thus innovations they can work on new innovative projects because of their closeness to the daily running of activities in the organization (Huy, 2001). That is, despite the failures that they usually experience, they can leverage their innovative self-efficacy and use it to develop new innovative projects.

It emerges that innovative self-efficacy is an essential concept in business including individual career performance. This is in tandem to the findings of Bandura (2001) who explains that persons tend to assess their self-efficacy and with this they can determine their level of motivation. This is reflected by how much these people can exert effort in each endeavor. In relation to the present study, this can be illustrated by the example of middle manager's efforts towards efforts towards discovery of new ideas that will foster innovation within their organization. Thus, the longer the person holds the belief that they can be able to achieve something, the more they will become willing to put effort towards it as per the findings of

Razak, et al. (2014). This is something that is well illustrated in factors relating to development of innovation within an organization. That is, it is common for new ideas that are being suggested to be met with some sense of resistance. This includes not acting on these ideas and instead pushing them down at the bottom of the list. When this happens, it has the potential to undermine the success of the organization since innovation contributes considerably to organizational success. When this happens, it is common for individuals and specifically employees to take time to assess their personal and situational resources including constraints so as to make personal efficacy judgements. It is this personal self-efficacy that will thus have an influence on an individual's motivation including their ability to engage in certain behavior as observed by Bandura (2001) through the perspective of the cognitive learning theory. This includes engagement in innovative work behavior as was demonstrated by the case of the middle managers as well as the employees that they were managing. At the same time, a person's belief in their self-efficacy can have an impact on the decision they make regarding to take up a task or not. This also includes determining the intensity with which they undertake work. This is especially illustrated in the case of the middle managers of this study. They were able to believe in their innovative self-efficacy including the belief that they will be able to make changes within their organizations. This is despite the challenges they faced while carrying out their work such as resistance to innovation (Razak, et al., 2014). This is the reason as to why it is essential for persons to have a good sense of awareness regarding their innovative self-efficacy and perception of their organization regarding innovation.

This is an awareness that the middle managers of the organization were able to adequately master. They were able to recognize the challenges that were there in relation to pursuing innovation in the various departments that they worked based on their approach to strategy implementation as noted by (Al-Hakim & Hassan, 2011). This also included those which were associated with the employees that they were managing. Some of these challenges are

disruption in cooperation among the employees, inability of the employees to adequately carry out their tasks, and deal with the stress that was associated with pursuing innovation-based activities. For this reason, innovative self-efficacy thus serves a vital source of innovation that will result in effective methods of solving problems.

Therefore, these findings are consistent with those reported by Amabile (1999) indicating the positive relationship between innovative self-efficacy towards using innovation with innovative work behavior. Amabile (1999) places emphasis on the need for organizations to recognize the significance of the innovative self-efficacy of their employees. The belief in this case is that it is this innovative self-efficacy that will enable the organization to innovative. Further on, this study has shown that innovative self-efficacy serves as a source of innovation for organizations. However, this can be impacted by various components within the organization which may undermine the creativity and the ability of employees to use innovation.

Zhou (1998) provided evidence consistent with the findings presented in the current study regarding the positive relationship between innovative self-efficacy towards use of innovation with innovative work behavior. Specifically, the findings of the study indicate that creativity is a means through which people develop new processes that enable them to have better results. In this case, creativity results in the development of something new. These are the ways and ideas which can lead to the accomplished of set goals. Therefore, in relation to the issue that was investigated in this study, middle managers use their innovative self-efficacy to develop new ideas and thus pursue innovative work behavior that will enhance their organizations' ability to achieve their goals. This is demonstrative of the fact that through self-efficacy, new ideas can be developed and there can be more pursue of innovation. This is significant in fostering goal achievement and therefore explains the reasons as to why innovation contributes to organizational success (Zhou, 1998). That is, many organizations that are innovative tend to

achieve excellent performance. As was demonstrated in this study, it is the employees who are the major source of innovation. They are the ones that carry out this innovation and bring to existence their innovative ideas.

This study has shown that it is the innovative middle managers who facilitate this entire process within public organizations. It is their efforts and belief in their innovative self-efficacy that would allow them to guide their employees towards innovation. At the same time, this study has asserted that innovative self-efficacy can mean redeveloping processes that already exists and therefore making them better. In this case, the middle managers apply their innovative self-efficacy to innovate existing ideas and improve on them. Ghafoor et al. (2011) pointed out that development of new ideas in tandem with the workplace is essential in resulting in discovery of new strategies and methods of operating. There is the assertion that this works on saving time and resources. In relation to the existing study, when middle managers can apply their innovative self-efficacy to push for increased innovation within the organizations where they work, it has a positive impact on the organization. This explains why innovative self-efficacy combined with the use of innovation within organizations results in good performance among organizations that can promote this among its staff.

6.2.2.4 Research Question 4.

The fourth research question for this study was: 4: *What is the relationship between middle managers' innovative self-efficacy and innovativeness?* The hypothesis associated with this research question was: H4: *There is a positive relationship between innovative self-efficacy and innovative work behavior.* The results of this study showed that there is a positive relationship that exists between innovative self-efficacy and innovative work behavior through the constructs of guiding groups, influencing employees, and using innovation. For that reason, the hypothesis was supported. The results from the regression analysis of the constructs that

was conducted confirm that the innovative self-efficacy of the middle managers has an essential role in their development of an innovative work behavior. This is quite sensible given the fact that people with a higher level of innovative confidence are more likely to become involved in more innovative behavior when compared to those with limited innovative confidence in their innovative ability. These are the people that are more likely to shy away from engaging in innovation-based activities. Accordingly, the middle managers with high innovative self-efficacy were confident enough to undertake idea generation. They were also the managers that were confident enough to carry out idea promotion. It is also essential to mention that the middle managers that displayed high innovative self-efficacy were also the ones that were involved in idea realization.

Therefore, the positive relationship between the two variables held true as it pertained to middle managers working in the UAE's government entities according to the results of this research study. This is as per the argument that was raised by Farr and West (1990) that an individual's innovation serves as the foundation of their actions as it encompasses the generation of effort towards innovative ideas and processes for accomplishing the ideas. That is, an individual's innovation will be the source of their innovative work behavior as demonstrated by development of innovation ideas and processes for accomplishing these ideas. Therefore, it is imperative that these be rooted within the core belief that a person has the power to bring about change through their action as reiterated by Bandura (1977) in the social cognitive theory. The findings link to the social cognitive theory by bringing forward the point that with self-belief, people are in charge of their own behavior. With middle managers exhibiting a greater level of innovative self-efficacy, they are always bound to attain greater levels of innovative work behavior based on the social cognitive theory.

Further, the results of the present study demonstrate that perceived innovative self-efficacy among middle managers is a predictor of their self-reported innovative behavior. This means

that UAE middle managers who possess high innovative self-efficacy report of being more innovative. This was demonstrated in how many of the middle managers who participated in this study responded that due to their innovative self-efficacy they tended to participate more in idea generation, idea promotion, and idea realization. For instance, they can selflessly take part in product development. They come up with strategies for the development of the product. They also positively influence their subordinates to take an active part in the product development. They strive to achieve the goal and objective for the development of the product. Should this self-reported innovation effectively translate into future innovative behaviors, then this has the meaning that these middle managers are better able to recognize the challenges within their fields. They are also the ones who can proactively generate not only new but useful ideas to their colleagues and the employees that they are managing.

At this point, they put into place the best leadership practices in order to reach out to every employee under their management. They are also ready to listen to contribution of these employees in all the aspects of the organization. At the same time, this is the category of middle managers that can personally and persistently bring the new and useful ideas into fruition. This agrees with the findings by Huy (2001) who emphasized the significant role that middle managers play in the day-to-day running of their organizations through innovative ideas. Given the fact that they have a closer touch with the day-to-day issues in the organization, they have a bigger picture of what needs to be improved and the innovative approaches that could be used to improve such processes (Huy, 2001). This has the meaning that within the Dubai government entities, the middle managers are vital contributors to innovation and subsequently the success of organizations. This is all in line with the findings of several studies. For instance, the study by Mulgan (2007) which investigates innovation within the public sector indicates that innovation as it is practiced within this sector is all about the following.

Having new ideas, developing good ones, and implementing them in a way that leads to improvement in organizational performance. Regarding having new ideas and developing innovations, Ahearne et.al (2014) opined, middle managers are the implementors of the strategic goals that are defined by the management, which gives them an advantage to come up with new ways of operating in the organization. By implementing the strategic goals, they are also in charge of overseeing strategic changes in the organization that open opportunities for innovation. Therefore, middle managers through their innovative self-efficacy can use innovation therefore enabling them to explore new ideas that contribute to better organizational performance. According to Mulgan (2007) innovation within the public sector is all about using new ideas to create public value. Therefore, middle managers within the UAE government entities are constantly striving to find new ways that they can create value for their organizations. They develop ideas that are not only new but also useful and can be taken up within the organization. This is further captured in the assertion by this study that innovation within government is all about its modernization (Mulgan, 2007). At the same time, this is also about the modernization of knowledge management including the practices and processes while promoting creativity. Thus, by the middle managers engaging in innovation they are contributing towards the modernization of the UAE government. They are further contributing to the modernization of practices and processes through their creativity. Middle managers within the government of the UAE have been instrumental in demonstrating that innovation is something that can thrive within the public sector even though this is a concept that has been largely applied within the public sector.

Consequently, it can be said that the results of the present study are in tandem with the results of existing studies which illustrate the positive relationship between innovative self-efficacy to the innovative work behavior of persons within the workplace. The study by Hsiao et al. (2011) shows similar findings by demonstrating the impact of self-efficacy on the innovative work

behavior of teachers. The self-efficacy in this case referred to the belief by the teachers regarding their ability to have a positive impact on the students' learning. When applied to middle managers that were used for this study, this can mean their belief regarding their ability to have a positive impact on the employees that they manage. This was even more so significant because the self-efficacy of the teachers was deemed to play a significant role with the motivation of the students, contributes to effective classroom management strategies and time management (Hsiao et al., 2011). At the same time, this study indicated that teachers who possessed more self-efficacy were more willing to take up more challenging activities that involved innovative practices. Similar to middle managers, comprehending and interpreting the organizational strategy is fundamental to the success of middle managers in the organizational context (Al-Hakim and Hassan, 2011). In relation to the current study, the innovative self-efficacy of the managers was essential in acting as a means of motivating the employees, therefore contributing to effective workplace management strategies as well as time management. The middle managers who possessed the highest amount of innovative self-efficacy were those who were willing to take up more challenging activities in which they were able to utilize their creativity.

This study shows that there is a link between self-efficacy and adoption of positive and innovative work behavior because it enables those who possess it to go beyond the prescribed role expectations. Innovative work behavior as per this study entails going beyond creativity and therefore it is about inclusion of the adoption, production, and the implementation of what are novel and useful ideas. Middle managers with self-efficacy have an increased tendency of engaging in innovative activities to promote the success of the workplace. They adopt knowledge and skills that are far beyond what is needed for their qualification. Even in their levels of production, they do not fail to exercise innovation. This is well captured in the concept of idea generation, promotion, and realization. At the same time, this study places emphasis on

the fact that persons with a strong self-efficacy are more likely to have more creativity behavior. This further demonstrates the relationship between self-efficacy and innovative work behavior. The study demonstrates that application of effective leadership strategies by middle managers has a significant effect on the innovative work behavior of the employees. For instance, when there is openness in leadership, there is always an opportunity for the attainment of the needed goals for innovative self-efficacy of the middle managers in the UAE which in turn increases the better performance of organizations through better task performance. In the study of how self-efficacy relates to innovation among the middle managers, it has been evident that those middle managers, who had a high level of self-efficacy, demonstrated a high level of innovation as compared to those who had a low level of self-efficacy. Self-efficacy among the middle managers has been related to more democracy in classrooms and hence has a positive impact on the learner innovation and consequent performance (Nielsen & González, 2015). This can then be applied to managers as it has been proven to be very effective in other sectors. The relation between the findings of Hsiao et al., (2011) and the findings of this current research study is further demonstrated in the various actions that were taken by the middle managers towards assisting their teams. It is these actions that demonstrated their innovative work behavior and therefore action that went beyond their prescribed role that resulted in novel and useful ideas. This study perceives self-efficacy as resulting in much higher levels of performance including higher commitment to tolerance and becoming more task-focused when obstacles come about. For instance, majority of the middle managers that participated in this study responded that they in case workers have trouble in doing their task they were able to help them on getting onto the right course of action. Therefore, adopting an innovative work behavior by the middle managers was essential in overcoming task difficulty among the employees (Brockhus, et al., 2014). Additionally, the middle managers responded that they can foster cooperation in a group when workers within it are experiencing difficulties in their

duties. Therefore, by fostering this cooperation this is demonstrative of the managers' innovative work behavior. It shows, their self-efficacy because it results in the group that they are managing becoming more task-focused.

