UNIVERSITY OF CAPE COAST

ORGANISATIONAL CULTURE AND INNOVATION IN PUBLIC UNIVERSITIES IN GHANA: THE MEDIATING ROLE OF LEADERSHIP EMOTIONAL INTELLIGENCE

ALEXANDER ASANTE

2022

UNIVERSITY OF CAPE COAST

ORGANISATIONAL CULTURE AND INNOVATION IN PUBLIC UNIVERSITIES IN GHANA: THE MEDIATING ROLE OF LEADERSHIP EMOTIONAL INTELLIGENCE

BY

ALEXANDER ASANTE

Thesis submitted to the Department of Management, School of Business, College of Humanities and Legal Studies, University of Cape Coast, in Partial Fulfilment of the Requirements for the Award of Doctor of Philosophy Degree in Business Administration

JULY 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature ……Date……

Name: Alexander Asante

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature……Date ……

Name: Professor Abraham Ansong

Co-Supervisor's Signature……..Date…….

Name: Dr. Nicodemus Osei Owusu

ABSTRACT

This study was about investigating the extent to which the influence of organisational culture on innovation is mediated by leadership emotional intelligence in Public Universities in Ghana. Specifically, the study sought to; investigate the influence that organisational culture has on innovation, assess the relationship between innovation and leadership emotional intelligence, and finally, determine the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation in the Public Universities in Ghana. The study was quantitative, with explanatory design. With a population of 3095 staff from the three selected Public Universities from three geographical zones in Ghana, 341 respondents were randomly sampled based on Krejcie and Morgan (1970) Table. In total, out of the 341 questionnaires, 255 valid responses were obtained from the three selected universities. In analysing the three main objectives of this study, partial least squares structural equation modeling techniques, with the aid of the SMART PLS version 3.0, were employed, while the descriptive statistics were processed with the SPSS Version 24. The main findings of the study indicated that with the exception of clan culture, the rest of organisational cultural dimensions such as adhocracy culture, market culture and hierarchical culture had a positive significant influence on innovation. Secondly, it was found that there was a positive relationship between innovation and leadership emotional intelligence. Finally, the study outcomes showed that leadership emotional intelligence mediated the relationship between organisational culture and innovation, particularly when there were adhocracy, market and hierarchical cultures. Based on the findings of the study, it was concluded that Public Universities in Ghana, in enhancing innovation, should pay more attention to their organisational culture with special interest in their leaders who are endowed with high emotional intelligence as it can be a key enabler or a major barrier against innovation.

KEY WORDS

Creativity

Emotional Intelligence

Innovation

Organisational Culture

Public University

Senior Member

DEDICATION

This thesis is dedicated to the memories of my dear parents;

Daniel Kwadwo Asante & Martha Ama Adowaa Antwi,

for being my foremost teachers.

ACKNOWLEDGEMENTS

Foremost, I am forever indebted to the Almighty God for His graces that empowered me to go through the PhD journey.

I would also like to express my heartfelt and profound appreciation to my supervisors; Professor Abraham Ansong and Dr. Nicodemus Osei Owusu, for their immense support, by way of constructive critiques, contributions, submissions and directions that made it possible for this work to be accomplished. I am, indeed, grateful for the pleasant settings they established that made me always feel welcome to their offices to seek guidance.

I am equally overwhelmed by the words of inspiration and motivation I received from the Lecturers at the School of Business when I enrolled on the PhD programme. Thank you for keeping me stimulated throughout the period of my studies.

Finally, to my family, both immediate and extended, I salute and thank you for always being there for me. To my friends, I am grateful for your encouragements; and to my fellow course mates, I am appreciative for the cordiality we established during the programme.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

KNUST	Kwame Nkrumah University of Science & Technology
SEM	Structural Equation Modeling
SmartPLS	Smart Partial Least Squares
UCC	University of Cape Coast
UDS	University for Development Studies
UMAT	University of Mines and Technology

CHAPTER ONE

INTRODUCTION

This thesis is about how organisational culture influences innovation in Public Universities in Ghana, with leadership emotional intelligence as the mediator. It comprises five chapters and this is the preparatory chapter of the thesis, which presents an overview of the study to enable a reader to situate the research in its right context. The chapter starts off by providing the background of the study. This is followed by the statement of the problem, justifying the existing research gap that this study seeks to fill. Accordingly, this part of the chapter provides the purpose, specific objectives and the research hypotheses. The chapter then proceeds to define and provide the boundary of the study that is, its delimitation. The limitations, which are the caveats of the study are also provided. This chapter ends with how the rest of the thesis has been organised, as well as the summary of the chapter.

Background to the Study

In today's world, majority of organisations have their own culture within which they operate and these cultures have become a central issue in management. Deshpande and Webster (1989) described organisational culture as shared values and beliefs that contribute in understanding how an organisation functions and therefore, offer it with ideals of conduct. In support of previous definitions, Slater, Olson and Finnegan (2011) also elucidated that besides the fact that organisational culture reflects who the employees, customers, suppliers and competitors are, it also explains how an institution is likely to work with their main actors. Thus, organisational culture plays a pivotal role in determining the success of the operations of an institution since

it defines the nature and the extent of creativity and innovativeness that take place within the institution (Maital & Seshadri, 2012; Shikanda & Okibo, 2011). For example, in an institution like a university, it has often been argued that the importance of organisational culture which remain open and ambiguous, both in theory and practice, is related to its influence on the totality of the functions of the organisations, particularly in the arena of innovation (Gorzelany et al., 2021). Thus, the attitude, knowledge and skills of how to create innovation-friendly organisational culture have become some of the most important assets of employees in this era of continuous vicissitudes (Maital & Seshadri, 2012; Shikanda & Okibo, 2011).To this end, organisational managers and other practitioners are required to understand their cultural settings if their organisations are to perform effectively since a lot of management problems have their roots, not only in the societal culture in which they operate but also in their own cultural processes (Shikanda & Okibo, 2011).

In general, the reality of the matter is that appropriate organisational culture assists employees to comprehend the business strategy, inspires and nurtures interpersonal contact which, consequently, influences innovation (Gorzelany et al., 2021). From the point of view of Farr and Ford (1990), innovation is "the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures new to the relevant unit of adoption designed to significantly benefit the individual, the group or organisation or wider society" (p. 9). Innovativeness, in the context of public sector, is regarded as the ability to respond faster and more flexibly to environmental changes and it is required in organisations in differentiating their routine processes and as a solution to challenges (Fraj, Matute & Melero, 2015).

It is also been able to fit into competition arising from the dynamics of the environment (Nagy, 2014). The various well-considered classifications of innovations which have recently received much attention from researchers who are interested in organisational learning and dynamic capability includes: radical, incremental, architectural and disruptive (Benner & Tushman, 2003; Danneels, 2002; Maital & Seshadri, 2012; Tidd, Pavitt & Bessant, 2001). Kaasa and Vadi (2010**)** state that culture has the potential to influence any of the dimensions of innovation because it is culture that sets out the extent to which innovative ideas are stimulated, supported and implemented. It also shapes the models dealing with novelty, individual initiatives, collective actions, understandings and behaviours regarding risks as well as opportunities (Van Der Panne, Van Beers & Kleinknecht, 2003). However, Wang, Guidice, Tansky and Wang (2010) suggest that for innovation to thrive, the culture of the organisation must be flexible and receptive to changing times. Thus, in an environment of increased organisational complexity, scarce resources and increased competition, an important issue for continued existence in a number of organisations is to have culture that has the ability to become more flexible, adaptive, creative and innovative (Amabile, 1996; West, 2002).

The skill to introduce innovation is a principal weight behind the subsistence and growth in the context of contemporary organisations. This implies that in the tertiary institutions in developing countries where innovation has been understood to be a vital ingredient to their growth, organisational culture should be set to design a structure and behaviour that generate innovation (Swanger, 2016). With the labour market changing, coupled with the speedily moving business environment of the 21st century where change is

fueled by digital technology and increased competition, innovation has become the key to success and survival of any organisation. Implicitly, innovation has become the gateway to growth, economic transformation and increase in performance (Hazem & Zehou, 2019). To this end, knowledge of how to create organisational culture, characterised by innovation-friendly culture, is essential since it is transdisciplinary which practically integrates everything desirable, feasible and proper (Gorzelany et al., 2021).

However, it has been argued that the ability of organisational culture to enhance innovation does not happen in a vacuum; rather it depends on emotional intelligence (EI) of the leader (Gupta & Bajaj, 2017). Emotional intelligence is defined as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to be able to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p.189). Fundamentally, there are four main dimensions of emotional intelligence, namely: Self-Awareness, Social Awareness, Self-Management and Relationship Management (Goleman, 1998). According to Gupta and Bajaj (2017), leaders in the work place with high emotional intelligence must possess all the dimensions in order to understand the feelings and the concerns of the followers. This is because leaders play an important role in the development of a culture when an organisation has just been formed. At that time, leaders are 'definers' and 'givers' of culture as they construct and instil the principles, values and attitudes that they consider as essential and important for the organisation to grow (Boyatzis, 2011; Jaskyte, 2004). In this sense, a leader with distinctive skills in this era of managerial practices is the one with emotional intelligence (Gunkel, Schlägel & Engle, 2014). Having a high emotional

intelligence means being able to manage one's own emotions as well as others which can ultimately contribute to a great work environment (Gunkel et al., 2014). With high emotional intelligence, a leader is able to have the capacity to sense his/her follower's emotions, to intervene when problems arise, to manage their own emotions and to understand and gauge the political and social conventions within the organisation. Others also assert that leaders with emotional intelligence affect the emotions of their employees through their own emotional states. Such leaders who drive emotions positively create a climate of enthusiasm, information sharing and motivation in which individuals show exceptional performance (Goleman, Boyatzis & McKee, 2002; Porter-O'Grady & Malloch, 2010; Williams & Foti, 2011).

The idea here is that leaders with emotional intelligence are thought to have great impact in the shaping of organisational culture by transferring values to subordinates, as they are able to understand and express emotions and feelings as well as the ability to understand how others feel and relate with them (Lee & Yazdanifard, 2013). From the perspectives of Schein (2010), both leadership and organisational cultures are two sides of the same coin; neither can be understood on its own because leadership of any organisation creates, and, at the same time, manages culture of the organisation. Implicitly, to a large extent, the smooth operations of an organisation is contingent on the responsiveness and adaptability of its leadership's comprehension of situations and members' emotions which are ultimately dictated by organisational culture (Acar, 2012; Avolio, 2004; Schimmoeller, 2010).

The above arguments are supported by various theories/models on organisational culture, leadership emotional intelligence and innovation. One of

such theories is the theory of Interactionist Perspective of Organisational Creativity (Woodman, Sawyer & Griffin, 1993). This theory stresses that creativity is a complex interaction between the individual and their work situation at different levels of the organisation. Similarly, Componential Theory of organisational creativity and innovation states that work environment influenced by organisational culture often impacts on creativity and organisational innovation (Amabile, 1997). Thus, when culture and way of thinking collide to create new ideas, innovation flourishes. However, this does not happen in a vacuum; rather, there is the need to have an emotional intelligence leader who will, properly, steer the organisation and at the same time ensure innovativeness since organisational culture often poses dilemma on the management of organisations. This is because on one hand, management needs to ensure that employees stick religiously to the rules and regulations within the organisations, whilst on the other hand, management and the employees must make efforts to deviate from the status quo, take risks by going outside the norms to search for new answers and produce innovative ideas (Miron, Erez & Naveh, 2004). This creates a challenge for the management to either allow such a 'deviant' behaviour to go on to be able to have innovation or compel employees to stick to the norms and status quo and remain uncreative and less innovative. This scenario is resolved by Bledow et al. (2009) who advocate for ambidexterity theory, which explains the process of handling opposing demands at various organisational levels in order to successfully innovate. Ambidexterity, herein, is explained as "the ability of a complex and adaptive system to manage and meet conflicting demands by engaging in fundamentally different activities" (Bledow et al., 2009, p. 320).