The findings of Momeni, et al. (2014) are also in align with those of this research study further demonstrating the existence of a positive relationship between innovative self-efficacy and innovative work behavior. As per this study, a strong self-efficacy is essential because it leads to attempt and success. The study affirms that self-efficacy serves as a mediator between knowledge and behavior and it is largely related to professional entitlement. Regarding innovation, this study defines this as intentional development, introduction, and application of new ideas inside a job role. Innovative behavior is also related to several innovation process steps that include idea generation, idea, promotion, and idea research (Momeni, et al., 2014). This type of behavior is not only innovative behavior, but it also encompasses the promotion and implementation of innovative ideas.

6.2.3 Findings and Theory

In this section, the results of the research are explained based on the theoretical background that was developed in chapter two. The innovative self-efficacy that the middle managers demonstrated while undertaking their duties within the different government entities that they served was in tandem with the social cognitive theory. That is, Bandura (1977) in his development of this theory affirmed the concept of self-belief which provided a more enhanced belief of learning. Middle managers, as was established in this research, exhibit a high level of self-belief that makes it easier for them to be involved in the daily running of organizational activities and hence exhibit their innovative work behavior. With the social cognitive theory, it can be emphasized that middle managers tend to oversee their own behavior as opposed to the long-standing belief that behavior was imitated and thus the existence of self-efficacy.

Bandura (1977) opined that self-efficacy plays an instrumental role when it comes to fostering the realization of goals. This is quite significant in relation to the present study because many of the middle managers that participated in this study utilized self-efficacy to attain their goals. According to Bandura (2001), people oversee their own behavior. In the same way, middle managers in the organizational environment oversee their own innovative work behavior that leads to greater performance in the organization. Middle managers used self-efficacy as a means of achieving goals relating to fostering innovation within their departments, as per the findings of this study. This included the goals of guiding the groups that they were managing to use innovation as a means of finding solutions to their problems. By having self-belief, middle managers are always in a greater position to learn the new changes in the organization and put the organization in a strong position where it is moving towards the realization of its set goals in a defined manner (Alameri, et al., 2019). Overall, from the perspective of the social cognitive theory, middle managers exhibit self-belief that sets an appropriate ground for them to be more innovative in their different roles in the organization.

The theory of planned behavior (TPB) was also an essential theory that formed the theoretical background of this study and it provides insight into the individual reasons for pursuing certain action or adopting a given behavior. That is, the intention of people taking up a given behavior (Razak et al., 2014). In tandem with the current research study this is demonstrative of the intention of the middle managers to pursue innovation and to promote innovative work behavior among their staff. The assertion of this theory is that intention must be made clear and precise. The significance of this lies in the fact that it determines the requirements of individuals and encompasses their behavior. As per the case of the middle managers their intention in solving the problems that their staff were facing while carrying out their work was quite significant in enabling them realize improvement. As individuals who are involved in the daily running of the activities of their organization, middle managers must always make the intention

to get the organization performing at the best level clear (Huy, 2001). A clear plan on how to mediate their roles between lower-level management and the top-level managers is what makes them more innovative in their work. Based on the theory of planned behavior as explained by (Razak et al., 2014), middle managers should always be proactive while working towards the set goals of the organization. At the same time, it was essential in getting the employees to get used to find innovative ways of overcoming challenges within the workplace. Further on, the middle managers use of innovative self-efficacy and thus the belief in their creativity to handle problems is also demonstrated in TPB. Specifically, this is captured in the theory's assertion of behavior control is premised on beliefs concerning skills and opportunities to take part in given activities (Razak et al., 2014). This was demonstrated in how the middle managers were able to practice innovative work behavior and apply their innovative skills to do so. This included using these skills to help the employees they managed to identify innovative solutions to their problems. This is as per the findings of Rouleau and Balogun (2011) who opined, middle managers play the role of helping the organization's staff to effectively cope with uncertainty. This is where the theory of planned behavior comes in handy to explain the preparedness of middle managers for any eventualities that arise in the organization. From the perspective of the TPB, middle managers have an aspect of perceived control behavior which aligns with an individual's self-efficacy and ultimately their innovative work behavior in the organization.

The third notable theory that was developed in the study is the model of incremental and radical innovations. As was discussed earlier, technological knowledge is vital in facilitating the exploitation of radical knowledge with the current knowledge (Norman & Verganti, 2014). What this means is that knowledge or resources are needed for purposes of attaining radical knowledge in the organization. Incremental knowledge mainly relies on existing knowledge resources within the organization (Norman & Verganti, 2014). This model can be connected to

the findings that were derived in this study. From the findings, it was established that the innovative self-efficacy of middle managers is positively related to their innovative work behavior. Regarding radical innovations, middle managers always need be supported by new technological knowledge resources to be in the position to help the accomplishment of every changing environment and tasks in the organization. As they have the capacity to deal with the emerging innovative changes, middle managers require maximum support with new knowledge to help them impact the organization positively (Kanter, 1982). Kanter (1982) explained that the role of middle managers in the organization is underscored by their capacity to suggest and set in motion new ideas to the top management. This way, they are the drivers of change that is envisaged by the model of incremental and radical change in the organization. The reason is because they have a greater understanding of the organization because of their mediating role.

In line with incremental innovation, middle managers tend to perform at the best level in moving towards innovation when the current knowledge resources and technologies are designed in such a way that they simplify their accomplishment of the given tasks. As was established by Al-Hakim and Hassan (2011), middle managers play a vital role of understanding and interpreting change in the organization. This is how radical changes may be realized in the organizational environment by following middle manager suggestions of the change. Support from the top management is vital in leading to greater performance of middle managers in the implementing of radical innovations. What can be explained here is that the senior management always needs to understand the significance of the existing resources to facilitate the functionality of middle managers in the organization. Without the availability of the needed resources, the functions of these managers are always crippled. Therefore, this theory resonates with the findings because it underscores the significance of resources for the

performance of middle managers in the context of groups, individual employees, as well as managing of innovations to be effective.

The last notable model as explicated in the theoretical framework is the open innovation model. Based on the open innovation model, organizations need to engage in both internal and external research development while advancing their technology (Chesbrough, 2003). More so, the organization always has an opportunity to advance its internal innovation and expand the market through purposive inflows and outflows of information (Chesbrough, 2003). The findings of this study apply effectively to the open innovation model. This is because middle managers have been deemed to be the promoters of innovations through their innovative self-efficacy. The innovative self-efficacy of managers ensures that they help the company move towards new markets through defined innovations. Mair and Thurner (2008) affirmed that middle managers are aware of how the organizational environment is structured and this gives them an advantage in ensuring that the required changes are adopted and implemented. Middle managers stand a greater chance of making informed decisions about the innovations that are required in the organization based on the knowledge that they have concerning the structure of the organization. The input that middle managers put into the organization in terms of influencing other employees to perform their tasks well as well as be innovative is reflective of the promotion of positive innovation within the organization by middle managers.

More so, Al-Hakim and Hassan (2011) established that middle managers possess valuable skills and knowledge in the fundamental areas of the organization. The possession of this knowledge and skills makes them stand a greater position of contributing to the realization of open innovation in their respective organizations. Thus, middle managers in their strong position reflect the needed research and development in terms of leading to the attainment of innovation in the organization.

6.3 Summary

This study has demonstrated that middle managers contribute largely to increased innovation that is witnessed within the UAE government entities. They have done this by applying their sense of innovative self-efficacy to generate new ideas, promote them, and realize them and thus innovative work behavior. Middle managers have been at the center of ensuring that teams in the organization, individual employees, as well as other innovative initiatives are successfully being delivered in the organization. It has been established in the discussion above that middle managers are at the center of influencing innovative ideas even among other employees. However, to be more successful, they need support to properly promote the innovative ideas in the organization. The senior most management is always required to provide support by availing the needed resources. The discussion has also been linked to the research questions and objectives that were developed in the study to make sure that these are answered. Lastly, the chapter has linked the discussions of the findings to the theoretical framework leading to the understanding that there is a link between the findings and the theories that were developed including the social cognitive theory, planned behavior theory, the model of incremental and radical innovations, and open innovation model. Therefore, the chapter has been extensive in the explication of the findings that were developed through SPSS analysis.

CHAPTER SEVEN: CONCLUSION

7.1 Introduction

This research study set out to address the following research questions: (1) What is the relationship between innovative self-efficacy towards guiding groups and innovative work behavior? (2) What is the relationship between innovative self-efficacy towards influencing employees and innovative work behavior? (3) What is the relationship between innovative self-efficacy towards using innovations and innovative work behavior? (4) What is the relationship between middle managers' innovative self-efficacy and innovativeness?

The study was divided into seven chapters. Chapter one is the introduction chapter that mainly focuses on the presentation of the background of the study, the research problem, research aim and objectives, and the research questions that were answered in the study. The second chapter is the literature review and the theoretical background of the study. Previous literature related to self-efficacy, innovative work behavior, and middle managers was explored in this chapter. The third chapter is the conceptual framework and hypothesis development where a conceptual framework was drawn to establish the relationships between the independent and dependent variables and hence the emerging hypotheses. The fourth chapter is the methodology section where the research design, sample and sampling approach, data collection approach, and the pilot test that was conducted are included. The fifth chapter is the findings and analysis where statistical analyses such as reliability test, correlation, T-test, and regression are portrayed to establish the relations between the independent and dependent variables. The sixth chapter is the discussion where the results are discussed and linked to existing literature. The seventh chapter is the conclusion chapter that sets out the key conclusions and recommendations.

7.2 Conclusions

The following conclusions can be made based on this study. First, there are three most important roles that middle managers perform in the organization. For instance, concerning

self-efficacy towards guiding groups, the major role that the middle managers perform is that of helping workers with the right course of action in cases where they have trouble in accomplishing the roles that they are given in the organization. In this case, it could be emphasized that middle managers provide direction to the teams that are established within the organization to ensure that quality performance is attained. Concerning self-efficacy towards influencing employees, the most important role that is performed by middle managers is to provide appropriate clues to workers when looking for the relevant information to complete a task. This emphasizes the significance of middle managers in providing the necessary information to ensure that the organization is moving forward perfectly with the delivery of the most important roles. Lastly, concerning self-efficacy towards using innovations, it can be concluded that the most important role of middle managers is the capacity to cope well with pressure emanating from innovative work changes. Generally, the conclusion is that with innovative self-efficacy, middle managers can perform a wide range of tasks to help other employees and the organization in the successful accomplishment of tasks.