In the context of public institutions like the university, it can be said that the existing culture is a typical example of organisational culture which has become not only as a means for pursuing its mission but also elements which potentially serve to inhibit the tendency to innovate (Lacatus, 2013). Currently, an institution such as a university is found to be full of tension since it is suspended in a limbo between tradition and modernity (Gorzelany et al., 2021). Additionally, it has been noted that the mission of tertiary education, as the institution for developing and nurturing the nation and fortify the country, is declining (Lacatus, 2013). Accordingly, until recently, the public sector institution like a university has been deemed to be among the stunted and slow-moving productivity growth sector and has, undeniably, necessitated a conservative judgment about public sector being a desolate ground for creative and innovative activities (Flynn, 2009; Maroto & Rubalcaba, 2008).

With the public sector, it has been noted that considering the complexities of the socio-economic and political issues, its management has not always guaranteed the efficiency, quality and or effectiveness required (Flynn, 2009). Often, some of the causes attributed to such low productivity in public services have been inadequate creativity, lack of innovation coupled with inability to assimilate hi-tech organisational innovation (Baumol, 2004) and lack of leadership with emotional intelligence (Moghadam, Jorfi & Jorfi, 2010; Olayisade & Awolusi, 2021). This is reflected in the current trend of events among countries, where there is evidence that those countries that have established creative and innovative-based economy by putting higher education and development of skills as their focus, have been the world's economies developing at a faster rate (Wu, 2010). In contrast, nations lacking creativity,

innovation and the abilities to integrate technological innovation in services like those in the developing countries have been seen to be experiencing low and sluggish productivity growth (Baumol, 2004; Maroto & Rubalcaba, 2008).

Faced with these challenges, dating back to the late 1990s, many countries had implemented a major public sector reform by, not only adopting elements of new public-sector management, but also combining other aspects derived from the good governance concept into its institutional administrative machinery, with the aim of improving the quality of service, making the operations of the institutions more efficient and to increase the opportunities for the selected policies to be implemented effectively (Pollitt & Bouckaert, 2017). In the case of tertiary institutions, it has been argued that as the management of educational institutions become more complex and dynamic, it becomes a necessity for their leadership to exhibit emotional intelligence because the phenomenon has been responsible for organisational success (Goleman, 2001). This means that the characteristics of the leaders are important in order to shape a culture that promotes realisation of an institution's goals and objectives in the context of innovation (Ahn, Adamson & Dornbusch, 2004).

With respect to Ghana, despite all the post-independence efforts to build science and technology competence, little progress has been made in fostering technical innovation as a driver of socio-economic activity (Bawakyillenuo et al., 2013). Today, public institutions like the universities are challenged with increasing demand for tertiary education, which consequently has increased student-lecturer ratio in many programmes being offered. Besides, there is a challenge of inadequate infrastructure which include; insufficient lecture halls, poorly stocked libraries, lack of reading rooms, inadequate information

technology infrastructure, deficient research centres and insufficient office spaces for lecturers (The National Council for Tertiary Education (NCTE), 2017). These challenges have arisen as a result of globalisation, coupled with the culture of the tertiary institutions which perpetuate backwardness, in terms of innovation (Boyatzis, 2011; Swanger, 2016). This has had impact on the operations of many tertiary institutions, necessitating particular qualities in leaders in order to be effective.

From those above assertions, there is clear evidence that there are associations amongst organisational culture, innovation and leadership emotional intelligence and this relationship has been studied at various levels, and has come out with mixed outcomes (Rosing, Frese & Bausch, 2011). Nonetheless, what is not known is the extent to which these variables can influence each other in the context of Public Universities in Ghana. Consequently, there is a paucity of information on these areas and the existing literature in these arenas is also lacking. This has led to limited knowledge causing a knowledge gap in this area especially in the context of Africa and for that matter, Ghana. Thus, it behoves to have a thorough study on organisational culture and innovation, with leadership emotional intelligence as the mediating role so as to have a richer understanding of the linkage amongst these constructs with regard to Public Universities in Ghana.

Statement of the Problem

For the past two decades, the Public Universities in Ghana have been confronted with various challenges such as inadequate infrastructure, shortage of funding and higher demand for tertiary education, causing high students-lecturer ratio (Education Sector Performance Report, 2018). The situation

depicted above is confirmed by studies that unearthed that skills mismatch have been a frequent occurrence between what graduates have learned in school and what employers are looking for in the job market (Boateng & Ofori-Sarpong, 2002; Gondwe & Walenkamp, 2011). The root cause of all these challenges could generally be attributed to the culture of the public institutions which embraces all the evils of bureaucracies and centralised system of management (Hazem & Zehou, 2019). Also, some experts consider organisational culture of Public Universities to be characterised by conservatism and therefore, does not allow well-planned formal system to be put in place for innovation (Koetzier & Alon, 2013). Implicitly, for the success of an organisation, institutional culture has an important role to play as it can help not only in improvement of financial performance (profits) of the organisation but also helps in the improvement in the non-financial performance such as job satisfaction, commitment, better communication between higher and lower level of management (Hartmann, 2006; Ismail, 2016). Accordingly, Büschgens, Bausch and Balkin (2013) contend that a progressive organisational culture is crucial for the success of innovation and other accomplishments within an organisation. Similarly, Miron, Erez and Naveh (2004) opine that organisational culture, when well-managed, could generate and help in implementing novel ideas.

The idea here is that in order to generate continuous and sustained value, the Ghanaian public institutions need to devise and implement an innovation culture which enables them to develop the capabilities required to compete successfully both now and in the future. This is important considering the fact that tertiary institutions are often considered as the service industries which constantly need to promote innovation (Büschgens, Bausch & Balkin, 2013).

Thus, in a dynamically changing world, there is an urgent call for Public Universities to continuously and increasingly search for new approaches to igniting innovation, by fostering fresh ideas and activities to address problems and the socio-economic challenges confronting Ghana.

While the concepts of innovation and organisational culture have received a lot of attention over the past decades, considering the number of studies that have been done (Ahn, Minshall & Mortara, 2018; Barjak & Heimsch, 2021; Büschgens, Bausch & Balkin, 2013; Cakar & Ertürk, 2010; Kratzer, Meissner & Roud, 2017; Tuan & Venkatesh, 2010), little is known about the mediating role of leadership emotional intelligence in terms of the relationship between the two constructs, that is, organisational culture and innovation (Castro, Gomes & de Sousa, 2012). According to García-Morales, Matías-Reche and Hurtado-Torres (2008), direct effects analysis of relationship between the two constructs (organisational culture and innovation) is insufficient in understanding complex issues that surround them. He further asserted that mediation analysis is a key part of what has been called process analysis where the mechanism through which transformational leadership emotional intelligence, for example, affects the employees' organisational innovative engagement. Holbert and Stephenson (2002) affirmed the need for research to move beyond analysing direct effects since only by analysing the direct, indirect and total effects that better understanding on issues could be gained.

Thus, the existing knowledge on the mediating effect of leadership emotional intelligence on the relationship between culture and innovation is largely underprovided and in the context of Ghanaian Public University, it is

absent. Besides, an additional inadequacy in extant studies is that most of these studies only used multiple regressions, which is not vigorous enough to explain the relationship between multiple independent and dependent variables and therefore, failed to satisfactorily confirm or deny the results the researchers were looking for. Further research is, therefore, required to close the gap in literature on the significance of the mediating role of the leadership emotional intelligence in the relationship between organisational culture and innovation as opined by experts such as (Castro, Gomes & de Sousa, 2012; Hartnell, Yi Ou & Kinicki, 2011; Zheng, Yang & McLean, 2010). This study will fittingly use more powerful statistical analytics like structural equation modeling (SEM).

By using this powerful statistical method, that is SEM, the study results will be more reliable, since hypotheses based on multiple constructs that may be indirectly or directly related to both linear and nonlinear models can be tested (Cudeck, Harring & Du Toit, 2009). Besides, with the use of SEM as a statistical method, this study is distinguished from other types of analyses in its ability to examine many relationships while simultaneously partialling out measurement error, as well as, examining correlated measurement error. Such ability helps to determine to what degree unknown factors influence shared error among variables, which may affect the estimated parameters of the model (Beran & Violato, 2010). Thus, with the use of SEM, this study is made more significant because it has greater statistical power (probability of rejecting a false null hypothesis) than multiple regression which hitherto has been relied upon to solve management issues characterised by statistical problems. Furthermore, by using SEM, this research has some benefits over the other studies because it examines various dimensions of organisational culture and their relationship

with innovation simultaneously, rather than separately, and the latent factors reduce measurement error (Beran & Violato, 2010).

Finally, there is a belief in management that the contingency and multiple approaches to organisational innovation are the most effective (Denison & Mishra, 1995). The majority of commonly used management theories and approaches are based on western ideologies and value systems, and their wholly transfer to emerging countries has contributed to organisational inefficiency and ineffectiveness in many ways (Punnett & Greenidge, 2009). The socio-economic factors between developed economies and that of developing ones are dissimilar, thus making the results of most studies undertaken outside the developing world not applicable, particularly when it comes to culture. It is, in a way, important and long overdue that the relationship between organisational culture and innovation mediated by the role of leadership emotional intelligence in redefining the management strategies of indigenous leaders of organisations in developing countries like Ghana is well examined. Researchers, over the years, have not given due recognition to the contextual issues in Ghana's public sector organisational culture and innovation. It is against this context that this study is being conducted.

Purpose of the Study

The main aim of the study is to investigate the extent to which the influence of organisational culture on innovation is mediated by leadership emotional intelligence in selected Public Universities in Ghana.

The specific objectives proposed for this study are to:

1. Examine the influence of dimensions of organisational culture on innovation in selected Public Universities in Ghana.

2. Assess the relationship between leadership emotional intelligence and innovation.
3. Determine the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation in selected Public Universities in Ghana.

Research Hypotheses

Based on objective one, the following hypotheses were tested;

H1a: Clan culture has a positive effect on innovation,

H1b: Adhocracy culture has a positive effect on innovation,

H1c: Hierarchical culture has a positive effect on innovation and

H1d: Market culture has a positive effect on innovation.

Based on objective two, the following hypothesis was tested;

H2: Leadership emotional intelligence has a positive effect on innovation.

Based on objective three, the following hypotheses were tested;

H3a: Leadership emotional intelligence mediates the nexus of clan culture and innovation,

H3b: Leadership emotional intelligence mediates the nexus of adhocracy culture and innovation,

H3c: Leadership emotional intelligence mediates the nexus of hierarchical culture and innovation and

H3d: Leadership emotional intelligence mediates the nexus of market culture and innovation.

Significance of the Study

This study, with novel approaches and recommendations, will contribute both practically and theoretically to a better understanding of the nature of the relationship between organisational culture and innovation mediated by the role of emotional intelligence of leadership in the context of tertiary institutions in Ghana.

On the practical field, it is anticipated that management of these public tertiary institutions will find this research and its results valuable when implementing or changing their strategies to increase organisational creativity, by using the right organisational culture and leadership indices. The understanding of the relationships among organisational culture, innovation and leadership emotional intelligence would help the management of the universities to be more successful in utilising organisational culture to bring about innovation, ultimately resulting in organisational operational excellence.

Additionally, since this study is about organisational culture, leader's emotional intelligence and innovation, the empirical outcomes will help management to become aware of the set of core managerial values and the dynamics that need to be taken into accounts to foster creativity and innovation. This is because management often have a key role in influencing the organisational culture of an organisation, impacting substantially the organisational innovation and aligning creativity and innovation policy across the organisation's various functional areas. Thus, the outcomes of this study are noteworthy because they offer and show management practical insight into those emotional values of leaders that can enable greater innovation, thereby providing preliminary evidence that management can, in fact, nurture and

promote innovation in employees who are not naturally predisposed to be creative and innovative.

From the theoretical perspective, the study will act as a springboard for future researchers who are interested in furthering their academic curiosities in the area of organisational culture, innovation, as well as the leadership emotional intelligence. In essence, by building on this study, future researchers will be able to develop further models that can be useful for both academics and practitioners, to better understand the relationship that exist among the three variables, herein understudy. This is particularly right, considering the fact that one of the key contributions of this study is based on enriching the use of quantitative research methodology in investigating organisational culture and innovation, with the mediating role of leadership emotional intelligence in public tertiary education in Ghana. By using the contemporary multivariate statistical analysis technique of structural equation modeling (SEM), the study will be able to bring out structural relationships of observed and latent variables involved in the issues under discussion. Moreover, with SEM being more powerful than regression analyses, the study will help us to examine linear causal relationships among the three variables involved in the study, while simultaneously accounting for measurement error, which is one of the greatest limitations of most studies (Beran & Violato, 2010). Although SEM application has been seen in many disciplines, it is yet to be extensively used in the field of management, in the context of Africa and for that matter, Ghana.

Finally, this study will be significant in terms of incremental and revelatory knowledge-building. This means not only will this study contribute in adding extra knowledge to the existing one in the subject area but also will

reveal new perspectives which were, hitherto, not known in the subject area in the context of Ghana. To this effect, it is worth noting that as innovation continues to grow in its importance and creativity is the foundation of innovation, it has become crucial for leaders to unleash the creative potential of their employees (Gupta & Baja, 2017). However, the role of leadership emotional intelligence in promoting employee creativity, and for that matter, innovation is understudied (Castro, Gomes & de Sousa, 2012). It is in the light of this knowledge gap that this study becomes more significant, by contributing in providing a better understanding of the relationship between leader's emotional intelligence and innovation. The fact of the matter is prior research suggests that leadership is one of the most important predictors of creativity in organisations (Jaiswal & Dhar, 2015). Thus, research on leader's emotional intelligence can help advance knowledge regarding how leaders manifest their emotions and influence followers, as every interaction between leaders and followers involves emotions.

Furthermore, studies exploring the role of mediators in the relationship between leader's emotional intelligence and employee outcomes are still lacking (Walter, Cole & Humphrey, 2011). This gap needs to be filled which this study seeks to do by bringing out a better understand of the extent to which leader's emotional intelligence exerts influence on innovation, particularly with regard to Ghanaian Public Universities.

Delimitation of the Study

According to Theofanidis and Fountouki (2018), delimitations are "concerned with the definitions that the researchers decide to set as the boundaries or limits of their work so that the study's aims and objectives do not

become impossible to achieve" (p. 157). In this regard, it can be reasoned that delimitations are in the control of researchers which in a way are the restrictions deliberately set by the authors themselves. From this perspective and in the context of this study, the aim only focuses on the relationship between organisational culture and innovation, with leadership emotional intelligence playing a mediating role in Public Universities in Ghana. Thus, the study was mainly to consider Public Universities in Ghana. However, the researcher curbed the scope of the study to only three Public Universities in Ghana and based on National Statistical Services demarcation, divided the country into zones (savanna, forest and coastal) and randomly selected one Public University each from the zones. The reasons for limiting the choice to only three universities are related to available resources, local circumstances (possibilities of co-operations) and time constraints. The study also only focused on Senior Members as respondents since they are the ones who are more experienced in the leadership roles and the culture of the institutions, as well as the extent of innovation within each institution.

Limitation of the Study

Limitations of any specific study is about possible weaknesses that are frequently out of the researcher's control, and are strictly connected with the selected research design, statistical model constraint, funding constraints, or other factors (Theofanidis & Fountouki, 2018). In this regard, a limitation is an 'imposed' constraint that is crucially out of the researcher's control. Nonetheless, it is likely to affect the study design, results and ultimately, conclusions and as such, must be acknowledged in this present study. This implies that the findings of this study cannot be taken as definite evidence

because of the various limitations to the study results which deserve commentary.

First, the sampling was based on Public Universities which meant that the study results reflected the attributes of public sector tertiary institutions. In essence, in quantitative studies, the sample would not have been representative of all tertiary institutions in the country.

Data analysis methodology was another area that affected the study results. For example, the study used the quantitative approach and only questionnaire was used as a research instrument to gather data. Qualitatively, respondents were not given the opportunity to provide detailed accounts of their views on the subject matter and thus were unable to provide additional contextual information that could have enriched the findings.

Notwithstanding, some studies of similar nature, with regard to the limitations have successfully deepened knowledge and this study will not be an exception.

Definition of Terms

Creativity, in this study, is the generation of novel and useful ideas. It is considered as the initial phase of an innovation process.

Emotional Intelligence is described as perceiving, using, understanding and managing one's own and other people's feelings and emotions and being able to use the information to guide one's thinking and actions.

Innovation refers to a kind of creation in which one produces something new, different from what is already known, and it involves new ways of problem solving and discovering of the unknown.

Organisational Culture, as used within the context of this study, is explained as the way things are done in an organisation. It includes both written and unwritten values, norms, rules, assumptions, symbols and artifacts that influence and shape individual and group behaviour and attitudes.

Public University is one funded by the public through the government of Ghana.

Senior Member is a category of staff in a Ghanaian Public University who is a lecturer/researcher or, senior administrator/professional.

Organisation of the Thesis

The thesis is organised into five Chapters. Chapter One, which is the introductory chapter, focuses primarily on the backstory and research problem. The Chapter then describes the specific research objectives, research hypotheses and significance of the study, among others. The second Chapter gives an overview of the theoretical and empirical literature that relate to the subject at hand and the conceptual framework of the study. Chapter Three describes the methodology utilised to investigate the research problem. Research philosophy, study design, target population, sampling procedure and sample size determination are some of the key topics covered in this section. Other issues in this chapter are description of the research instrument, data collection procedures, data analysis, ethical issues to be considered and the management of data collected for the study. The fourth Chapter examines the data and presents the study's empirical findings. To estimate measurement models for the study's primary constructs, the data analysis begins with factor analysis and is followed by confirmatory factor analyses. It then continues with structural equation modeling to test the hypotheses of the study. The results of the test of

the hypotheses are discussed. Chapter Five completes the thesis by summarising the significant findings. It also includes conclusions, recommendations and suggestions for further studies to improve upon the findings.

Chapter Summary

This chapter has been the preparatory chapter of the thesis, which aimed at examining the influence of organisational culture on innovation in Public Universities in Ghana with leadership emotional intelligence as the mediator. It has focused on an overview of the study just to enable a reader to situate the research in its right context. The chapter began by providing the background of the study, followed by the statement of the problem, justifying the existing research gap that this study sought to fill. The chapter then continued to provide the purpose, specific objectives and the research hypotheses. The delimitations of the study and the limitations, which were the caveats of the study, were also provided. The chapter ended with how the rest of the thesis had been organised.

CHAPTER TWO

LITERATURE REVIEW

Chapter Overview

This chapter provides an overview and critical analysis of the literature review on the study. The general purpose of this literature review is to explore relevant theories, models and studies associated with the issues under study. The chapter starts by discussing the various theoretical models underpinning the study. The following are explored under the theoretical models: Componential theory of organisational creativity and innovation; Interactionist model of organisational creativity; Individual creative action model; Ambidexterity theory; and Competing Values Framework Model. These are followed by the conceptual background of the study. With regard to the conceptual background, the various concepts that are to be examined include: Innovation; Organisational Culture; The relationship between Organisational Culture and Innovation. The review goes on to examine the literature on Leadership Emotional Intelligence and the relationship between Leadership Emotional Intelligence and Innovation. This will be followed by literature review on the mediating role of Leadership Emotional Intelligence on the relationship between Organisational Culture and Innovation. Finally, there will be discussions on the empirical studies on the subject matter. The chapter concludes with the Conceptual Framework, as well as the summary of the chapter.

Theoretical Review of the Study

In this section, the theories and theoretical models underpinning the study are examined to explain the phenomena. A theory is a scientifically verified explanation of some aspect of the natural world that has been repeatedly

tested and confirmed via observation and experimentation (American Association for the Advancement of Science, 2016). Abend (2008) asserts that theories are formulated to explain, predict and understand phenomena and in many instances, to test and extend existing knowledge within the limits of critical bounding assumptions.

Related to theories is theoretical framework which is the blueprint or guide for research (Ahmad et al., 2019). Adom and Hussein (2018) describe it as a framework based on an existing theory in a field of research that is related to and/or reflects the hypothesis of a study. In a way, theoretical framework can be portrayed as a blueprint that serves as the foundation upon which research is built. Abend (2008) clarifies that theoretical framework is the structure that holds or supports a theory of a research study; and it introduces and describes the theory that explains why the research problem under study exists.

Green (2014), together with Sinclair (2007), liken the role of the theoretical framework to that of a map or travel plan which guides or directs one when travelling to a particular location. Throughout the research process, the theoretical framework guides the researcher so that he/she would not digress from the boundaries of the accepted theories. Accordingly, Brondizio, Leemans and Solecki (2014) assent that the theoretical framework is the specific theory or theories about aspects of human activity that can be beneficial to the study of events as it consists of theoretical principles, constructs, concepts and tenants of a theory. The importance of theoretical framework is underscored by Ahmad et al. (2019) when they say that all areas of the study should be in tune with the theoretical framework.

The theoretical framework enriches research work in several ways. It provides the frame depicting how a researcher defines his/her study philosophically, epistemologically, methodologically and analytically (Ahmad et al., 2019) and as a result, it helps researchers in situating and contextualizing formal theories into their studies as a guide (Ravitch & Carl, 2016). Additionally, a researcher's choice of research design and data analysis plan is also influenced by the theoretical framework (Adom & Hussein, 2018). The framework deepens the essence of the study (Simon & Goes, 2011); it guides the kind of data to be collected for a particular study (Lester, 2005), thereby, aiding the researcher in determining the best research approach, analytical tools and procedures for the research inquiry (Adom & Hussein, 2018).

Fittingly, Imenda (2014), thus, postulates that a study without a theoretical framework does not give precise direction in the quest for relevant literature and scholarly discussions. Adom and Hussein (2018) accentuate the prominence of theoretical framework when they submit that theoretical framework guides and should resonate with every phase of the research process from the definition of the problem to conclusions. Mensah et al. (2020) are of the view that research grounded on a good theoretical framework convinces other researchers that the study is founded on proven theory and not personal predispositions of the researcher.

Review of Theories Underpinning the Study

The following theoretical approaches were considered for the study: Componential theory of organisational creativity and innovation, Interactionist model of organisational creativity, The theory of individual creative action and finally, Ambidexterity theory. These were used because they have wider and

practical expediency in helping to understand the study from different perspectives, as they complement each other (Birkinshaw & Gupta, 2013; Gudmundson, Tower & Hartman, 2003; Lumpkin & Dess, 2001). In effect, variables that indicate various aspects of organisational culture and creativity/innovation are included in all these models (Gudmundson et al., 2003).