Second, regarding innovative work behaviors, middle managers have three important roles across all the organizations that were studied. For instance, concerning idea generation, the most important role for middle managers across organizations is the transfer of innovative behavior to others positively within their network. They are critical in the supply of information related to innovations within the organizational environment. Hence, the spread of information concerning innovations within the organization could be attributed to the influence of middle managers in the organization. Concerning idea promotion, the most important role that is performed by middle managers is searching for the best practices and solutions. What could be seen from this is that middle managers are generally problem solvers in their respective organizations. By providing solutions to problems, they help regulate the escalation of preventable problems in the organizations. Lastly, concerning idea realization, middle

managers' most important role is working towards making important organizational members enthusiastic about innovative ideas. Again, this underscores the significant role that middle managers have in shaping the innovative approach of the organization. Overall, concerning innovative work behavior, it could be concluded that middle managers deliver exceptional innovative output to their respective organizations.

Third, there is a positive relationship between innovative self-efficacy and innovative work behavior. This was established through a regression analysis where the p-value was lower than the significance value of 0.05. What can be noted from the positive relationship that exists between innovative self-efficacy and innovative work behavior is that when the level of innovative self-efficacy among middle managers increases, it also leads to the increase in the innovative work behavior of middle managers. This conclusion underscores the fact that when managers can effectively work with groups, individual employees, and innovations in the organization, they are always bound to experience a positive attainment of aspects such as idea generation, idea promotion, and idea realization in the organization. With the involvement of the appropriate organizational frameworks in the organization, there is always a greater opportunity for managers to attain the level of innovative work behavior that they need in the organization. The relationship is not only positive, but also significant based on the results that were derived in the study. Therefore, the key conclusion from the study is that a positive relationship exists between the innovative self-efficacy of middle managers and their innovative work behavior.

Fourth, there is a positive relationship between self-efficacy towards guiding groups and the innovative work behaviors of middle managers. Put into context, the conclusion helps reiterate the point that by middle managers exhibiting innovative self-efficacy in their diverse roles including helping workers get the right course of action when they are experiencing problems,

fostering cooperation among a group of workers, and the assessment of what is going well, they experience an increase in innovative work behaviors. Innovative self-efficacy towards helping groups reflects the strong approach that middle managers have when it comes to helping teams in the organization to be successful. With the success of teams, the organization also stands a greater chance to benefit during its operations. By ensuring factors such as fostering cooperation in the group middle managers boost the level to which ideas are shared hence leading to better performance of these groups. More so, by indicating to workers that they are responsible for their actions, they always set the ground for greater attainment of the intended goals in the organization. Hence, middle managers, through their influence on guiding groups in the organization play a critical role in leading to innovative work behaviors.

Fifth, innovative self-efficacy towards influencing employees has a positive relationship with innovative work behavior. It can be concluded that through their multiple actions such as finding reasons for low motivation among workers and providing appropriate clues to workers in regard to the work that they are supposed to do, middle managers always help boost the level of innovation in the organization both at the personal and employee level. By directly approaching each employee, they present the opportunity for the realization of the set goals in the organization in an easier manner using technological aspects of the organization. Additionally, by ensuring that solutions to the challenges that workers experience in carrying out tasks are addressed, middle managers always set an appropriate ground for the realization of innovations within the organizational environment. Therefore, the actions of middle managers in influencing employees are critical in leading to a greater innovative work behavior.

More so, innovative self-efficacy towards using innovations has a positive relationship with innovative work behavior among middle managers in the UAE. As it was established in the study, self-efficacy towards the use of innovations stems from the fact that middle managers

have the capacity to cope well with the pressure that arises from innovative workplaces. The capacity to handle pressure means that they are always ready for any changes brought about by the changes within the organization. More so, by being able to deal with the challenges that are associated with a routine work environment, middle managers get themselves in a stronger position to ultimately influence innovations within the organization. With the introduction of new ideas in the company despite the failures that they face, middle managers also show their resilience in bringing change to the organization through innovations. Essentially, middle managers are at the center of the successful innovations that are experienced in the company through their operations towards handling these innovations.

In conclusion, it is worth noting that with a higher innovative self-efficacy, middle managers have a greater chance of attaining innovative work behavior in the organization. This underscores the significant role that middle managers have in the company. They are directly involved in different actions including managing the workings of a group, individual employees, as well as the innovations that are set out in the organization. The connection between innovative self-efficacy and innovative work behavior as was established in this study reflects the significant role of middle managers across different organizations in the UAE and the ultimate realization of innovations in these organizations. Most importantly, there is no significant statistical difference in the means of innovation between male and female middle managers in the organization. It is important that both male and female middle managers are given equal opportunities to exhibit their innovative self-efficacies in leading to innovative work behavior in these respective organizations.

7.3 Summary of the Research Findings

The following is a summary of the major research findings derived from this study. First, this research made the finding that there is a positive relationship between innovative self-efficacy towards guiding groups and innovative work behavior.

The second finding was that there is a positive relationship between innovative self-efficacy towards influencing employees and innovative work behavior.

The third finding was that there is a positive relationship between innovative self-efficacy towards using innovations and innovative work behavior.

Lastly, from the T-test, it was established that there is no significant difference in the means of innovative work behavior between male and female middle managers.

7.4 Meeting Study Objectives

Meeting study objectives is fundamental for any research. Below is an explication of the conclusions on how this study met the research objectives that were set out in chapter one.

To establish the relationship between innovative self-efficacy in Guiding Groups and innovative work behavior. This objective was about establishing the relationship between innovative self-efficacy in guiding groups and innovative work behavior of middle managers in the UAE. The objective was set out based on the understanding that middle managers work in groups, which are critical in leading to leading to greater task performance. The objective was attained by conducting a regression analysis on the factors of innovative self-efficacy in guiding groups in the organization and innovative work behavior among middle managers in the UAE. Based on this objective, it was concluded that there is a strong and significant relationship between innovative self-efficacy in guiding groups and innovative work behavior. Hence, with middle managers exhibiting their innovative self-efficacy in guiding groups, they

realize an improvement in their innovative work behavior. This objective was thus fully attained in the study through the explanation of the strong relationship that exists between innovative self-efficacy in guiding groups and innovative work behavior.

To explain the relationship between innovative self-efficacy towards Influencing Employees and innovative work behavior. This objective was about explaining the relationship that exists between innovative self-efficacy towards influencing employees and innovative work behavior. With this, the objective focused on establishing the link between items such as middle managers' ability to find reasons for low motivation and providing appropriate clues to workers to perform roles on innovative work behavior. More so, it was through this objective that the link between the item such as middle managers' provision of solutions to employees when they experience problems in their task were linked to the innovative work behaviors of these managers. From the findings related to this objective, it can be concluded that the relationship between innovative self-efficacy towards influencing employees and innovative work behavior have a strong relationship. Thus, this objective was effectively met in the study.

To study the relationship between innovative self-efficacy towards Using Innovations and innovative work behaviour. This objective needed the determination of the relationship that exists between the innovative self-efficacy towards using innovations and innovative work behavior of middle managers in the organization. Regarding this objective, the researcher conducted a regression analysis linking the aspects of self-efficacy towards using innovations and the innovative work behavior. For instance, the coping capabilities of middle managers when it comes to the pressure originating from innovative work changes was linked to the innovative work behavior of middle managers. Based on the objective, it was established that there is a strong and significant relationship between the innovative self-efficacy of middle

managers towards using innovations and innovative work behavior. Thus, this objective was fully met in the study through a regression analysis establishing the relationship between innovative self-efficacy towards using innovations and innovative work behavior.

The research seeks to establish the relationship between middle managers' self-efficacy and innovativeness. This objective was about establishing the overall relationship between the middle managers' self-efficacy and their innovativeness. The objective was thus focused on the key variables of the study. To meet this objective, the researcher conducted a regression analysis including the key variables of innovative self-efficacy and innovative work behavior as it relates to middle managers. The objective was addressed based on the outcome of the regression, which indicated that a positive relationship exists between middle managers' self-efficacy and innovativeness in the organization. What was concluded based on the objective was that with a higher level of innovative self-efficacy among middle managers in the UAE, there comes a greater opportunity for increased innovativeness in the organization. Consequently, it was determined based on this objective that middle managers in the UAE from the companies that were included in the study exhibit a high level of innovative self-efficacy, which contributes to their higher levels of innovativeness in the organization. Thus, this objective was fully met in the study based on the in-depth analysis that was conducted using the independent and the dependent variables.

7.5 Implications

7.5.1 Theoretical Implications

In examining the relationship between innovative self-efficacy and innovative behavior, this study has made several significant contributions to literature. To begin with, the findings of this study have contributed to the literature on innovative self-efficacy by addressing what have

been recommended by previous studies **to** explore the relationship between innovative self-efficacy and innovative work behavior. This study has added some insight into the components of leadership that can enable employees to realize high innovative self-efficacy and how this enables them to engage in more innovative behavior. Therefore, this study has enhanced the understanding of how managers as an organizational leadership can serve as a source of encouragement to employees. This will in turn enable them to realize higher levels of confidence within their innovative ability. For this reason, they will more so be able to generate more innovative ideas and implement them at work.

Further, by examining how some of the contextual factors relating to middle managers interact with the innovative self-efficacy of employees and how this elicits innovative behavior, this has resulted in this study making an essential contribution to literature on innovative behavior. That is, this study has shown how these management level factors interact to facilitate the development and implementation of new ideas which is the definition of innovative behavior. Therefore, it is critical that an environment for the growth of such innovations is provided by the organization.

Additionally, the present study also makes a significant contribution to organizational management literature. This is by providing a way of establishing the individuals that are more likely to respond to effective management methods. This is essential in building on research that examines the direct impact of managerial leadership on subordinates' behavior at work. Theoretically, this study will extend the perspectives of the social cognitive theory by emphasizing the point that individuals may not only perform based on the observed sequences of the behavior, but they are always driven by self-efficacy. The case for middle managers is that if given an opportunity to bring out their strengths in the organization, then they can be highly innovative.

7.5.2 Practical Implications

The findings from this study provide some essential practical insights that can be used by organizations that need to enhance the innovative behavior of their staff, and especially middle managers. One implication that emerges from this study is it will be highly beneficial to organizations to find a way of determining potential employees with high innovative self-efficacy. This is possible through the administration of psychometric tests that will identify those candidates that display high levels of innovative self-efficacy. To ensure that the company can hire these types of employees the test should be administered during the recruitment process. This can then be built into the company's existing HRM system. The significance of doing this is to ensure such recruits will be trained in a way that will ensure that they display innovative work behavior for the long run. At the same time, this will be essential in enabling a positive response from these employees regarding finding ways of using innovative solutions to different issues that come about at work. That is, they will be able to make the most of vicarious learning opportunities that are provided by their organizations.

Organizations such as those within the UAE government can enable their employees to become innovative by encouraging their innovative self-efficacy. Therefore, this should entail eliminating the red tape that tends to be associated with organizational bureaucracy and therefore provide employees with the freedom to develop new ideas and pursue them. Accordingly, this will help employees to work on their ideas and eventually realize them. This is especially vital because institutional hurdles to employees' innovative self-efficacy can be tiring even to the most tenacious employees. It is especially necessary for organizations to provide support to those employees that can undertake both idea generation and realization which is not usually an easy task for a single individual.

Middle managers with high levels of innovation need to seek out those employees with high levels of innovative self-efficacy. This will serve as a way of enabling them to bolster as well

as maintain innovative self-efficacy. This may include carrying out training in creativity. That is, innovative self-efficacy is a skill that can be enhanced through innovative training. As this study has demonstrated innovative self-efficacy has significant impact on an individual's innovation behavior. Thus, given the significance of innovative self-efficacy to innovative behavior this is an essential approach for organizations to take. Therefore, for those employees that will be assigned with jobs that have high creativity requirements they need to be provided with training. They should be provided with training that will improve their innovative skill ability. This should also be training that will provide them with time to experiment more with innovative problem solving. Such series of events should take place without the employees having to pay the price of such experimentation. The significance is to enable them build up their confidence regarding carrying out innovative work.

7.5.3 Recommendations

Based on the findings of the study, several recommendations could be offered for organizations in general and for the UAE entities regarding the appreciation of the roles of middle managers in their organizational context. As it has been established in the findings, through their innovative self-efficacy, middle-level managers tend to have a more positive impact on the organization regarding influencing the innovative work environment. This also includes because they can directly influence the employees that they are managing to adopt innovative work behavior was demonstrated in the findings made in this study.

This study has contributed to the challenge of organizations recognizing the significant role that is played by their employees in fostering innovation and enabling excellent performance.

While this is true, innovativeness of the employees has a direct relationship with transformational and participative leadership. Innovative self-efficacy increases the need for

an individual to be innovative in any work setup. The innovations based on the knowledge available improve the personal behavior towards innovative ideas. Managers who participate in training programs can develop their leadership skills and thus are able to positively influence the employees in to a space where they can make decisions that are meant to improve the performance of the organization. Given the considerable role that the middle managers that participated in this study played in fostering innovation within the UAE government departments it emerges that they engaged in both transformational and participating leadership.

Unfortunately, this is something that is yet to be realized fully in many departments of government and different levels of management. This is more so within senior management where there is a lot of disregard for innovation and consideration for the ideas that junior staff have on running an organization. It has a positive influence on the growth of the employees on an individual level. The culture within an organization should incorporate practices that are a means of evaluation of the innovative behaviors so as to influence problem solving skills as well as innovative thinking within the organization. Trust has been seen to be a factor that is a consequence of innovative self-efficacy of the managers in any organization. The employees show a level of trust and a decreased uncertainty in operations that allow positive energy within the organization hence performance. Such level of trust could be attributed to the middle managers and the staff that they managed. These staff were able to approach their managers and share the challenges that they were facing in the course of carrying out tasks within their job. This includes the problems they were having that made it difficult for them to cooperate with each other and successfully carry out their tasks. The same level of trust cannot be said when it comes to top management. That is, this is the section of organizational leadership that shows a substantial amount of disregard to the ideas that employees come up with. This makes it difficult to approach this leadership and thus undermines trust between them and the

employees. Further, this lack of trust is making it difficult for management to Therefore, the following are the suggested recommendations and the approach that could be used in their implementation by the organization for the realization of a better working for middle-managers;

FIRST, it is recommended that both male and female middle managers be given an equal supportive environment to realize their innovative work behavior. It was established that there is no significant difference in the innovative capabilities of male and women middle managers. This study recommends that different organizations across the UAE should empower and entrust more women to these managerial positions. This will ensure that there is a balance in the gender distribution of middle managers across the organizations. The utilization of the existing affirmative actions and the experience that these women come within the organization could be exploited for the realization of more women at this level of management.

SECOND, it is recommended that organizations improve training for middle managers to ensure that they have a wide range of skills including those including to manage groups, individual employees, and innovations. On most occasions, middle managers have been overlooked especially on the roles that they have on influencing leadership within the organization. This can be changed by engaging them in more training where they can be empowered to effectively perform the different tasks that are set out for them. For instance, organizations can attribute more investments to the training of middle managers on roles such as the capacity to manage workers who are undermining cooperation in the group setting, continuously identifying new opportunities for innovation, and the capacity to evaluate the feasibility of innovations in the organization. By middle managers being empowered to work on such areas through consistent and emphatic training, it becomes easier to notice their

contribution to the organization. Hence, it is critical that the training of these managers is prioritized.

THIRD, it is recommended that measures are put in place to help middle managers cope with stress especially that related to routine work and innovations. As much as the middle managers in the study indicated that they can effectively cope with well with pressure emanating from innovative work changes and stress that comes with routine organizational work, it is fundamental that organizations in the UAE develop strong coping strategies to help middle managers deal with stresses related to the innovative work environment and the routine work schedule. Given that middle managers are involved in the performance of a myriad of tasks and have the pressure to meet the tight deadlines in relation to innovations, they need to be helped to cope effectively through measures such as work-life balance. The goal will be the realization of the targets of the organization in terms of innovations in a more defined manner.

FOURTH, it is recommended that coaching is implemented to help middle managers grow effectively in their career bands. As it was established in the study, most of the middle managers who were involved in the study are mainly at lower employment grade levels of 13-4 and 12-4. This means that they are still growing in the managerial field. These managers need a lot of coaching, which organizations need to put in place as part of their growth of the middle management position. Coaching could entail matching the middle-level managers with the top executives, other managers, or other outside coaches to boost their opportunities for growth in the organization. Peer coaching can also be vital in helping middle managers develop the required knowledge and attain the desired level of growth in their respective fields. Therefore, with coaching, there will be a greater room for the growth of the position of middle managers and their innovative self-efficacy within the organizational context.

FIFTH, it is recommended that a proper framework of engagement between middle managers and employees is set up to ensure that their duties are impactful especially when it comes to innovations. As established in the findings, the innovative self-efficacy of middle managers ensures that they closely interact with employees both at the group and individual levels. Through their self-efficacy, their forms of interaction always include helping to provide solutions to employees who are experiencing problems in the completion of their tasks. To make sure that the impact of middle managers is continuously felt in the organization, there is need to establish an appropriate framework that they help employees well through healthy relationships with these employees. The goal is the realization of greater self-efficacy and hence contribution to the organizations' innovative behavior.

THE SIXTH recommendation is that organizations should always ensure that there are adequate knowledge resources to help middle managers, through their innovative self-efficacy, attain a high level of innovativeness in the organization. Innovative work behaviors basically rely on the availability of knowledge to make sure that every aspect is handled in the required manner. The organizations need to understand the significance of having resources such as research and development centers to help middle managers work effectively to the realization of organizational innovative goals. Where innovative knowledge resources lack, it is important that they are constantly updated to lead to the needed changes in the organization through the input of middle managers.

THE SEVENTH recommendation is that middle managers should be more entrusted with the process of decision-making related to innovative initiatives in the organization. It was established in the research that middle managers have a great influence on different aspects of

innovative work behavior including idea generation, idea promotion, and idea realization in the organization. This means that they need to be more supported in leading to the attainment of a greater innovative environment in the organization. They need to be given a greater room for making relevant decisions that shape the innovative direction that is taken by the organization. This will ensure that more innovative projects within the organization are achieved successfully.

FURTHERMORE, feedback needs to be prioritized for the middle managers in the government sector. It is worth noting that across the different organizations where the middle managers were drawn from, the aspect of innovation has been perceived critical especially in helping these organizations to effectively deliver the needed services to customers. To foster a rise in the innovative self-efficacy and consequently the innovative attitudes of middle managers, it is vital that they get the necessary feedback on their application of innovative ideas and the success of these ideas. This will help them improve the analysis of the innovative ideas that emerge in the organization hence boost the success of their respective organizations.

LASTLY, it is recommended that organizations develop the ability of middle managers to judge events in an innovative manner. As they are mainly innovations that signify change within the organization, it is critical that they are given the opportunity by their respective organizations to sharpen their judgement and sharpen their strategic thinking when it comes to the organizational direction and alignment of their innovative self-efficacy and innovative work behavior. This opportunity will see them effectively utilize their innovative self-efficacy to champion for innovations in the organization and ensure that the set goals are being attained in the required manner in terms of performance of the tasks in these organizations.

7.6 Limitations

The findings from this research study demonstrate that a person's innovative self-efficacy is related to their innovation capacity. However, the limitations of the study cannot be overlooked. A major limitation of this study is in relation to its dependence on self-report measures from the middle managers that were selected from the few UAE government entities. Thus, this may have caused participant bias. This indicates that it is possible that there may have been some questions within the survey that some participants may not have answered adequately. For instance, some participants may have been uncomfortable to answer some questions and therefore may have felt the need to embellish their responses as an attempt of gaining approval from self or others. It was necessary for the researcher to find a way of addressing this issue to enhance the validity of the data that was collected. Therefore, this was done by urging the respondents in the questionnaire not to misrepresent themselves. That is, the participants were urged to be honest in their responses and they were assured of anonymity of these responses.

Each research comes with its limitations. In the present case, reference is made to the methodological limitations. In this regard, the deployment of the cross-sectional design implies that it is difficult to prove causation since it is difficult to tell the direction of the relationship. In other words, it does not assist in identifying the factor that influences another. In addition, the design does not facilitate the tracking of differences since it merely gives a snapshot of the issue under investigation. In addition, the reliance on previous models that are based on Likert scale items is limiting a scale forces respondent to fit within a certain scale. Ideally, a possibility exists that certain individuals' responses might not fit into the scale. In this regard, some element of accuracy is lost.

The other limitation was language barrier, especially regarding the collection of the data from the middle managers. In this respect, it is understood that there could be issues where some of

the middle managers might not be able to express or answer the questions in English. The implication is that the researcher might be forced to translate the questionnaires into Arabic. In addition, it would mean that the researcher translates the collected information from Arabic to English. The challenge of language is limiting because it has the capacity of affecting the quality of the accuracy of the information collected (Bernard, 2002). The information gathered from Arabic may be misconstrued when translating it to English and this might negate the quality of the research findings.

In further demonstrating the research limitations of this research study, this is also demonstrated in the type of research participants selected and used. This research study utilized middle managers as the group of research participants. In using this group of research participants this was essential in capturing their opinions on innovative self-efficacy. However, this is a limitation because it means that the results of this research study can only be generalized to middle managers and not the rest of management.

7.7 Future Research

It is also vital to recommend the approaches that should be undertaken in future research. This research has mainly focused on the investigation of the impact of innovative self-efficacy on the innovative work behavior of middle managers. However, it may be more interesting for future researchers to delve more into strategies that can be implemented by organizations to appreciate the roles of middle managers more and hence ensure that they are contributing to the innovative direction of the organization effectively. At the same time, this can include how public sector organizations can encourage these middle managers to assess their innovative self-efficacy. This also includes how these managers can further be encouraged to pursue innovation. Through this, the role of middle managers in shaping the performance of the

organization and the implementation of innovativeness will be more understood and appreciated.

Additionally, as this study mainly focused on the investigation of the impact of innovative self-efficacy and the impact on the innovative work behavior of middle manager, it is vital that future studies go beyond the factors that are discussed in this study to explore other critical factors that are critical in influencing the innovative work behavior of middle managers. This will see an improvement and ultimate appreciation of the role of middle managers within the organization.

Finally, this study mainly focused on the investigation of the impact of innovative self-efficacy on the innovative work behavior of middle managers in the UAE government sector. This means that only the government department middle managers were studied and are bound to benefit from this study. Hence, it is recommended that future studies should try to compare the impact of innovative self-efficacy on the innovative work behavior of middle managers in the public and private sectors. This will ultimately open more opportunities for the improvement of the innovative self-efficacy and subsequently the innovative work behaviors of managers across different organizations. It would not be limited to public organizations alone, but also private organizations will stand to benefit.

7.8 Summary

The findings are in line with the objectives that were set out in the introduction including, to establish the relationship between middle managers' self-efficacy and innovativeness; to establish the relationship between innovative self-efficacy in guiding groups and innovative work behavior; to explain the relationship between innovative self-efficacy towards influencing employees and innovative work behavior; and to study the relationship between innovative self-efficacy towards Using Innovations and innovative work behavior. Hence, the

findings also aim at reflecting the fact that the objectives of the study as set out in the introduction were attained in the desirable way possible. The findings were derived based on the analysis that was done in SPSS. SPSS simplified the analysis of the raw data that had been collected from the questionnaires because it helped breakdown the complex pieces of data that had been gathered based on the 7-point Likert Scale (McCormick & Salcedo, 2017). More so, the use of SPSS simplified the visualization of data that was acquired from the process of data collection. The breakdown of the data and the ultimate simplification of the visualization through tables and graphs was critical to the understanding of the findings in the study.