Componential theory of organisational creativity and innovation

Componential theory of creativity which was propounded by Amabile is one of the main approaches to investigate creativity in the workplace (Amabile, 1983; 1996). This approach, which is partly based on the componential model of a social psychology of creativity, is one of the first all-inclusive and grounded theories of employee creativity. This theory was first introduced by Teresa Amabile in 1983 but it has gone through a lot of developments. It is a detailed framework of the social and psychological components essential to enable a person to be imaginative and creative. The theory is premised on the fact that work environments impact creativity by affecting components that contribute to creativity, which represents a basic input for organisational innovation (Amabile, 1997).

The theory specifies that creativity requires the combination of three components namely: domain relevant skills, creativity-relevant processes, which is the mental and personality processes beneficial for novel thinking; and task motivation, specially, the intrinsic motivation to engage in the activity out of interest, enjoyment, or a personal challenge (Amabile, 1996; Lubart, 1999). The theory, therefore, postulates that employee creativity depends on the type and number of skills one has that are specific to the domain of practice (that is

domain-relevant skills), the creative process itself (creativity relevant processes) and the type and amount of motivation one has in developing a task and these three skill domains must be operative during the process of creativity (Amabile, 1996; Lubart, 1999).

Domain relevant skills are related with the factual knowledge and expertise in a given domain, and they are influenced by formal and informal education and individuals perceptual, cognitive and motor abilities (Kozbelt, Beghetto & Runco, 2010). Domain-relevant skills are thus, qualities such as knowledge and skills. These attributes impact an individual's performance in a given field of knowledge. According to Amabile (1996), creativity relevant processes have to do with the tacit knowledge required to produce creative ideas. Creativity relevant processes are likely to be positively affected by the level of training, leadership creative skills and strategies for producing new ideas, experiences in creative activities and the possession of certain personality characteristics.

A key element in this theory is task motivation that drives individuals' attitudes toward a task. Motivation is divided two into types, namely- intrinsic and extrinsic motivation (Porac & Meindl, 1982; Scott, Farh & Podsakoff, 1988). Intrinsic motivation refers to the drive to do something due to inherent satisfaction such as interest (Ryan & Deci, 2000). Extrinsic motivation is conversely defined as motivation that comes from sources outside of the task itself and its goal is the desire to attain something outside the work itself– such as achieving a promised reward, meeting a deadline or winning a competition (McClelland, 1965). It is also about doing something because it leads to a valued outcome such as improved job performance, pay and promotions. Amabile

(1983) has it that extrinsic motivators include anything related to work such as promised rewards and praises. In most instances, both types of motivation for an undertaking co-occur though one may be the decisive factor.

Although the original theory by Amabile (1983) has been used for empirical studies and has proven to be reliable and valid in terms of further stimulating other formulations of complex models to examine creativity (Weisberg, 2006), it has been critiqued for not taking into consideration the effect of the broader environment on creativity. Thus, it has been noted that one shortcoming of the componential theory, as applied to organisations, is its focus on factors within an organisation. Moreover, the theory does not include the influence of the physical environment on creativity (Amabile & Mueller, 2008; Isaksen, 2017). Amabile and Pillemer (2012), therefore, extended the framework and incorporated a fourth component of creativity, that is, the social environment in which the individual is working. This mitigates the critiques of the theory. Consequently, Amabile and Pillemer (2012) argue that creativity should be highest when an intrinsically motivated person with high domain expertise and high skill in creative thinking works in an environment that gives high support for creativity.

The outside component is the work environment or more generally, the social environment. This encompasses all of the extrinsic motivators that have been found to influence intrinsic motivation, as well as a variety of additional environmental factors that can either hinder or facilitate intrinsic motivation and creativity. Amabile and Pillemer (2012) state that environmental factors such as criticising new ideas, political problems within the organisation, an emphasis on the status quo, conservativeness, low-risk attitude among top management,

and excessive time pressure can stifle creativity. However, factors such as sense of positive challenge in the work, work teams that are collaborative, diversely skilled, idea-focused, freedom in carrying out the work, supervisors who encourage the development of new ideas and top management that supports innovation enhance creativity. The idea here is that organisational creativity is multilevel in nature and that various influences occur at the different stages. This is supported by Interactionist Model of Organisational Creativity.

The componential theory of organisational creativity and innovation is relevant in this study because, it helps to understand the relationship between creativity components such as organisational motivation and management practices and the work environment, and how they interact to enhance creativity as well as innovation (ElMelegy, Mohiuddin, Boronico & Maasher, 2016). This implies that, the theory contributes in making it clear that the creativity of a person at any given point in time is a function of the creative components operating at the time within and around that person (Hunter et al., 2007).

Interactionist model of organisational creativity

Woodman, Sawyer and Griffin's (1993) interactionist approach, which can be seen as a complementary to other theories, is another widely-used theoretical approach to creativity in organisations. The model of Woodman et al. (1993) is one of the earliest works that acknowledged that organisational creativity is multilevel in nature and that various influences occur at the different stages. This model clearly places emphasis on the importance of the interaction between the person and the situation, and is founded on interactional psychology.

Interactionist Model of Organisational Creativity is grounded on the belief that creativity is an individual level concept that can be influenced by both dispositional variables, that is, individual characteristics that affect behaviour and actions and situational variables, which are influenced by external factors not within the control of the individual. This model posits that creativity is the product of a person's behaviour in a given situation. A situation is characterised by contextual and social influences that either aid or constrain creative accomplishment. The potential outcome of the transformation of the inputs is a creative product, process or a service. The model is based on the assumption that behaviour is a complex interaction of person and situation, which is repeated at each level of social organisation. Thus, group creativity is a function of individual creative behaviour, while organisational creativity is composed of creative outputs of its component groups and contextual influences. The idea here is that the interactionist approach premises that the creative performance or output in organisations is a function of individual, group and organisational characteristics that interact to enhance or constrain creativity.

One fundamental principle of the interactionist approach is that human behaviour is a product of both personality traits and situational factors. This suggests that individual differences in creativity may be partly understood in terms of individual characteristics such as cognitive style, cognitive ability, personality and motivation. Group creativity is a function of individual creative behaviour and situational factors, such as the interaction of individuals within the group, group characteristics, group processes and contextual influences from the larger organisation. Organisational creativity, on the other hand, is an

outcome of the creativity of the groups of the organisation and of contextual influences from, among other things, organisational culture, resource factors and the environment of the organisation (Woodman et al., 1993).

The relevance in adopting the interactionist perspective in this study is that it helps in recognising the joint effect of interpersonal dynamics with the internal circulation of ideas and knowledge (Gumusluoglu & Ilsev, 2009). With the interactionist theory of organisational creativity proposed by Woodman et al. (1993) it becomes clear that knowledge is one of the components of individual creativity and emotional intelligence is the mechanism for sharing such knowledge at an interpersonal level (Giustiniano, Lombardi & Cavaliere, 2016). Thus, with the Interactionist approach, an extension of the analysis to contextual elements that are likely to affect organisational creativity is brought to light since creativity results from an individual's behaviour in a given situation (Giustiniano et al., 2016).

However, one criticism of the Interactionist approach is that it does not take into consideration intra-individual factors to explain individual creativity. This is important because every individual is unique and as such not everybody can have the ability to make choices in the environment in which he/she finds him/her self (Dong, 2008). Thus this theory overstates the importance of interactions and fails to recognise the impact of social institutions and the power relationships between individuals and these institutions (Ritzer, 2004). There is therefore the need to link the work environment with intra-individual factors to explain individual creativity. As a complement to this theory, the theory of Creative Individual Action has been proposed.

Theory of individual creative action

Ford (1996) came out with the Theory of Individual Creative Action which links the work environment with intra-individual factors to explain individual creativity (Pirola-merlo & Mann, 2004). Ford explains that individuals choose between two different possibilities – routine actions and innovative. As a result, a person's habitual and creative acts are competing behavioural possibilities. When habitual acts are more appealing, people are more likely to pick them over creative actions, even when the circumstances are favourable for creative action. Ford's theory describes three individual characteristics which overlap conceptually with the components of Amabile's (1983; 1997) model, viz: sensemaking, motivation and knowledge and ability.

Ford asserts that individual creative action is the joint result of sense making, motivation and knowledge and ability, and the absence of any of these means an individual would not engage in creative action. That is to say, these factors interact with the individual's context to determine whether the individual engages in creative or habitual actions. The understanding here is that for any individual, creative and habitual acts are competing options for action, and it is more likely people will choose habitual behaviours than creative ones until creative actions offer proportionate benefit over habitual actions (Pirola-merlo & Mann, 2004).The distinct nature of Ford's model is that all the various social domains such as groups, subunits, organisation, institutional environment and market simultaneously affect an individual's creativity and sense-making processes (Janssen, 2005; Unsworth & Clegg, 2010).

This theory of individual creative action is relevant in this study because as a notion of creativity, it encompasses two levels: the individual, who actively

creates and proposes something new, and the social context, which accepts and gives value to the new creation (Ford, 1996). In essence, at the individual level, it helps us to understand the ability of individual to generate new and valuable ideas and solutions (Perry-Smith, 2006). Thus, through this theory, personal drivers of employee creativity, in particular, the role of personality and cognitive style is well understood. Such creativity at individual level, through idea generation and implementation, is likely to result with the development of innovative products at the organisational level (Shalley, Zhou & Oldham, 2004). Similarly, the role of work environment defined as the role of contextual factors that potentially influence employee creativity but are not part of the individual is also well grasped.

Ambidexterity theory

The term organisational ambidexterity was first coined by Duncan (1976) to mean the duality of organisation's structures to support innovation. March (1991) came out with a concept denoting 'doing both' and asserted that establishments should invest in exploration to ensure their sustainability. Smith and Tushman (2005) claim that researchers bought into March's idea and conceptualised innovation ambidexterity as business activities intended to pursue exploitation and exploration simultaneously.

Ambidexterity is defined by Bledow et al. (2009) as "the ability of a complex and adaptive system to manage and meet conflicting demands by engaging in fundamentally different activities (p. 320)." Bledow et al., popularised ambidexterity theory to explain the means of handling conflicting demands at multiple organisational levels to effectively innovate. On the other hand, Raisch and Birkinshaw (2008) see ambidexterity as an organisation's

ability to manage today's business demands in a coordinated and effective manner while also being adaptable to changes in the environment. Ordinarily, ambidexterity is used to describe people's skill to use both the right and left hands equally well.

In the field of management, however, ambidexterity refers to the ability of organisations to simultaneously explore new capabilities and exploit existing competences (Benner & Tushman, 2003; Gupta, Smith & Shalley, 2006; O'Reilly & Tushman, 2004). In essence, ambidexterity can mean successful management of both exploitation and exploration. Exploitative innovation is defined as the proximity to existing technologies, products, processes and services. It is implemented to meet the needs of existing customers or market situations by broadening and expanding existing knowledge and skills (Benner & Tushman, 2003; March, 1991). Exploratory innovation, on the other hand is typically developed to meet the needs of emerging customers or markets by developing and creating new knowledge and skills (Benner & Tushman, 2003; March 1991). Therefore, most researchers (He & Wong, 2004; Lubatkin et al., 2006; Smith & Tushman, 2005) assert that March's idea of ambidexterity was conceptualised as the behaviour to engage simultaneously in balancing exploitative and exploratory innovation.