REFERENCE LIST

- Abele, A. E. & Spurk, D., 2009. The longitudinal impact of self-efficacy and career goals on objective and subjective career success. *Journal of Vocational Behavior*, 74(1), pp. 53-62.
- Abu-Rahma, A. & Jaleel, B., 2017. Influence of managers' time orientation on strategic practices in the UAE: The moderating role of environmental uncertainty. *International Journal of Emerging Markets*, 12(2), pp. 219-237.
- Ahearne, M., Lam, S. K. & Kraus, F., 2014. Performance impact of middle managers' adaptive strategy implementation: The role of social capital. *Strategic Management Journal*, 35(1), pp. 68-87.
- Ajzen, I., 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), pp. 179-211.
- Alameri, M. et al., 2019. The mediating effect of innovative self-efficacy on the relation between empowering leadership and organizational innovation. *Test Engineering and Management*, Volume 31, pp. 1938-1946.
- Al-Hakim, L. A. Y. & Hassan, S., 2011. The role of middle managers in knowledge management implementation for innovation enhancement. *International Journal of Innovation, Management and Technology*, 2(1), pp. 86-94.
- Al-Harbi, J. A., Alarifi, S. & Mosbah, A., 2019. Transformation leadership and creativity: Effects of employees psychological empowerment and intrinsic motivation. *Personnel Review*, 48(5), pp. 1082-1099.
- Al-Huzaim, Y. b. ', 2011. *The principles of leadership: In the Light of Islamic Heritage and the American Experience*. Riyadh: Maktaba Darussalam.
- Amabile, T. M., 1988. A model of creativity and innovation in organizations. *Research in Organizational Behavior*, Volume 10, pp. 123-167.
- Amabile, T. M. & Conti, R., 1999. Changes in the work environment for creativity during downsizing. *Academy of Management Journal*, 42(6), pp. 630-640.
- Andersen, P. H. & Kragh, H., 2015. Exploring boundary-spanning practices among creativity managers. *Management Decision*, 53(4), pp. 786-808.
- Anderson, D. W., Krajewski, H. T., Goffin, R. D. & Jackson, D. N., 2008. A leadership self-efficacy taxonomy and its relation to effective leadership. *The Leadership Quarterly*, Volume 19, p. 595-608.
- Anggarwati, A. & Eliyana, A., 2015. The influence of innovative self-efficacy towards creativity with job satisfaction as intervening variable at PT. Smile Island Surabaya. *International Journal of Economics & Business Administration (IJEBA)*, 3(1), pp. 90-99.

- Asare, M., 2015. Using the theory of planned behavior to determine condom use behavior among college students. *Am J Health Stud*, 30(1), pp. 43-50.
- Bandura, A., 1977. Self-efficacy: Toward a unifying theory of behavioral change.. *Psychological Review*, 84(2), p. 191–215.
- Bandura, A., 1986. *Social foundations of thought and action: A social cognitive theory*. Upper Saddle River: Prentice-Hall.
- Bandura, A., 1997. *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Bandura, A., 2001. Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, Volume 52, pp. 1-26.
- Bandura, A. & Walters, R. H., 1963. *Social learning and personality development*.. New York: Holt Rinehart and Winston.
- Bernard, R. H., 2002. *Research methods in anthropology : Qualitative and quantitative approaches*. 3 ed. Walnut Creek: AltaMira Press.
- Binnewies, C., Ohly, S. & Niessen, C., 2008. Age and creativity at work: The interplay between job resources, age and idea creativity. *Journal of Managerial Psychology*, 23(4), pp. 438-457.
- Biygautane, M. & Al-yahya, K., 2011a. Knowledge management in the UAE's public sector: The case of Dubai. *Gulf Research Meeting Conference*, pp. 1-34.
- Biygautane, M. & Al-Yahya, K., 2011b. The current state of knowledge management in Dubai's public sector organizations: Assessment and recommendations. *Dubai School of Government*, Issue 27, pp. 1-11.
- Bohn, J. G., 2002. The relationship of perceived leadership behaviors to organizational efficacy. *Journal of Leadership & Organizational Studies* , 9(2).
- Brazeal, D. V., Schenkel, M. T. & Azriel, J. A., 2008. Awakening the entrepreneurial spirit: Exploring the relationship between organizational factors and perceptions of entrepreneurial self-efficacy and desirability in a corporate setting. *New England Journal of Entrepreneurship*, 11(1).
- Brockhus, S., Kolk, T. E. C. v. d., Koeman, B. & BadkeSchaub, P. G., 2014. The influence of innovative self-efficacy on innovative performance. *International Design Conference*, pp. 437-444.
- Brockhus, S., Kolk, T. E. C. v. d., Koeman, B. & Badke-Schaub, P. G., 2014. The influence of innovative self-efficacy on innovative performance. *Human Behavior and Design*, pp. 437-444.

Bryman, A. & Bell, E., 2015. *Business research methods*. 4 ed. Oxford : Oxford University Press.

Buenaventura-Vera, G., 2017. The impact of leader self-efficacy on the characteristics of work teams. *Intangible Capital*, 13(4).

Buenaventura-Vera, G., 2017. The impact of leader self-efficacy on the characteristics of work teams. *Intangible Capital*, 13(4), pp. 824-849.

Cadete, L., 2017. *What is a pilot study?*. [Online]
Available at: <https://s4be.cochrane.org/blog/2017/07/31/pilot-studies/>
[Accessed 20 October 2020].

Castellan, C. M., 2010. Quantitative and qualitative research: A view for clarity. *International Journal of Education* , 2(2), pp. 1-14.

Chen, G., Gully, S. M. & Eden, D., 2001. Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4(1), pp. 63-83.

Cheng, H., Song, F. & Li, D., 2017. How middle managers' participation in decision-making influences firm innovation performance: Evidence from China employer–employee survey data. *Chinese Management Studies*, 11(1), pp. 72-89.

Chen, I.-S., 2016. Examining the linkage between innovative self-efficacy and work engagement: The moderating role of openness to experience. *Baltic Journal of Management*, 11(4), pp. 516-534.

Cherian, J. & Jacob, J., 2013. Impact of self efficacy on motivation and performance of employees. *International Journal of Business and Management* , 8(14), pp. 80-88.

Chesbrough, H. W., 2003. *The era of open innovation*. [Online]
Available at: <https://sloanreview.mit.edu/article/the-era-of-open-innovation/>
[Accessed 20 October 2020].

Chesbrough, H. W., 2017. *Open innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.

Chiocchio, F., Lebel, P. & Dubé, J.-N., 2016. Informational role self-efficacy: A validation in interprofessional collaboration contexts involving healthcare service and project teams. *BMC Health Services Research*, 16(153), pp. 1-7.

Chiu, H. & Fogel, J., 2017. The role of manager influence strategies and innovation attributes in innovation implementation. *Asia-Pacific Journal of Business Administration* , 9(1), pp. 16-36.

- Chong, E. & Ma, X., 2010. The influence of individual factors, supervision and work environment on innovative self-efficacy. *Creativity and Innovation Management*, 19(3), pp. 233-247.
- Colquitt, J. A. & Simmering, M. J., 1998. Conscientiousness, goal orientation, and motivation to learn during the learning process: A longitudinal study.. *Journal of Applied Psychology*, 83(4), pp. 654-665.
- Creswell, J. W. & Clark, V. L. P., 2011. *Designing and conducting mixed methods research*. Newcastle: SAGE.
- DataStar Inc, 2020. *How to interpret standard deviation and standard error in survey research*. [Online]
Available at: <https://www.greenbook.org/marketing-research/how-to-interpret-standard-deviation-and-standard-error-in-survey-research-03377>
[Accessed 20 October 2020].
- de Jong, J. & den Hartog, D., 2010. Measuring innovative work behavior. *Creativity and Innovation Management*, 19(1), pp. 23-36.
- De Waal, A. & Frijns, M., 2016. The influence of the UAE context on management practice in UAE business. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(2), pp. 236-253.
- Döös, M., Johansson, P. & Wilhelmson¹, L., 2015. Beyond being present: learning-oriented leadership in the daily work of middle managers. *Journal of Workplace Learning*, 27(6), pp. 408-425.
- Drnovs'ek, M., Wincent, J. & Cardon, M. S., 2010. Entrepreneurial self-efficacy and business start-up: Developing a multi-dimensional definition. *International Journal of Entrepreneurial Behaviour & Research*, 16(4), pp. 329-348.
- Drucker, P. F., 1986. *The frontiers of management : Where tomorrow's decisions are being shaped today*. 1 ed. New York: Truman Talley Books.
- Dubai Government, 2007. Human resources management law no. (27) 2006 and Law no. (14) of 2010 amending certain provisions of the government of Dubai human resources management law no. (27) 2006. pp. 16-84.
- Enago Academy, 2020. *Why is a pilot study important in research?*. [Online]
Available at: <https://www.enago.com/academy/pilot-study-defines-a-good-research-design/>
[Accessed 20 October 2020].
- Engle, R. L. et al., 2015. What roles do middle managers play in implementation of innovative practices?. *Health Care Management Review*, 42(1), pp. 15-27.

- Escribá-Esteve, A. & Montoro-Sanchez, A., 2012. Guest editorial: Creativity and innovation in the firm: Managerial antecedents and effects on employees. *International Journal of Manpower*, 33(4), pp. 344-348.
- Evers, W. J. G., Brouwers, A. & Tomic, W., 2002. Burnout and self-efficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *British Journal of Educational Psychology*, Volume 72, p. 227–243.
- Farr, J. L. & West, M., 1990. *Individual innovation and creativity at work: Psychological and organizational strategies*. Hoboken: John Wiley & Sons, Ltd.
- Finstad, K., 2010. Response interpolation and scale sensitivity: Evidence against 5-point scales. *Journal of Usability Studies*, 5(3), pp. 104-110.
- Fischer, B. D. & Rohde, M., 2013. Management resistance to innovation. *American Journal of Management* , 13(1), pp. 93-99.
- Fornell, C. & Larcker, D. F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), pp. 39-50.
- Fox, J., 2015. *Applied regression analysis and generalized linear models*. 3 ed. Newcastle: SAGE Publications, Inc.
- Gerald, B., 2018. A brief review of independent, dependent and one sample t-test. *International Journal of Applied Mathematics and Theoretical Physics*, 4(2), pp. 50-54.
- Ghafoor, A., Qureshi, T. M., Azeemi, H. R. & Hijazi, S. T., 2011. Mediating role of innovative self-efficacy. *African Journal of Business Management*, 5(27), pp. 11093-11103.
- Ghazali, N. H. M., 2016. A reliability and validity of an instrument to evaluate the school-based Assessment system: A pilot study. *International Journal of Evaluation and Research in Education (IJERE)* , 5(2), p. 148~157 .
- Ghosh, K., 2015. Developing organizational creativity and innovation. *Management Research Review* , 38(11), pp. 1126-1148.
- Gong, Y., Huang, J.-c. & Far, J.-L., 2009. Employee learning orientation, transformational leadership, and employee creativity: the mediating role of employee innovative self-efficacy. *Academy of Management Journal*, 52(4), p. 765–778.
- Gratton, L., 2011. Column: The end of the middle manager. *Harvard Business Review*.
- Guellec, D. & Potterie, B. V. P. d. l., 2004. From R&D to productivity growth: Do the institutional settings and the source of funds of R&D matter?. *Oxford Bulletin of Economics and Statistics*, 66(3), pp. 353-378.
- Haiba, M. E., Elbassiti, L. & Ajhoun, R., 2017. Idea management: Idea generation stage with a qualitative focus. *Journal of Advanced Management Science*, 5(4), pp. 271-278.

- Hamel, G., 2011. First, let's fire all the managers. *Harvard Business Review*.
- Harding, N., Lee, H. & Ford, J., 2014. Who is 'the middle manager'?. *Human Relations*, 67(10), pp. 1213-1237.
- Hardin-Fanning, F. & Ricks, J. M., 2017. Attitudes, social norms, and perceived behavioral control factors influencing participation in a cooking skills program in rural Central Appalachia. *Glob Health Promot*, 24(4), pp. 43-52.
- Hasan, K., 2016. *Effect of empowering middle managers*. [Online]
Available at: <https://www.linkedin.com/pulse/effect-empowering-middle-managers-md-kamrul-hasan>
[Accessed 20 October 2020].
- Hess, A., 2019. *New research suggests innovation is 6 times higher at companies where men and women are treated most equally*. [Online]
Available at: <https://www.cnbc.com/2019/03/08/research-finds-that-companies-with-gender-equity-are-more-innovative.html>
[Accessed 20 October 2020].
- Hokimoto, T., 2017. *Advances in statistical methodologies and their application to real problems*. New York: BoD – Books on Demand.
- Hong-Da, L., Vivian, C. C.-H., Chin-Tien, H. & Wu-Chen, F., 2014. Relationship between entrepreneurial leadership and innovative behavior: The mediating effect of entrepreneurial self-efficacy and the moderating effect of openness to experience and extraversion. *Information Technology Journal*, Volume 13, pp. 1035-1044.
- Howard, MC 2015, 'A review of exploratory factor analysis (EFA) decisions and overview of current practices: what we are doing and how can we improve?', *International Journal of Human-Computer Interaction*, vol. 32, no. 1, pp. 51-62
- Hsiao, H.-C., Chang, J.-C., Tu, Y.-L. & Chen, S.-C., 2011. The impact of self-efficacy on innovative work behavior for teachers. *International Journal of Social Science and Humanity*, 1(1), pp. 31-36.
- Huy, Q., 2001. *In praise of middle managers*. [Online]
Available at: <https://hbr.org/2001/09/in-praise-of-middle-managers>
[Accessed 20 October 2020].
- Huy, Q. N., 2002. Emotional balancing of organizational continuity and radical change: The contribution of middle managers. *Administrative Science Quarterly*, 47(1), pp. 31-69.
- Igbojekwe, P., 2017. Emotional labour, self efficacy and service orientation behaviour: A study of selected hotels in South Nigeria. *International Journal of Managerial Studies and Research (IJMSR)*, 5(6), pp. 88-100.

- Ikävalko, H., 2005. Strategy process in practice: Practices and logics of action of middle managers in strategy implementation. *Helsinki University of Technology Laboratory of Work Psychology and Leadership Dissertation*, pp. 1-167.
- Janssen, O., 2000. Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), pp. 287-302.
- Jäkel, T., 2018. Innovative self-efficacy of municipal employees: empirical evidence from Russia's Leningrad region. *International Review of Public Administration*, 24(1), pp. 36-59.
- Johnson, M. & Härtel, C., 2014. Engaging middle managers for positive organisational change. *Australian Institute of Management*, pp. 1-32.
- Jolliffe, IT & Cadima, J 2016, 'Principal component analysis: a review and recent developments', *Mathematical, Physical and Engineering Sciences*.
- Kamla, R. & Roberts, C., 2010. The global and the local: Arabian Gulf States and imagery in annual reports. *Accounting, Auditing and Accountability Journal*, 23(4), pp. 449-481.
- Kanter, R. M., 1982. The middle manager as innovator. *Harvard Business Review*, 60(4), p. 95-105.
- Ken State University, 2020. *SPSS tutorials: Independent sample T-Test*. [Online] Available at: <https://libguides.library.kent.edu/SPSS/IndependentTTest> [Accessed 20 October 2020].
- Kim, J. & Wilemon, D., 2002. Strategic issues in managing innovation's fuzzy front-end. *European Journal of Innovation Management*, 5(1), pp. 27-39.
- Kissi, J., Dainty, A. & Liu, A., 2012. Examining middle managers' influence on innovation in construction professional services firms: A tale of three innovations. *Construction Innovation*, 12(1), pp. 11-28.
- Klein, A., Waxin, M. F. & Radnell, E., 2009. The impact of the Arab national culture on the perception of ideal organizational culture in the United Arab Emirates. *Education, Business and Society: Contemporary Middle Eastern Issues*, 2(1), pp. 44-56.
- Koberg, C. S. & Chusmir, L. H., 1987. Organizational culture relationships with creativity and other job-related variables. *Journal of Business Research*, 15(5), pp. 397-409.
- Kor, Y. Y. & Mahoney, J. T., 2002. Penrose's resource-based approach: The process and product of research creativity. *Journal of Management Studies*, 37(1).
- Kumarasinghe, S. & Hoshino, Y., 2010. The role and perceptions of middle managers and their influence on business performance: The case of Sri Lanka. *International Business Research*, 3(4), pp. 3-16.
- Lacort, M. O., 2014. *Descriptive and inferential statistics Summaries of theory and exercises solved*. Chicago: Lulu.com.

- Lakey, G., 2019. *Standard deviation and the stock market*. Chicago: Lulu.com.
- Liu, A. M. M. & Chan, I. Y. S., 2017. Understanding the interplay of organizational climate and leadership in construction innovation. *Journal of Management in Engineering*, 33(5).
- Long, H., 2014. An empirical review of research methodologies and methods in creativity studies (2003–2012). *Creativity Research Journal*, 26(4).
- Mair, J. & Thurner, C., 2008. Going global: how middle managers approach the process in medium-sized firms. *Strategic Change*, Volume 17, pp. 83-99.
- Martin-Rios, C., 2015. Innovative management control systems in knowledge work: A middle manager perspective. *Journal of Management Control*, Volume 27, p. 181–204.
- Maskey, R, Fei, J, & Nguyen, H-O 2018, 'Use of exploratory factor analysis in maritime research', *The Asian Journal of Shipping and Logistics*, vol. 34, no. 2, pp. 91-111.
- McCormick, K. et al., 2017. *SPSS statistics for data analysis and visualization*. Hoboken: Wiley.
- Mellahi, K. & Budhwar, P. S., 2010. Introduction : Islam and human resource management. *Personnel Review Journal*, 39(6), pp. 685-691.
- Miller, N. E. & Dollard, J., 1941. *Social learning and imitation*. New Haven: Yale University Press.
- Mills, W. C., 1951. *White collar; the American middle classes*. New York: Oxford University Press.
- Mohammed Bin Rashid Centre for Government Innovation, 2015. Government innovation framework. pp. 1-103.
- Mokhber, M. et al., 2016. Impact of entrepreneurial leadership on organization demand for innovation: Moderating role of employees innovation self efficacy. *International Review of Management and Marketing*, 6(3), pp. 415-421.
- Momeni, M., Ebrahimpour, H. & Ajirloo, M. B., 2014. The effect of employees' self-efficacy on innovative work behavior at social security organization employees in Ardabil province. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(8), pp. 29-32.
- Montgomery, D. C., Peck, E. A. & Vining, G. G., 2013. *Introduction to linear regression analysis*. Chicago: John Wiley & Sons.
- Moultrie, J. & Young, A., 2009. Exploratory study of organizational creativity in innovative organizations. *Creativity and Innovation Management*, 18(4), pp. 299-314.
- Muhammed, S., Doll, W. J. & Deng, X., 2011. Impact of knowledge management practices on task knowledge: An individual level study.. *International Journal of Knowledge Management*, 7(4), pp. 1-21.

Mulgan, G., 2007. *Ready or not: Taking innovation in the public sector seriously*. [Online] Available at: <https://www.nesta.org.uk/report/ready-or-not-taking-innovation-in-the-public-sector-seriously/>

[Accessed 20 October 2020].

Naqshbandi, M. M., 2016. Managerial ties and open innovation: Examining the role of absorptive capacity. *Management Decision*, 54(9), pp. 2256-2276.

Nazari, M. Z. & Shahdadnejad, N., 2011. Barriers to creativity and innovation in the organization's management. *2011 International Conference on E-business, Management and Economics*, Volume 25, pp. 256-260.

Newman, A., Tse, H. H., Schwarz, G. & Nielsen, I., 2018. The effects of employees' innovative self-efficacy on innovative behavior: The role of entrepreneurial leadership. *Journal of Business Research*, Volume 89, pp. 1-9.

Nielsen, K. & González, E. R., 2015. Engaging middle managers: Activities and resources which enhance middle manager engagement. pp. 139-148.

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

Norman, D. A. & Verganti, R., 2014. Incremental and radical innovation: Design research vs. technology and meaning change. *Design Issues*, 30(1), pp. 78-96.

Oldham, G. R. & Cummings, A., 1996. Employee creativity: Personal and contextual factors at work. *The Academy of Management Journal*, 39(3), pp. 607-634.

Parthasarathy, J. & Premalatha, T., 2017. Impact of collective-efficacy and self-efficacy on the innovative work behaviour of teachers in the Nilgiris District, Tamil Nadu. *International Journal of Indian Psychology*, 5(1).

Petrakis, P. E., 2014. *Culture, growth and economic policy*. New York: Springer.

Priem, R. L., Li, S. & Carr, J. C., 2011. Insights and new directions from demand-side approaches to technology innovation, entrepreneurship, and strategic management research. *Journal of Management*, Volume 38, pp. 346-374.

Primi, T. D. C. N. & Wechsler, S. M., 2018. Creativity and innovation: Skills for the 21st Century. *Estudos de Psicologia (Campinas)*, 35(3), pp. 237-246.

Razak, N. A. et al., 2014. Theories of knowledge sharing behavior in business strategy. *2014 IEEE Symposium on Business, Engineering and Industrial Applications*, pp. 187-192.

Rekonen, S. & Björklund, T. A., 2016. Perceived managerial functions in the front-end phase of innovation. *International Journal of Managing Projects in Business*, 9(2), pp. 414-432.

Rezvani, Z., 2017. Who is a Middle Manager: A literature Review. *Journal of Family Business Management*, 1(2), pp. 1-9.

- Rouleau, L. & Balogun, J., 2011. Middle managers, strategic sensemaking, and discursive competence. *Journal of Management Studies*, 48(7), pp. 953-983.
- Rutten, L. J. F. et al., 2016. Health self-efficacy among populations with multiple chronic conditions: the value of patient-centered communication. *Advances in Therapy*, 33(8), pp. 1440-1451.
- Saari, E., Lehtonen, M. & Toivonen, M., 2015. Making bottom-up and top-down processes meet in public innovation. *The Service Industries Journal*, 35(6), pp. 325-344.
- Säfsten, K., Johansson, G., Lakemond, N. & Magnusson, T., 2014. Interface challenges and managerial issues in the industrial innovation process. *Journal of Manufacturing Technology Management*, 25(2), pp. 218-239.
- Sahu, P. K., Pal, S. R. & Das, A. K., 2015. *Estimation and inferential statistics*. New York: Springer.
- Samma, M. et al., 2020. Exploring the relationship between innovative work behavior, job anxiety, workplace ostracism, and workplace incivility: Empirical evidence from small and medium sized enterprises (SMEs). *Healthcare*, 8(508), pp. 1-15.
- Saunders, M., Lewis, P. & Thornhill, A., 2012. *Research methods for business students*. Harlow: Pearson Education Ltd.
- Schultz, D. P. & Schultz, S. E., 2017. *Theories of personality*. Boston: Cengage Learning.
- Scott, S. G. & Bruce, R. A., 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *The Academy of Management Journal*, 37(3), pp. 580-607.
- Setiawan, R., Tirsa, G., Suryani, T. & Eliyana, A., 2020. Boosting innovative work behavior on local branded fashion: The evidence from Indonesia. *Utopía y Praxis Latinoamericana*, 25(2), pp. 66-73.
- Shalley, C. E., Zhou, J. & Oldham, G. R., 2004. The effects of personal and contextual characteristics on creativity: Where should we go from here?. *Journal of Management*, 30(6), p. 933-958.
- Shaughnessy, J., Zechmeister, E. & Zechmeister, J., 2014. *Research methods in psychology*. 10 ed. New York: McGraw-Hill Education.
- Shibin, M., Wang, Y. & Liu, F., 2016. *The mediator role of innovative self-efficacy between person-organization fit and innovative behavior*. s.l., s.n., pp. 1-6.
- Sideridis, G., Saddaawi, A. & Al-Harbi, K., 2018. Internal consistency reliability in measurement: Aggregate and multilevel approaches. *Journal of Modern Applied Statistical Methods*, 17(1), pp. 1-30.
- Silverman, D., 2011. *Interpreting qualitative data*. Newcastle: SAGE.