According to Bhatt et al. (2010), in today's globalised world, increased rivalry among competing organisations, coupled with ever changing demands of customers, are real threats to the survival of firms. In order to withstand these challenges, organisations have to take advantage of new and emerging knowledge, be creative and innovate to secure their long-term success and survival in the marketplace (Martins & Terblanche, 2003). At the same time,

organisations have to exploit their existing resources and capabilities to their full potential to keep up with the pace set by competing forces. To match the dynamics of tackling both internal and external challenges, organisations need to become ambidextrous by pursuing both exploitation and exploration at the same time. This simultaneous quest, referred to as organisational ambidexterity, makes it possible for organisations to achieve incremental innovation through exploitation, while pursuing radical innovation for sustained success through exploration (Levinthal & March, 1993).

The concept of ambidexterity is applicable to leadership as well. Ambidextrous leadership is defined as "the ability to foster both explorative and exploitative behaviours in followers by increasing or reducing variance in their behaviour and flexibly switching between those behaviours" (Rosing, Frese & Bausch, 2011, p. 957). Rosing et al. (2011) advocate that leaders have to encourage both exploration and exploitation behaviours among their employees, as they result in high innovative performance. The ambidexterity theory of leadership for innovation suggests that leaders who engage in ambidextrous leadership behaviour, that is, opening and closing are complying with innovation requirements due to the fact that they encourage exploration and exploitation behaviours in an individual worker and group (Rosing et al., 2011; Zacher & Rosing, 2015). Thus, a good leader must be ambidextrous, able to perform numerous tasks at once and go through multiple learning cycles. O'Reilly and Tushman (2004), therefore, submit that ambidextrous leaders must establish a collective vision and culture in which a joint identity maintains a perfect harmony between exploration and exploitation.

The relevance of the ambidexterity theory is that, it guides management to handle the conflicting situations that are likely to happen during the creativity and innovation process. Management has to strike harmonious balance between sticking to the organisational culture and at the same time relaxing it in an organisation's quest to encourage and foster creativity and innovation.

In summary, it can be said that the reviewed theories are major frameworks in the field of creativity and innovation in the workplace. Although some of them have received more empirical support than others, they all emphasised the role of different determinants of either idea generation or the implementation of ideas in achieving innovation. However, the most important premise of these theories is that work environments have an impact on creativity by affecting components that contribute to creativity, which represent a basic source for organisational innovation (Amabile, 1997).

Conceptual Reviews of the Study

In this section, the various concepts of the study are discussed. The conceptual background of a study is considered as a structure which the researcher believes can best explain the natural sequence of the phenomenon under investigation (Camp, 2001). This often reflects on the researcher's explanation of how the research problem would be investigated (Adom & Hussein, 2018). It has to do with the concepts used by the researcher, depicts an integrated way of looking at a problem under study (Liehr & Smith, 1999), and arranged in a logical order to aid provide a picture or visual representation of how the concepts in a study relate to one another (Ahmad et al., 2019). The study reviews the following concepts: Organisational Culture, Innovation, and Leadership Emotional Intelligence.

Organisational culture

The concept of organisational culture to organisational studies has been defined in several ways. Therefore, there is no single definition of organisational culture; instead, the understanding of the concept varies according to the point of view taken by researchers (O'Reilly & Chatman, 1996). For example, Martins and Terblanche (2003) define organisational culture as "a system of shared meaning held by members, distinguishing the organisation from other organisations" (p. 380). Similar to Martins et al., Arnold (2005) states that "organisational culture is the distinctive norms, beliefs, principles and ways of behaving that combine to give each organisation its distinct character" (p. 625).

These definitions do not take into consideration the fundamental assumption of the adaptation learning process that a group has undergone to address its challenges. To this end, Schein (1985) defines it as "the pattern of basic assumptions that a given group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems" (p. 3). Brown (1998) upholds Schein's definition and relatedly states that organisational culture is "the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organisation's history, and which tend to be manifested in its material arrangements and in the behaviours of its members" (p. 9). Brown clarifies that culture can be unwritten or non-verbalised behaviour that describes the way in which things get done; to give the organisation its unique identity.

In recent times, Schein and Scheiner (2016) further refine the definition by stating that the culture of a group can be defined as "the accumulated shared learning of that group as it solves its problems of external adaptation and internal integration; which has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, feel and behave in relation to those problems. This accumulated learning is a pattern or system of beliefs, values and behavioural norms that come to be taken for granted as basic assumptions and eventually drop out of awareness" (p. 6).

In sum, the complexity of organisational culture and the failure of a single definition to satisfy all and sundry is simplified by Sun (2008) when he captured it succinctly as "the way we do things around here". Thus, an organisation can hardly function without an organisational culture. In this respect, Saffold (1988) affirms that organisational culture is the basis of organisational systems, whilst Arnold (2005) avers that culture encapsulates what the organisation has been good at and what has worked in the past. As a lifeblood to an organisation, Arnold (2005) opines that organisational culture explains the way of doing things in order to give meaning to organisational life. Schein (1992) states that organisational culture determines the management principles or values that employees follow. This explanation was earlier argued by Barney (1986) when he stated that organisational culture describe the way in which a firm conducts its business. Organisational culture has been considered to be the great 'cure-all' for a number of challenges confronting organisations (Wilson, 1992). Johnson (1990) draws an analogy between organisational culture and personality trait and opines that organisational culture is to an

organisation what personality is to an individual. In effect, the culture of an organisation is its personality and character.

As a concept that is communal among a group of people working together to achieve a collective goal, Van den Berg and Wilderom (2004) have it that, organisational culture is shared perceptions of organisational work practices within organisational units. The idea here is that, organisational culture can be seen as a set of shared mental assumptions that guide interpretation and action in organisations by defining appropriate behaviour for various situations (Ravasi & Schultz, 2006). This idea is supported by Hatch (1993) who opined that organisational culture conveys "meaning to employees regarding what is expected and shape individual and group behaviour within the organisation" (p. 657). This is because the culture within an organisation determines how organisational members determine what is acceptable to do. It is along this credence that organisational culture is considered to be "the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organisation's history, and which tend to be manifested in its material arrangements and in the behaviours of its members" (Brown, 1998, p. 9).

The importance of organisational culture as factor in understanding how organisations operate as a shared system is underscored by researchers (Jung, et al., 2009; Schein, 2015; Schneider, González-Romá, Ostroff & West 2017). Hampden-Turner (1990) justifies the indispensability of organisational culture when he writes that it guides organisational members' direction towards achieving organisational goals. An appreciation of organisational culture helps our understanding of why organisational reforms may impact differently within

and between organisations. An organisation with a predominantly internal process culture, for example, may be more resistant to reforms aimed at promoting innovation (Pollitt & Bouckaert, 2017). Zalami (2005) also informs that culture can either facilitate or inhibit institutional transformation depending on whether or not the existing culture is aligned with the goals of the proposed change. In a similar way, others like Zhou et al. (2011) are of the belief that if work goals conflict with the existing accepted culture, they have less chance of success. Çakar and Erturk (2010) suggest that at both personal and organisational level, organisational culture offers a competitive edge that has a significant impact on the engagements between employee and management, which has positive effect on innovation in organisations.

Competing values framework model

Cameron and Quinn (2011) developed the Competing Values Framework Model, which according to Zeb et al. (2021), is one of the most influential and widely used models in the field of organisational culture research, since it has higher validity and reliability than other models. The model depicts four various organisational cultural types found in organisations and explains how they compete and relate among themselves. There are also four parameters of the framework which are internal focus and integration, external focus and differentiation, stability and control and finally, flexibility and discretion.

Based on these parameters, the framework breaks organisational cultures into four core distinct organisational cultural types: the Clan Culture, the Adhocracy Culture, the Market Culture and the Hierarchy Culture, depicted in Figure 1.

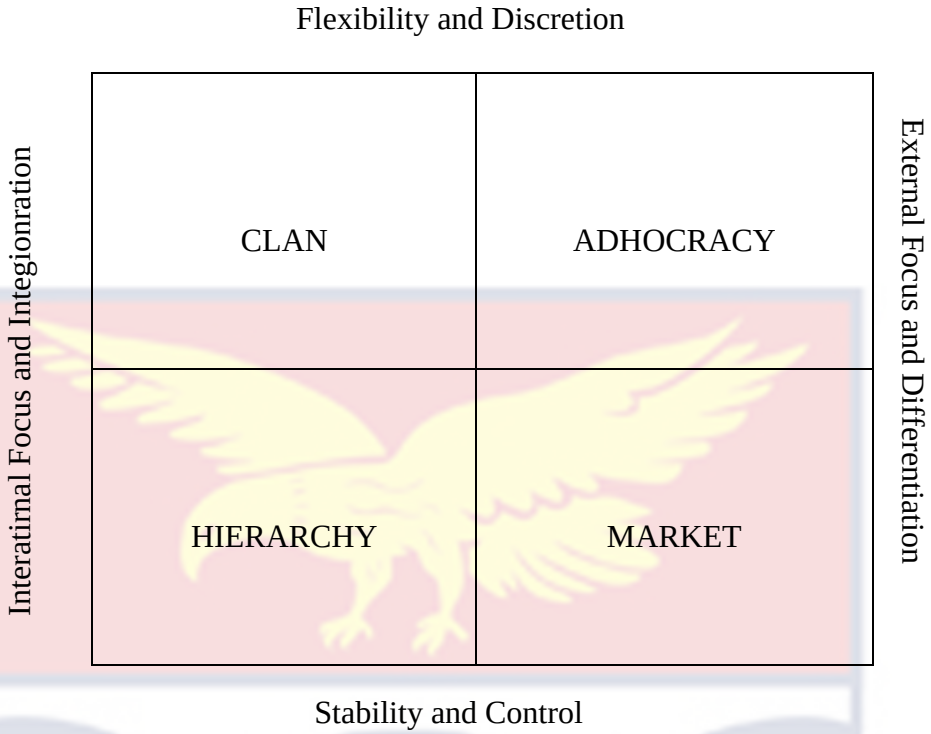

Figure 1: Competing Values Framework Model
Source: Cameron and Quinn (2011)

The four distinct organisational culture types of the Competing Values Framework Model are discussed in details in a different section of this research.

Understanding innovation

The origin of innovation serves as a guide to its meaning (Salaman & Storey, 2005). The term 'innovate' has its root from the Latin word 'innovare', meaning to create a new thing. Innovation has become the game changer in most organisations in this era, as Khazanchi, Lewis and Boyer (2007) intimate that it provides a critical source of long-term competitive benefit to organisations. The indispensability of innovation to organisational growth cannot be underemphasised, no wonder Suroso and Azis (2015) assert that organisation "innovate or die".

Innovation flouts a single definition and it is described per the inclination of the researcher. The diversity of definitions reflect the many

academic disciplines from natural sciences to humanities that study aspects of innovation (Greenhalgh et al., 2004; Tidd, 2001). Thus, the term innovation, which may refer to a process, an attribute or an end result, has been defined in several ways and its scope and meaning differs from research to research. Baregheh, Rowley and Sambrook (2009) accordingly opine that "there are many different definitions of innovation in current research, and overall, the number and diversity of definitions leads to a situation in which there is no clear and authoritative definition of innovation" (p. 1324). Accordingly, many experts in the field, like Arundel and Huber (2013), Bland et al. (2010), Damanpour (1996), declare that though research on innovation has attracted a lot of interest over the years, scholars have yet to reach a consensus in terms of a common definition of innovation.

According to West and Altink (1996), innovation is the intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organisation or wider society. Hamel (1999) also defines innovation as a marked departure from traditional management principles, processes and practices or a departure from customary organisational forms that significantly alter the way the work of management is performed. In terms of knowledge, Harkema (2003) defines innovation as a knowledge process with the objective of creating new knowledge focused on development. He further argues that innovation is the adoption of an idea or behaviour that is new to the organisation. It can be a new product, a new service or a new technology and the extent to which an organisation can be regarded as innovative will be circumscribed by its culture and viable solutions. Harkema

asserts that change and innovation are intertwined, and they can be radical or incremental.

Innovation can broadly be assumed as the implementation of discoveries and interventions and the process by which new outcomes, whether products, systems or processes come into being (Gloet & Terziovski, 2004). The degree of innovation reflects the extent of new knowledge embedded in an innovation (Dewar & Dutton, 1986; Ettlie, 1983). Firms with greater innovation capability will achieve a better response from the environment, obtaining more easily the capabilities needed to increase organisational performance and consolidate a sustainable competitive advantage (Calantone, Cavusgil & Zhao, 2002). For this reason, it is necessary to improve the innovative culture of the enterprise so that all its members search for new products, services or processes (Skerlavaj, Song & Lee, 2010).

At the institutional level, Jackson (2013) expresses that innovation is a new product, technique or service that differs from prior practice and opens up new avenues for addressing issues or achieving a goal. In organisations, as stated by Cropley (2009), innovation is the successful introduction of a new thing or method. Innovation is explained as the embodiment, combination or synthesis of knowledge in the form of new goods, processes or services that are unique, relevant and valuable. In the opinion of Amabile (1996), all innovations begin with creative ideas and should end with creative products. She asserts that innovation is the successful implementation of creative ideas within an organisation. This is in line with an earlier definition by Zaltman, Duncan and Holbek (1973) who argue that innovation is, "…any idea, practice, or material artifact perceived to be new by the relevant unit of adoption." (p. 10).

In terms of management, Hamel classifies management innovation as a departure from conventional management principles, processes and practices or a departure from solutions universally used in organisations, which has a considerable effect on how organisations operate (Hamel, 2006). In other words, management innovations are changes in how managers work. It comprises an organisation adopting new technologies, new ideas and processes to change in managerial sections such as computer based administrative innovations, new employee reward/training schemes (Santos-Vijande & Álvarez-González, 2007). Walker, Damanpour and Devece (2011) perceive management innovation as new approaches to devise a strategy and structure in the organisation, modify the organisation's management processes and motivate and reward its employees. Vaccaro et al. define innovation management in a similar way, when they identify it as "the implementation of a management practice, process, or structure that is new to the adopting organisation. New practices, processes, and structures that change the nature of managerial work at the firm level" (Vaccaro, Jansen, Van den Bosch & Volberda, 2012, p.5).

In the current state of the art on innovation in management, innovation tends to be defined as the generation and implementation of meaningfully new solutions in the area of processes, procedures, techniques and structures in an organisation's management which significantly change how the organisation's goals are achieved (Birkinshaw, Hamel & Mol, 2008, p. 825). Tinoco (2010) asserts the words "newness", as well as "generation and implementation of new ideas", are evident regardless of whether the innovation being defined is all-encompassing or is restricted to product, production process, administrative or organisational services. This is particularly true considering the fact that hitherto

most definitions of innovation have placed emphasis on innovation in products and processes.

However, a common idea in understanding innovation can be derived from Cumming (1998) who pointed out that innovation is not a one-off phenomenon, but long and cumulative processes comprising a number of organisational decision-making processes, ranging from the phase of generation of a new idea to its implementation phase. In general, it can be said that contemporary definitions of innovation underline that the core value of innovation is that it enables meaningful change, the change that improves a given organisation's products/services, its processes, procedures and business model, while simultaneously creating new value for stakeholders (Timmerman, 2009).

In the context of public sector institutions such as a university, innovativeness is regarded as the ability to respond faster and more flexibly to environmental changes (Fraj, Matute & Melero, 2015). While it is required in differentiating their routine processes, it is also seen as a solution to challenges with its capability to fit into competition arising from the dynamics of the environment (Nagy, 2014). The indispensability of innovation is stressed by Chen (2011); Slåtten, Svensson and Sværi (2011) as well as Sundbo, Orfila-Sintes and Sorenson (2007) in their assertion that public sector innovation is a vehicle through which businesses translate opportunities into new business concepts and improve their profitability and competitiveness by providing differentiated products and services. Gupta (2007) is of the opinion that sustainable and profitable growth in a company require sustainable innovation

activities. Consequently, Potters (2009) affirms that innovation is critical in this knowledge era as it is a catalyst for organisation's growth.

Types of innovation

In the literature, there have been various classifications of innovation depending upon various factors. From the point of view of experts like Daft and Becker (1978), Kimberly and Evanisko (1981), innovation can be classified as: administrative or technical based on the objective of innovation adoption; while according to Brown and Eisenhardt (1995), it can be classified as: rational plan, communication web or disciplined problem-solving based on the performance measures. Others like Gatignon et al. (2002) as well as Anderson and Tushman (2018) also classify it as: competence enhancing or competence destroying based on innovation's effect on a firm's competencies. However, many researchers have categorised innovation into Radical, (Damanpour, 1991; Dewar & Dutton, 1986), Incremental, (Ettlie, Bridges & O'keefe, 1984; Nelson & Winter, 1982), Architectural, (Henderson & Clark, 1990) and Disruptive, (Schmidt & Druehl, 2008). These are based on the extent of change to technology. Among them, the last four classifications: radical, incremental, architectural and disruptive have recently received much attention from researchers who are interested in organisational learning and dynamic capability (Benner & Tushman, 2003; Danneels, 2002; Maital & Seshadri, 2012; Tidd, Bessant & Pavitt, 2001). To this end, in the context of this study, these four will be considered.

Incremental innovation

Incremental innovation aims at meeting the needs of current customers or markets at a rate consistent with the current technological trajectory (Benner & Tushman, 2003; Gatignon et al., 2002; Jansen, Van Den Bosch & Volberda, 2006). The strategic focus of incremental innovation is market dominated growth with diversification by improving and expanding current products and services within a short time (Abernathy & Clark, 1993; Ettlie, Bridges & O'keefe, 1984; Taylor & Greve, 2006). Incremental innovation projects call for the ability to reinforce, recombine and take advantage of existing knowledge resources (Danneels, 2002; Subramaniam & Youndt, 2005). In this case, exploitative learning occurs with a narrow and in-depth search to take in well-defined solutions of a firm (Kang & Snell, 2009; Katila & Ahuja, 2002; Zahra & George, 2002). Outputs of incremental innovation projects are slight variations of existing products, services, practices or approaches (Damanpour, 1991). Incremental innovation, thus represents little departure from existing practices and technology which tend to be routine and instrumental.

The main aim of incremental innovation is to overcome the intrinsic ambiguity and it occurs when a new characteristic is added, eliminated or substituted while leaving the whole set of products and services unchanged (Benner & Tushman, 2003; Gatignon et al., 2002; Jansen, Van Den Bosch & Volberda, 2006). Incremental improvements to existing products, services and organisational routines can enhance performance, quality and usefulness and are vital to making more competitively advanced products and services (Sciulli, 1998). This type of innovation is more apt to improve and extend the quality and added value of existing products that will satisfy current customers' needs

and ultimately give the organisation some competitive advantage (Cao, Simon & Suttmeier, 2009).

Incremental innovation plays a critical role in facilitating superior firm performance and competitive advantage in service firms (Chen, Lin & Chang, 2009). Incremental innovations add or sustain value by improving existing products and services. These incremental changes can be in response to evolving customer needs or the result of ideas emerging from research labs or elsewhere. Most product and service innovations are incremental in nature and their improvements enhance the efficiency and effectiveness of existing processes and practices. They are based on improving current business and management processes, such as planning, designing, manufacturing, production, marketing and administration, supply chains and communications (Cao et al., 2009; Chen et al., 2009).

Radical innovation

Conversely, radical innovation seeks to meet the needs of emerging customers or markets (Benner & Tushman, 2003; Jansen et al., 2006). The magnitude of change in radical innovation is bigger than in incremental innovation. Based on an aggressive long-term strategy, organisations attempt to disrupt the prevailing technological trajectory and create new designs, technologies and distribution channels for new markets (Abernathy & Clark, 1993; Gatignon et al., 2002). Accordingly, radical innovation projects build on knowledge resources that a firm does not yet have or that differ from existing resources (Danneels, 2002). In this case, exploratory learning becomes critical in that the firm needs to search a wide range of available knowledge to expand existing knowledge domain to novel or unfamiliar areas (Kang & Snell, 2009;

Katila & Ahuja, 2002). The success of a radical innovation project depends on the ability to make prevailing technologies obsolete by transforming the old knowledge into new knowledge, thereby producing fundamental changes in an organisation (Damanpour, 1991; Subramaniam & Youndt, 2005).

Architectural innovation

In the literature, innovation can be architectural (Henderson & Clark, 1990; Magnusson, Matthing & Kristensson, 2003). The architectural innovation is considered the reconfiguration of existing modular resources, also at the firm level (Galunic & Eisenhardt, 2001), to obtain a new process, product or business model (Galunic & Rodan, 1998; Sanchez & Mahoney, 1996). In this case, Henderson and Clark (1990) define architectural innovation as "the reconfiguration of an established system to link together existing components in a new way" (p. 5). This, according to Sood and Tellis (2005), means that the core technology of the architectural innovation relies on the existing one. It is about the changes needed to differently link the existing modules in order to obtain something slightly new. In a complementary way, we refer to the innovation of components when only a part changes within the same architecture (Sood & Tellis, 2005). In the case of component innovation, the change occurs in the materials, parts or in the new modules used to provide a new product.

Architectural innovation changes the way in which the components of a product are linked together, while leaving the core design concepts and thus, the basic knowledge underlying the components, untouched. Also, architectural innovation destroys the usefulness of a firm's architectural knowledge but

preserves the usefulness of its product's component knowledge (Henderson & Clark, 1990).

In general, the definition of architectural innovation is either the improvement of existing parts in order to enhance the core concept of component of systems or changing the connections between the components (Henderson & Clark, 1990; O'Reilly & Tushman, 2008; Tushman, Tushman & O'reilly, 2002). The change in the connecting parts is accompanied by the relevant parts of the upgrade.

Disruptive innovation

A disruptive innovation is defined as the innovation of an existing technology that alters the characteristics of the products and services on the market, endowing them with greater value (Schmidt & Druehl, 2008). The term refers to a unique type of innovation that uses technologies under development to change current performance metrics and eventually, to displace established competitors (Rasool et al., 2018). Therefore, the 'incumbents' can finally be interrupted by the 'entrants' (Cozzolino, Verona, Rothaermel, 2018). Disruptive technology opens up windows of opportunity for new products. It can enable low-income markets to have a piece of otherwise inaccessible technology (Burchardi et al., 2020).

It can be noted that disruptive technology is not necessarily a new product (or a new process) that performs better than the previous one, but rather a product that creates new markets and new opportunities and, as such, can destabilise the incumbents (Zubizarreta, Ganzarain, Cuadrado & Lizarralde, 2020). Moreover, Rakic (2020) argued that "disruption is a process" (p. 69), which implies that disruption does not occur only in just one given moment. It

is a process that continues over time. Danneels (2002) agreed on this point, considering new innovative entrants into an industry as the possible cause of incumbents' displacement in their market. According to Francis and Bessant (2005), disruptive innovations are not 'sustaining' innovations, rather, they are mainly competence-destroying because market niches are not sufficiently large for the growth of the incumbent firms. In contrast, these niches are good starting point for small firms that want to develop disruptive innovations, creating new needs for novel customers.