- Slåtten, T., 2014. Determinants and effects of employee's innovative self-efficacy on innovative activities. *International Journal of Quality and Service Sciences* , 6(4), pp. 326-347.
- Soeters, J., Shields, P. M. & Rietjens, S., 2016. *Routledge handbook of research methods in military studies*. London: Routledge.
- Spreitzer, G. M., 1995. An empirical test of a comprehensive model of intrapersonal empowerment in the workplace. *American Journal of Community Psychology* , Volume 23, pp. 601-629.
- Stajkovic, A. & Luthans, F., 2002. Social cognitive theory and self-efficacy: Implications for motivation theory and practice. *Chapter 2: Conceptual Approaches to Motivation at Work*, pp. 126-140.
- Stallings, R. A., 2003. *Methods of disaster research*. Bloomington: Xlibris .
- Sternberg, R. J., 2006. The nature of creativity. *Creativity Research Journal*, 18(1), pp. 87-98.
- Suliman, A. & Kathairi, M. A., 2012. Organizational justice, commitment and performance in developing countries: The case of the UAE. *Employee Relations*, Volume 35, pp. 98-115.
- Taherdoost, H., 2016. Validity and reliability of the research instrument; How to test the validation of a questionnaire/survey in a research. *SSRN Electronic Journal*, 5(3), pp. 28-36.
- Tang, W., Cui, Y. & Babenko, O., 2014. Internal consistency: Do we really know what it is and how to assess it?. *Journal of Psychology and Behavioral Science*, 2(2), pp. 205-220.
- Tierney, P., Farmer, S. & Graen, G., 1999. An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, Volume 52, pp. 591-620.
- Tierney, P. & Farmer, S. M., 2002. Innovative self-efficacy: Potential antecedents and relationship to innovative performance. *The Academy of Management Journal*, Volume 45, pp. 137-148.
- Tierney, P. & Farmer, S. M., 2011. Innovative self-efficacy development and innovative performance over time. *Journal of Applied Psychology*, 96(2), pp. 277-293.
- Torring, J. & Sørensen, E., 2011. Enhancing collaborative innovation in the public sector. *Administration & Society*, 43(8).
- UAE Ministry of Cabinet Affairs, 2015. UAE national innovation strategy. pp. 1-20.
- Vally, Z. et al., 2019. Examining the effects of creativity training on innovative production, innovative self-efficacy, and neuro-executive functioning. *Thinking Skills and Creativity*, Volume 31, pp. 70-78.

Verganti, R., 2008. Design, meanings, and radical innovation: A metamodel and a research agenda. *The Journal of Product Innovation Management*, 25(5), pp. 436-456.

Vision 2021, 2020. *UAE vision*. [Online]
Available at: <https://www.vision2021.ae/en>
[Accessed 21 October 2020].

Wang, C., Harris, J. A. & Patterson, P. G., 2012. Customer choice of self-service technology: The roles of situational influences and past experience. *Journal of Service Management*, pp. 54-78.

Wang, L., Tao, H., Bowers, B. J. & Brown, R., 2017. Influence of social support and self-efficacy on resilience of early career registered nurses. *Western Journal of Nursing Research*, 40(10), pp. 1-17.

Willmer, M, Jacobson, J, & Lindberg, M 2019, 'Exploratory and confirmatory factor analysis of the 9-item utrecht work engagement scale in a multi-occupational female sample: a cross-sectional study', *Frontiers in Psychology*.

Winter, JCF & Dodou, D 2015, 'Common factor analysis versus principal component analysis: a comparison of loadings by means of simulations', *Communications in Statistics Simulation and Computation*, vol. 45, no. 1.

Woodman, R., Sawyer, J. E. & Griffin, R. W., 1993. Toward a theory of organizational creativity. *The Academy of Management Review*, 18(2), pp. 293-321.

Wright, AGC 2017, 'The current state and future of factor analysis in personality disorder research'. *Personality Disorders*, vol. 8, no. 1.

Zamani-Alavijeh, F. et al., 2019. Sources of health care providers' Self-efficacy to deliver Health Education: A qualitative study. *BMC Medical Education* , 19(16).

Zhou, J., 1998. Feedback valence, feedback style, task autonomy, and achievement orientation: Interactive effects on innovative performance. *Journal of Applied Psychology* , 83(2), pp. 261-276.

Zhou, J. & George, J. M., 2001. When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44(4).

BIBLIOGRAPHY

Burdick, A., 2015. Self-Efficacy of Middle School Teachers Responsible for Teaching Struggling Readers. PhD. University of Connecticut.

Esposito, M. & Elsholkamy, M., 2017. The UAE and the future of work. *Technical Report*, pp. 1-35.

McMahon, G., 2013. *Performance management: Chapter 7 in human resource management*. London: Palgrave Macmillan.

Salih, A. & Doll, Y., 2013. A middle management perspective on strategy implementation. *International Journal of Business and Management*, 8(22), pp. 32-39.

Sethi, N. & Sethi, V., 2011. E-government implementation: A case study of Dubai e-Government. pp. 185-195.

Towers Watson, 2014. Career bands, career levels, functions and disciplines.

APPENDICES

Appendix A: Questionnaire

Part 1: Demographics

ID Number

Name

Gender

Age

Grade

Position

Department

Entity

Part 2: Self-efficacy

Self-efficacy towards Guiding Groups

Q1

If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action

Q2

I always assess well what is going on when a group works in a troublesome way

Q3

I am able to foster co-operation in a group when the workers experience difficulties in their duties

Q4

When a group is disruptive, I am able to get them back to work again quickly

Q5

I can quickly set a worker to work who is undermining co-operation with others

Q6

I am able to point out to the workers that they are responsible for positive organizational performance

Self-efficacy towards influencing Employees

Q7

I am able to find reasons for low motivation among workers

Q8

I am able to provide appropriate clues to workers when looking for relevant information to complete a task

Q9

If workers experience challenges in carrying out tasks, I guide them to find solutions
Q10

Self-efficacy towards Using Innovations

Q11

In general, I cope well with stress that comes with routine organizational work

Q12

I can cope well with pressure originating from innovative work changes

Q13

Despite failure, I keep introducing new innovative projects

Part 3: Innovative Work Behavior

Idea Generation

Q14

When I move to a new department with a new team, I impact positively on the team behavior and performance

Q15

Within my network, I normally transfer my innovative behavior to others positively

Q16

I am able to create new ideas for handling difficult issues.

Idea

Promotion

Q17

I often search for new working methods or instruments

Q18

I often search for the best practices and solutions

Q19

Often, I mobilize support for innovative ideas

Idea Realization

Q20

I always rally for the approval of innovative ideas

Q21

I work towards making important organizational members enthusiastic about innovative ideas

Q22

I always focus on transforming innovative ideas into useful practical applications

Q23

I often introduce innovative ideas into the work environment in a systematic way

Q24

I always evaluate the utility of innovative ideas before implementing them

Appendix B: Invitation letter (English and Arabic)

Dear Manager,

You are being invited to take part in a pilot study to validate a questioner which will be used to conduct a research study in regards the Relationship between Middle Manager Creative Self-Efficacy and Innovation: The case of the Dubai Government Entities.

To be eligible to participate in this pilot study, you must be an middle manager in on of the Dubai Government Entities, as per the Dubai Government Law hierarchy From grade 12-4 to 16-4.

Your opinions and experiences are valuable to understanding the right format and context of the questions that suits the middle managers in Dubai.

This data can be used to improve the tools used for the study. This study is being conducted by a researcher named Alfadhel Alhemeiri, who is a doctoral student at The British University in Dubai. Alfadhel will be the primary investigator, and will personally collect all data during this study.

If you wish to participate, kindly reply to this email as follows:

“I accept to participate in the pilot study, and approve of all the results and discussion summary that will be presented to me during the interview.”

Thank you for your kind support.

Regards,

Alfadhel Alhemeiri

عزيري المدير،

تمت دعوتكم للمشاركة في دراسة تجريبية للتحقق من صحة الأسئلة التي سيتم استخدامها لإجراء دراسة بحثية فيما يتعلق بالعلاقة بين كفاءة الإبداع الذاتي للمدراء المتوسطين وابتكاراتهم: قضية الجهات الحكومية في دبي.

لتكون مؤهلاً للمشاركة في هذه الدراسة التجريبية، يجب أن تكون مديرًا متوسطًا كما هو موضح في قانون الموارد البشرية لحكومة دبي وفقًا للتسلسل الهرمي من الدرجة 4-12 إلى 4-16.

إن أرائك وتجاربك ذات قيمة في فهم الشكل والسياق المناسبين للأسئلة التي تناسب المديرين المتوسطين في دبي.

يمكن استخدام هذه البيانات لتحسين الأدوات المستخدمة للدراسة. يجري هذه الدراسة باحث يدعى الفضل الحميري، وهو طالب دكتوراه في الجامعة البريطانية في دبي. سيكون الفضل هو الباحث الرئيسي، وسيقوم شخصياً بجمع جميع البيانات خلال هذه الدراسة.

إذا كنت ترغب في المشاركة، فيرجى الرد على هذه الرسالة الإلكترونية على النحو التالي:

"أوافق على المشاركة في الدراسة التجريبية، وأوافق على جميع النتائج وملخص المناقشة الذي سيتم عرضه علي خلال المقابلة."

شكرا لدعمكم المستمر.