A disruptive innovation therefore disrupts the market and creates new market niches. It is an innovation that does not only involve the product or the process but it can also affect the firm's business model and the processes of entry and firms' shakeout. Disruptive innovations in product life cycles reflect the poorer product performance or the excessive price of the previously used technology. Existing customers do not yet consider the new product, but novel customers are attracted (Rakic, 2020). As Rasool et al. (2018) affirmed, unlike sustained innovations, which are based on existing products and services for existing clients, disruptive innovations target new clients and offer different characteristics and values when compared with the latter. This type of innovation leads to the appearance of new products and services that lead to a rupture, with established market norms, seeking progressive market consolidation (Cozzolino, Verona & Rothaermel, 2018). They are classified as low performance and are based on new market technologies. In other words, they are introduced into markets where the clients are starting to acquire a product or a service that they have not used beforehand (Takamatsu & Tomita, 2015).

In general, a disruptive innovation introduces an offer that is generally cheaper, easier to use and more convenient in comparison with offers from the principal market (Petzold, Landinez & Baaken, 2019). Therefore, at first, disruptive technologies that are introduced into a market are targeted at less demanding clients and with lower purchasing power (Guo et al., 2019). Unlike the established technologies, because the latter are dedicated to the development and improvement of their product or service, firms from the principal markets tend initially to ignore disruptive innovations, considering them of low quality and unrelated to their industry (Rasool et al., 2018). As the disruptive technology increases, it starts to occupy niche markets that the established technologies abandon and it manages to increase its market share, 'invading' the principal markets when doing so (Guo et al., 2019). However, disruptive innovation can, in the first place, be new market innovations that create new demand for novel technologies and related products. Secondly, they can be low-range innovations that provide technologies with similar characteristics to existing technologies, but at a lower cost (Guo, et al., 2019).

Relationship Between Organisational Culture and Innovation

This section discusses the dimensions of organisational culture, and the influence of the dimensions of organisational culture on innovation as demanded by research objective 1.

Dimensions of organisational culture

The competing values framework assesses the dominant organisational culture based on four culture types: Clan Culture, Adhocracy Culture, Hierarchical Culture and Market Culture.

Clan culture

A clan culture-oriented organisation exhibits high degree of flexibility and it is internally focused. For example, an institution like the university can be seen as a family-like, with strong emphasis on mentoring, nurturing and doing things together. In this case, the culture of the university can be considered as clan, because the university exhibits clan culture-oriented features. According to Cameron and Quinn (2011), clan culture is built around collaboration, and the relationship between people is central with members sharing commonalities and seeing themselves as part of a big family. Zeb et al. (2021), thus, describe clan culture as full of shared values and common goals, an atmosphere of collectively and mutual help, and an emphasis on empowerment and employee evolvement. Managers in a clan culture act democratically to inspire and motivate people to create an organisational culture of excellence (Pathiranage, Jayatilake & Abeysekera, 2020). Human association, teamwork, attachment, trust, loyalty and support are among the beliefs and ideals of clan culture (Fiordelisi & Ricci, 2014).

In clan culture environment, individuals in the organisation behave responsibly and develop a sense of ownership because they have trust in, loyalty to, and feel part of the organisation (Nongo & Ikyanyon, 2012). An organisation where clan culture exists, shows teamwork, participation, employee involvement and open communication (Pinho, Rodrigues & Dibb, 2014; Yirdaw, 2014); improvement in employee performance through commitment, sense of ownership and responsibility (Murphy, Cooke & Lopez, 2013).

Teamwork participatory management style encourages the appreciation of innovation by employees, and facilitates the creativity, empowerment and

change that are essential to drive innovation (Khazanchi, Lewis & Boyer, 2007). Hurley (1995) found that the more the culture emphasises people and career development, the higher the groups' innovativeness will be, and the more the culture emphasises participation and open decision making, the higher the groups' innovativeness will be. On top of that, Barczak, Lassk & Mulki (2010) suggested that team emotional intelligence promotes team trust, and trust in turn, enhances the creativity of the team. For this reason, it is necessary to build a harmonious, interpersonal atmosphere in the organisation and encourage employees to work together for long-term common goals (Barczak et al., 2010).

In this regard, the teamwork, collaboration and internal communication of employees seem to be favourable for innovation (Büschgens, Bausch & Balkin, 2013; Hogan & Coote, 2014). Largely, it can be said that there exist a positive relationship between clan culture and innovation in many organisations in developing countries (Naqshbandi, Kaur & Ma, 2015).

Adhocracy culture

Adhocracy culture-oriented organisations are characterised by high degree of flexibility and are externally focused. Adhocracy cultures are dynamic and entrepreneurial, with a focus on risk-taking, creativity and doing things first (Cameron & Quinn, 2011). Sok, Blomme and Tromp (2014) have it that leaders commit greater resources for research and development in an adhocracy culture, and they encourage employees to participate in creative and innovative research initiatives. Workers are motivated to delve into the unknown, and executives are viewed as entrepreneurs or innovators. Organisations in these settings want to be leaders and at the forefront of new products and/or services.

The cultural characteristics of this dimension are supportive of firms to adapt a new environment and bring critical resources together to engage in innovative and creative ventures. Ultimately, adhocracy cultural practices is more responsive to innovation (Brettel, Chomik & Flatten, 2015), and result in innovation and change in an organisation (Fiordelisi & Ricci, 2014).

Hierarchical culture

Hierarchical culture-oriented organisations are structured and controlled with focus on efficiency, stability and doing things right (Cameron & Quinn, 2011). Hartnell, Ou and Kinicki (2011) indicate that with this kind of culture, members of the organisation go by laid out rules and they have instructions for activities they are expected to perform. Akin to Hartnell et al. description, Zeb et al. (2021) suggest that hierarchical culture has a clear organisational structure, standardised rules and procedures, strict control and well-defined responsibilities. Similar to the afore-mentioned researchers, Sok, Blomme and Tromp (2014) describe hierarchical culture as a combination of rules and regulations to control activities in the organisation. Fiordelisi and Ricci (2014) add that organisations that exhibit hierarchical culture have clear communication channels, stability and consistent in their undertakings.

The descriptions about hierarchical culture suggest that the work environment is extremely formal, structured working environment, with strict institutional procedures in place for guidance to ensure consistency and uniformity in their operations. This type of culture can contribute towards maintaining consistent, standardised, and stable processes within the organisation and may therefore be appropriate for the promotion of innovative strategies based on imitation and technological absorption, especially in smaller

companies and in developing countries (Büschgenset al., 2013; Naranjo-Valencia, Jiménez-Jiménez & Sanz-Valle, 2011).

Market culture

The focus of market culture-oriented organisations cultures is on results, with a concentration on competition, achievement and getting the job done (Cameron & Quinn, 2011). Focusing on external is very imperative, as suggested by Pathiranage, Jayatilake and Abeysekera (2020), that in order to succeed in a competitive market, managers must have a thorough understanding of their clients and market priorities. When market culture is practised, management maintains customer-driven approach because the priority of market culture is the achievement of customers' satisfaction (Han, 2012), which may translate into high market share, revenue, high profit, growth and productivity (Hartnell, Ou & Kinicki, 2011). Market culture, according to Zeb et al. (2021), concentrates on transactions with the outside environment rather than internal management. The organisational goal is getting significant market share that translates into profitability; thus, success is measured by market penetration.

Although market-oriented culture is external focused, organisations with a market culture continue to increase the degree of innovativeness within the organisation (Demirci et al., 2013).

The influence of the dimensions of organisational culture on innovation

Organisational culture plays an important role in the functioning of the organisation. It manifests itself as a factor having a major impact on the behaviour of members of the organisation, due to this fact it can stimulate innovative behaviour of employees and thus, provide a context for the

emergence of ideas and their implementation. This occurs through a number of functions attributed to organisational culture – integrating, coordinating and communication function (Martins & Terblanche, 2003). Organisational culture can affect both the willingness and ability of employees to accept innovation as a fundamental value of the organisation, as well as their greater involvement (Hartmann, 2006). Thus, it may contribute to generating new solutions or absorbing them from the outside.

Organisational culture also sets out the extent to which creative solutions will be stimulated, supported and implemented. This view is shared by Van Der Panneet al., who claim that "success of innovation is largely determined by the appropriate organisational culture" (Van Der Panne, Van Beers & Kleinknecht, 2003, p. 315). Therefore, often, experts have even argued that organisational culture is at the heart of an innovative organisation (Dobni, 2008; O'Reilly & Tushman, 1997). As revealed by Dobni (2008), organisational culture supporting innovation (so called pro-innovation culture) incites trust and respect in employees, values teamwork and is characterised by a search for solutions and quick decision-making. According to Ahmed (1998), a principal determinant of innovation is culture. Organisational culture has various elements which can serve to enhance or inhibit the tendency to innovate. Kaasa and Vadi (2010) state that culture affects innovation because it shapes the models dealing with novelty, individual initiatives, collective actions, understandings and behaviours regarding risks, as well as opportunities.

To date, studies such as those of Russell (1990) as well as Zheng, Yang and McLean (2010) indicate that organisational culture has a significant impact on its ability to innovate. There seems not to be much discrepancy on the

confirmatory linkage between organisational culture and innovation as studies by Bartel and Garud (2009), as well as Zheng et al. (2010) assert that a number of theoretical and empirical investigations have found beneficial links between cultural values and organisational creativity. Again, several empirical propositions and quantitative studies provide convincing arguments, sound conclusion and empirical confirmation in support of the assertion that organisational culture is associated with organisational innovation (Bartel & Garud, 2009; Dellana & Hauser, 2000; Zheng et al., 2010). For example, Ahmed (1998) posits that having positive cultural qualities largely give the organisation the elements it needs to innovate. Schein (1985) submits that organisational culture may be used to solve problems and explain daily organisational events. Organisations that embrace creativity and innovation are risk-oriented, have a feeling of pride in their members, are passionate about what they are capable of doing and place a high priority on employee involvement in planning and implementing innovation.

Organisational culture affects individual intrinsic motivation that influences organisational creativity, which feeds innovation. Gudmundson, Tower and Hartman (2003) discovered that in small businesses, there is a positive association between participative management practices and innovative culture. Wang, Guidice, Tansky and Wang (2010) also stress the importance of organisational culture in boosting a company's ability to innovate. They suggest that for innovation to thrive, the culture of the organisation must be flexible and receptive to changing times. Accordingly, Barbosa (2014) affirms that cultural adaptation is required for successful innovation. In essence, organisations that regard innovation as a critical element should build and foster an innovative

culture and align it to their strategic intent as lack of alignment reduces the likelihood of success.

However, notwithstanding the much touting about the positive correlation between organisational culture and innovation, organisational culture can be a hindrance to innovation; hence, there may be a conflicting link between culture and innovation (Kalaiarasi & Sethuram, 2017). For instance, Barbosa (2014) opined that a strong organisational culture can lay the foundation for an innovative organisation but may also serve to stifle creativity and discourage the interactions amongst employees which are vital to the innovative process. According to Barbosa (2014), organisational culture that places emphasis on excessive job pressure stifles creativity, and employees who do not have adequate time or resources to accomplish assigned tasks are less likely to be creative. A study by Ogbonna and Harris (2000) also disclosed the existence of negative correlation between bureaucratic culture and innovative culture. With these varying findings, Chang and Lee (2007) submit that the innovative skills of an establishment are ascertained by how its culture is both created and applied.