مع تحياتي،

الفضل الحميري

Appendix C: Pilot questionnaire development

السؤال	النص	رقم السؤال	النوع	الجزء	Part	Type	Category	Q.Number	Questions	Decision	Score
إن رغبة العامل مسخرة في إلقاء التهمة ، لذا قدر على إصاحته في الزمعة لتسار التصحيح للعمل	القدرة الذاتية تجاه إرشاد المجموعات	1 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q1	If a worker experiences difficulty in doing a task, I am able to help him or her on the right course of action		0
كود دائما يتأكد جيداً مما يحدث عندما تعمل المجموعة بطريقة منتظمة	القدرة الذاتية تجاه إرشاد المجموعات	2 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q2	I always assess well what is going on when a group works in a routine way		0
أنا قادر على تعزيز التعاون في مجموعة عندما يواجه العامل صعوبات في واجباته	القدرة الذاتية تجاه إرشاد المجموعات	3 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q3	I am able to foster co-operation in a group when the workers experience difficulties in their duties		0
عندما تكون المجموعة مثقلة أتمكن من إعادتها إلى العمل مرة أخرى بسرعة	القدرة الذاتية تجاه إرشاد المجموعات	4 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q4	When a group is disruptive, I am able to get them back to work again quickly		0
يمكنني تجنب العمل الذي يتسبب بمجموعة بالعمل بمرحلة مع الفريق	القدرة الذاتية تجاه إرشاد المجموعات	5 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q5	I can quickly set a worker to work who is undermining co-operation with others		0
أستطيع أن أوجه العامل أنهم مسؤولين عن أداء المؤسسة الجيد	القدرة الذاتية تجاه إرشاد المجموعات	6 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Guiding Groups	Q6	I am able to point out to the workers that they are responsible for positive organizational performance		0
أنا قادر على العثور على أسباب انخفاض الدافع بين العمال	القدرة الذاتية تجاه إرشاد الموظفين	7 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards influencing Employees	Q7	I am able to find reasons for low motivation among workers		0
أنا قادر على توفير النصيحة المناسبة للعامل عند البحث عن المعلومات ذات الصلة بالمشكلة المحددة	القدرة الذاتية تجاه إرشاد الموظفين	8 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards influencing Employees	Q8	I am able to provide appropriate clues to workers when looking for relevant information to complete a task		0
إن رغبة العامل لتعبث في مهمة العامل فهي إرشادهم لإيجاد حلول	القدرة الذاتية تجاه إرشاد الموظفين	9 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards influencing Employees	Q9	If workers experience challenges in carrying out tasks, I guide them to find solutions		0
أنا قادر على تحديد ما إذا كانت المهمة لديها مستوى مناسب من الصعوبة	القدرة الذاتية تجاه إرشاد الموظفين	10 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards influencing Employees	Q10	I am able to establish if a task has suitable level of difficulty		0
يمكنني أداء أعمال مع الصعوبة التي تأتي مع العمل المؤسسي الرقيق	القدرة الذاتية تجاه استبعاد الإكسترات	11 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Thing Innovations	Q11	In general, I cope well with stress that comes with routine organizational work		0
يمكنني العمل بشكل جيد مع الصعوبات التي تأتي مع العمل المتكرر	القدرة الذاتية تجاه استبعاد الإكسترات	12 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Thing Innovations	Q12	I can cope well with pressure originating from innovative work changes		0
على الرغم من الفشل، أواصل تقديم مشاريع مبتكرة جديدة	القدرة الذاتية تجاه استبعاد الإكسترات	13 من	القدرة الذاتية	1	1	Self-efficacy	Self-efficacy towards Thing Innovations	Q13	Despite failure, I keep introducing new innovative projects		0
أنا قادر على خلق أفكار جديدة للعامل مع القدرة المهيبة	إشراء الأفكار	14 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Generation	Q14	I am able to create new ideas for handling difficult issues		0
أفكر ما يحدث من أشياء جديدة أو أدوات جديدة	إشراء الأفكار	15 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Generation	Q15	I often search for new working methods or instruments		0
أنا دائماً أكون الأول في التفكير للمشاكل	إشراء الأفكار	16 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Generation	Q16	I always generate original solutions for problems		0
في كثير من الأحيان، أكون بمثابة دعم لفكر المبتكر	أشروع الأفكار	17 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Promotion	Q17	often, I mobilize support for innovative ideas		0
أنا دائماً أعزب من أمل الموافقة على الأفكار المبتكرة	أشروع الأفكار	18 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Promotion	Q18	I always rally for the approval of innovative ideas		0
أنا أعمل على جعل أعضاء المؤسسة المهتمين متحمسين للأفكار المبتكرة	أشروع الأفكار	19 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Promotion	Q19	I work towards making important organizational members enthusiastic about innovative ideas		0
أركز دائماً على تحويل الأفكار المبتكرة إلى تطبيقات عملية مفيدة	تنفيذ الأفكار	20 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Realization	Q20	I always focus on transforming innovative ideas into useful practical applications		0
نظراً ما أقدم أفكاراً مبتكرة في بيئة العمل بطريقة منتظمة	تنفيذ الأفكار	21 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Realization	Q21	I often introduce innovative ideas into the work environment in a systematic way		0
أقوم دائماً بتقييم أفكار المبتكر قبل تنفيذها	تنفيذ الأفكار	22 من	سلوك العمل المبتكر	2	2	Innovative Work Behaviour	Idea Realization	Q22	I always evaluate the utility of innovative ideas before implementing them		0

Appendix D: Overview Report – Comment

Overview Report - Comment

22 Questions

ID	Name	Organization	Department	Position	Grade	Nationality	Gendre	Age	Comment	Q1
										0

Appendix E: Comments on Pilot Questionnaire

- Change the title of worker to employee
- Q19 does it includes members and colleagues or employees under supervision?
- In regards to rotation, how to measure the manager if he/she is working with new employees?
- Recommend new field: Measure the behavior to a new place
- New Q: when I move to a new department with a new team, I impact positively on the team behavior and performance OT New Q: within my network, I normally transfer my innovative behavior to others positively
- Maybe you can Add a new question or change the way the question is represented, in order to check the truth of what is written.
- "Maybe the questions need to be elaborated, if the interviewer is available for the questionnaire it is good if not more thorough elaboration is needed"
- Questions are clear and are represented by the government, most middle managers are practicing it
- The questions could apply to all employees, and everyone is a manager. I feel that the process is smooth and the questions are good and fits the government employees middle managers.
- How would questions of AI be reflected in this study?
- New Q: I approve of development solutions in regards to new technology. with this questions you can figure out the level of their approval and resistance to innovation behavior and technologies.
- The format stays the same and I feel that it is very relevant to the middle managers in the UAE, especially that all of the directions from the Government is enforcing innovative behaviors. Some questions are very involved in our core operation.
- There are many parts to discuss, in terms of Directors, sometimes, there is **no buy in** from upper management, and you get demotivated, so you slowdown on your approach and execution.
- Freedom should be given to middle managers, and upper management should provide a buy in with minimum results to get the idea forward.
- Appreciation as a method of innovative solution, because it emphasize the importance of the idea to top management. It is critical.
- New Q: I change my approach to get the buy in for innovative solutions. (Idea Promotion)
- Loyalty should be built by appreciation and approving solutions. Some of the questions can be used as a study to employees.
- Interesting, it made me think about my capabilities and self-efficacy. The questions apply to the middle management but it strongly applies to leaders not managers.
- Q16 is not necessarily right to apply in the study because not all ideas are new and generally it is more about adaptation and access to data and information, and it can be linked with the level of searching and difficulty of obtaining a solution. It can be replaced by the following:
- Replace Q16 New: I often search for the best practices and solutions.
- Arabic Version of Q21 needs clarification to emphasize the difference between systematic as a process or organized as a idea presentation.
- Questions are clear and covers a lot of aspects, and it actually expands our horizon in terms of our innovative behavior in our work.
- Q20 made me reflect on the management support or personal traits, and I chose to give up on ideas, however a managers needs to be persistent.
- Questions are relevant, but they do not really reflect on personality, and a question might need a sub question, so a comment box might be added to the answers from 4 to 1 to understand the factors that impact that practice, behavior or capability.
- Also I recommend Writing the Title of the research in the letter of invitation. I suggest adding the number of employees under each Manager to see the level of impact, only if that is relevant to the research.
- Also a question can be added in regards to the number of ideas generated during the management of a specific section, and number of ideas developed and implemented, to measure the impact of the innovation behavior of the manager.
- Questions are great and they really tackle the job of the middle managers

Appendix F: Participant Details

Participants Details

5 from Dubai Economics
5 from Dubai Exports

Organization	Department
Dubai Economy	Commercial Compliance & Consumer Protection Sector
Dubai Economy	Commercial Compliance & Consumer Protection Sector
Dubai Economy	Commercial Compliance & Consumer Protection Sector
Dubai Economy	Commercial Compliance & Consumer Protection Sector
Dubai Economy	Commercial Compliance & Consumer Protection Sector
Dubai Export	Exporter Services Department
Dubai Export	Export Initiative & Partnership
Dubai Export	Export Market Development
Dubai Export	Industry & Products Development
Dubai Export	Development & Follow Up

No.	Section	Position	Grade	Nationality	Gender	Age
1	Consumer Awareness	Senior Manager	(14-4)	Emirati	Male	40
2	Development	Senior Manager	(12-4)	Emirati	Male	31
3	External Branches	Senior Manager	(14-4)	Emirati	Female	47
4	Commercial Compliance	Director	(16-4)	Emirati	Male	42
5	Promotional Campaign	Senior Manager	(15-4)	Emirati	Male	48
6	Exporter Services	Director	(16-4)	Emirati	Male	43
7	Export Initiative & Partnership	Director	(16-4)	Emirati	Female	43
8	International Market Development	Manager	(12-4)	Emirati	Male	31
9	Industry & Products Development	Manager	(12-4)	Emirati	Female	30
10	Development & Follow Up	Director	(16-4)	Emirati	Male	46

Demographics

- 4 Directors
- 4 Senior Managers
- 2 Managers
- 7 males 3 females
- Range of Age from

No.	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22
1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	5	7	7	7	7
2	7	6	5	5	4	7	6	7	6	5	6	6	6	5	5	6	5	5	6	5	5	5
3	7	5	7	5	4	6	6	7	7	7	6	7	5	6	6	6	7	2	2	4	4	6
4	7	7	7	7	6	7	7	7	7	6	7	7	7	7	7	6	7	3	6	4	5	5
5	7	6	6	7	5	7	5	7	6	5	6	6	5	6	7	6	6	7	6	6	7	7
6	7	6	7	6	5	7	5	7	7	6	7	7	6	6	5	5	7	6	6	6	6	6
7	7	7	7	7	6	5	7	5	6	7	6	7	6	5	5	3	7	6	6	5	7	6
8	7	6	7	5	6	7	7	7	6	7	7	6	7	7	6	7	7	6	7	5	5	4
9	7	5	7	5	4	5	5	7	5	7	7	7	5	3	7	4	6	5	4	3	5	6
10	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	7	7	6	6	6	6	7

Overview of
Results

Appendix G: Reliability Test

RELIABILITY

/VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6

Reliability Statistics	
Cronbach's Alpha	N of Items
.893	6

Item-Total Statistics				
	Scale Mean if Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	29.46	18.050	.645	.884
Q2	29.66	17.625	.718	.873
Q3	29.77	16.579	.807	.859
Q4	29.83	16.317	.804	.859
Q5	29.89	17.455	.655	.883
Q6	29.70	17.760	.653	.883

RELIABILITY

/VARIABLES=Q7 Q8 Q9 Q10

Reliability Statistics	
Cronbach's Alpha	N of Items
.889	4

Item-Total Statistics				
	Scale Mean if Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q7	18.07	7.895	.687	.889
Q8	17.86	8.547	.717	.872
Q9	17.87	8.071	.833	.830
Q10	17.95	8.138	.810	.838

RELIABILITY

/VARIABLES=Q11 Q12 Q13

Reliability Statistics	
Cronbach's Alpha	N of Items
.864	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q11	11.86	3.894	.714	.836
Q12	11.78	3.652	.824	.733
Q13	11.92	3.994	.692	.855

RELIABILITY
/VARIABLES=Q14 Q15 Q16

Reliability Statistics	
Cronbach's Alpha	N of Items
.838	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q14	12.18	2.828	.691	.790
Q15	12.07	3.022	.725	.751
Q16	12.09	3.306	.695	.784

RELIABILITY
/VARIABLES=Q17 Q18 Q19

Reliability Statistics	
Cronbach's Alpha	N of Items
.839	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q17	12.13	2.897	.737	.742
Q18	12.08	3.327	.687	.797
Q19	12.26	2.660	.700	.788

RELIABILITY

/VARIABLES=Q20 Q21 Q22 Q23 Q24

Reliability Statistics				
Cronbach's Alpha		N of Items		
.918		5		
Item-Total Statistics				
	Scale Mean if Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q20	24.03	11.919	.775	.903
Q21	23.89	12.735	.732	.911
Q22	23.96	11.585	.870	.883
Q23	23.97	12.133	.808	.896
Q24	23.99	11.880	.767	.905

Appendix H: T-test Group Statistics

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Q14	Male	99	6.02	1.125	.113
	Female	52	5.92	.882	.122
Q15	Male	99	6.05	1.004	.101
	Female	52	6.19	.864	.120
Q16	Male	99	6.14	.857	.086
	Female	52	5.96	.949	.132
Q17	Male	99	6.13	.996	.100
	Female	52	6.06	.850	.118
Q18	Male	99	6.19	.853	.086
	Female	52	6.08	.837	.116
Q19	Male	99	6.03	1.073	.108
	Female	52	5.87	1.010	.140
Q20	Male	99	6.01	1.064	.107
	Female	52	5.79	.936	.130
Q21	Male	99	6.16	.923	.093
	Female	52	5.88	.922	.128
Q22	Male	99	6.10	.995	.100
	Female	52	5.81	.971	.135
Q23	Male	99	6.06	.935	.094
	Female	52	5.85	.998	.138
Q24	Male	99	5.99	1.055	.106
	Female	52	5.94	1.018	.141