Emotional Intelligence (EI)

The term, emotional intelligence, was first introduced by Salovey and Mayer (1990) and it was considered as a type of social intelligence, separable from general intelligence. According to them, emotional intelligence is the "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to be able to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). Mayer, Caruso and Salovey (1997) refined the definition as perceiving, using, understanding and managing

emotions. These authors are of the view that emotional intelligence differs from personal intelligence in that it focuses on detecting and exploiting the emotional states of oneself and others to solve issues and governs behaviour rather than on a general sense of self and the appraisal of others. Thus, it has been found that the difference between a simply brilliant person and a brilliant manager is due to a person's emotional intelligence. According to Turner and Lloyd-Walker (2004), emotional intelligence is critical to effective leadership as it is the softer component of total intelligence and that it also contributes to both professional and personal lives. Traditional intelligent is the ability to learn, understand and reason which is now thought to contribute only 20% to one's success. On the hand, emotional intelligence which is the ability to understand oneself and interact with people, contributes 80% (Turner & Lloyd-Walker, 2004).

Besides, other experts like Bradberry and Greaves (2009) express emotional intelligence as your capacity to notice and understand emotions in yourself and others, as well as how to use that awareness to control your behaviour and relationships. Faltas (2018), on the other hand, describes emotional intelligence as a set of both cognitive and non-cognitive competencies, skills and abilities, directly and essentially connected to the behaviours and actions of everyone, in every field, including the actions of public administrators, policymakers, managers and leaders at any level of the organisation's bureaucracy. Faltas underscores the importance of emotional intelligence in leadership when he proposes that people in authority, irrespective of their area of specialisation and authority must have knowledge of emotional intelligence. In the view of Faltas, knowledge and awareness of emotional intelligence enables leaders to appreciate the people they interact with, as well

as a better control of their emotions, grievances, etc. Hence, emotional intelligence is considered important for business leaders because if they are insensitive to the mood of their staff or team, it can create frustration and, therefore, not get the best out of people (Korkmaz & Arpacı, 2009).

Bar-On et al. (2000), who are advocates of the mixed models concepts of emotional intelligence explain it as a set of non-cognitive (emotional and social) capabilities, competencies and skills that influence one's ability to succeed in coping with external demands and stresses. They indicate that emotional intelligence traits are both innate and acquired by individual. Similarly, Goleman, one of the early proponents of emotional intelligence, perceives self-awareness and social awareness as some of the constructs of emotional intelligence and accordingly defines emotional intelligence as the ability to understand personal feelings and those of others, to motivate, and to manage emotions effectively in others and ourselves (Goleman, 2001**).** Cherry (2018) vindicates Gorman's explanation when he alludes that emotional intelligence is an individual's capacity to understand and manage emotions. Ultimately, it is emotional intelligence that dictates the way people deal with one another and understand his or her emotions.

In terms of the relationship between leadership and emotional intelligence, Gupta and Bajaj (2017) claim that leaders at the work place with high emotional intelligence have the capacity to sense their follower's emotions, to intervene when problems arise, to manage their own emotions, and to understand and gauge the political and social conventions within the organisation. The idea here is that the presence of emotional intelligence makes someone a better leader. This is supported by Goleman (1998) who argued that

emotional intelligence is an important predictor of leadership and organisational performance, perhaps even the most important predictor. "Without emotional intelligence, a person can have the best training in the world, an incisive, analytical mind, and an endless supply of smart ideas, but he still won't make a great leader" (Goleman, 1998, p. 24). According to Goleman (2002), reviews have shown that the importance of emotional competencies increases as an individual climbs higher up the corporate ladder. To collaborate and communicate with each other effectively, emotional intelligence has been increasingly recognised as critical skill for leaders to be successful in variety of situations (Higgs & Dulewicz, 2016; Rosete & Ciarrochi, 2005).

Dimensions of emotional intelligence

In terms of dimensions, various researchers (Barling, Slater & Kelloway, 2000; Goleman, 1995; Lubit, 2004) have noted that emotional intelligence comprises several characteristics. For example, while Barling, Slater and Kelloway (2000) divided emotional intelligence into five features like understanding one's emotions; knowing how to manage them; emotional self-control, which includes the ability to delay gratification; understanding others' emotions or empathy; and managing relationships, Lubit (2004) grouped emotional intelligence into two major components: personal competence and social competence. Personal competence refers to self-awareness and the ability to manage those feelings effectively (self-management). In essence, personal competence is the combination of self-awareness and self-management, that is, the ability to manage effectively the identified feelings (Sosik & Magerian, 1999; Watkin, 2000). The components of self-awareness are awareness of emotions and their impact and the awareness of strengths and weaknesses. The

components of self-management are emotional self-control, adaptability (i.e., flexibility in adapting to changing situations and obstacles), integrity, honesty, trustworthiness, drive to grow and achieve, achievement orientation, continuous learning, willingness to take initiatives, and optimism (Sjolund & Gustafsson, 2001; Tischler, Biberman & McKeage, 2002).

On the part of social competence, it is said to comprise social awareness (i.e., the ability to understand what others feel) and relationship management (having the skills to work effectively in teams). The ability to understand others' emotions, persuasion, motivation, conflict resolution, and reasons for cooperation are among the most critical skills identified as essential for leaders and successful managers (Sjolund & Gustafsson, 2001). Social awareness involves empathy and insight, understanding others' perspectives and feelings, appreciation of others' strengths and weaknesses, political awareness, respect for others, conflict management skills, collaborative approach, sense of humour, persuasiveness, and the ability to leverage diversity. Social competence is developed by paying attention to the emotions and behaviour of others, seeking to understand others' behaviour through reflection and discussions with third parties, thinking of various ways to deal with situations, and observing the effects of one's actions (Sjolund & Gustafsson, 2001). According to Lubit (2004), social competence can be enhanced by observing others, thinking about why people behave and react as they do, and identifying behaviour that seems helpful in critical situations.

However, in the contemporary world, while Salovey and Mayer (1990) were the founders of the modern emotional intelligence concept, Goleman was the one who brought emotional intelligence to the broader attention of the public

including various dimensions. Earlier, Goleman broadly divided human emotions into personal skills and social skills. Personal skills describe "how we manage ourselves", and social skills explain relationships. Emotional intelligence was further divided into five segments: self-awareness, self-regulation, and motivation as personal skills and empathy and social skills as relationship management (Goleman, 1995). In 1998, however, Goleman re-defined his five-factor model into four factors: Self-awareness, Social Awareness, Self-management and Relationship-management (Goleman, 1998).

In the context of this study, three of these variables namely: Self-awareness, Self-management and Social skills will be used since both social awareness and relationship management can be considered under social skills.

Emotional self-awareness

Emotional self-awareness is explained as being aware of and understanding one's own feelings and their impact on others. Goldman et al. (2017) has it that emotional self-awareness is the ability to understand your own emotions and their effects on your performance. Emotional self-awareness enables one to know what he is feeling and why, and how it aids or hinders what one wants to accomplish. Goldman dilates that emotional self-awareness enables one to have an accurate sense and conscious of his abilities and short comings, which gives him a genuine feeling of self-confidence.

Self-management

Self-Management is the ability to control stressful affects like anxiety and having the capability to restrain emotional impulsivity (Goleman et al., 2002); and being able to regulate or change one’s state of mind (Hess & Bacigalupo, 2011). Goleman list the competencies of self-management as

emotional self-control, transparency, adaptability, achievement orientation, initiative and optimism.

Social skills

Social skills are the ability to understand others' feelings and having the skills to work effectively in teams (Goleman, 1998; Tischler, Biberman & McKeage, 2002). According to Goleman (1995), emotional intelligence involves components within an individual that cannot be separated, and which work from the inner self.

The Concept of Leadership

Leadership, although has been defined variously in the literature, many experts see it as the ability to influence followers toward the accomplishment of an organisational goal (Burton & Welty Peachey, 2013; Kasim & Zakaria, 2019; Parris & Peachy, 2013; Van Knippenberg & Sitkin, 2013). Analogously, Yukl (2012) defines leadership as the process of facilitating individual and collective efforts to accomplish shared objectives. From the point of view of Yukl, leadership can improve the performance of a team or organisation by influencing the process that determines performance. To this end, leadership has been seen as the act of influencing others to understand and agree on what action is necessary and how to do it (Hao & Yazdanifard, 2015; Yukl, 2012). This implies that leadership can be considered as the ability to guide the efforts of individuals or a group to work toward the achievement of common objectives.

From organisational perspectives, leadership in organisations is inspiring, helping individuals and making collective efforts to accomplish shared objectives (Yukl, 2012). As a shared or collective concept, leadership can be described as a process of social interaction where the leader's ability to

influence the behaviour of their followers can strongly influence performance outcomes (Humphrey, 2002; Pirola-Merlo et al., 2002). Being an interaction between a followed and followers, Burns Jr (2017) states that leadership is inducing followers to work to attain certain goals that represent the values, wants and aspirations of both leaders and followers. The idea here is that leadership is a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task (Slimane, 2015). It is therefore about an individual taking charge of a group and directing it towards the realisation of its goals. In tandem with the above descriptions, it can be said that when leadership is conceptualised as a process of organising or influencing others, then it may be inferred that it is not only the trait that resides in the leader but it is a contract or a deal that occurs between the leaders and those being led (Inyang, 2013; Slimane, 2015; Tourish, 2014). The key role of leadership is highlighted when Shanthakumary and Nirushika (2020) personify leadership and describe it as the heart of every organisation, whilst Longenecker, Neubert and Fink (2007) depict it as "the glue that holds organisations together, especially in periods of change" (p. 151).

With regard to this study, although there are many leadership styles available, the transformational leadership style was chosen because it can be seen as an exclusive leadership philosophy and one of the most effective and contemporary leadership styles till today (DeRue, 2011; Mozammel & Haan, 2016). Transformational Leadership is, therefore, defined as the process of expanding and broadening the interests and needs of followers, increasing their morale and motivation, and ensuring that they understand and adhere to their goals systematically (Joo & Lim, 2013; Rafferty & Griffin, 2004). Thus, a

transformational leader works on raising awareness, interest and creativity among his followers (McCleskey, 2014) through shifting their focus from mere existence toward achievement and growth (Bolden et al., 2003).

Based on extensive research, it can be noted that transformational leaders often exhibit emotional intelligence to accomplish better employee performance, effort, satisfaction and organisational effectiveness (Jaiswal & Dhar, 2015). Transformational leaders help the subordinates to grow and develop by responding to their individual needs, empowering them and aligning the objectives and goals of the individual, the leader, the group and the larger organisation (Bass & Riggio, 2006). Therefore, transformational leadership is considered to be a more effective leadership style that enhances creativity (Sin & Yazdanifard, 2013). This assertion is supported by research, which shows that managers who use the transformational leadership style tend to have higher levels of emotional intelligence as well (Gardner & Stough, 2002; Lubit, 2004). Colfax, Rivera & Perez (2010) argue that success requires not only cognitive ability but also the capacity of perceiving, evaluating, and understanding one's own emotions, as well as the emotions of others.

According to George (2000), while both emotional intelligence and transformational leadership are emotion-laden constructs, the former has been considered to contribute to effective leadership on specific competencies, namely, generating and maintaining positive moods in subordinates and establishing and maintaining a meaningful identity for an organisation (Brown & Moshavi, 2005; George, 2000; Harrison & Clough, 2006). Hence, the choice of transformational leadership style, since they have high emotional intelligence

levels which correlate to higher level of innovation in an organisation (Gardner & Stough, 2002; Sin & Yazdanifard, 2013).

The Mediating Role of Leadership Emotional Intelligence Between Organisational Culture and Innovation

As earlier discussed, organisational culture has influence on innovation as it sets out the extent to which innovative ideas are stimulated, supported and implemented. Thus, organisational culture is at the heart of an innovative organisation, since the success of innovation is largely contingent on the right organisational culture (Van Der Panne, Van Beers & Kleinknecht, 2003). Leaders with emotional intelligence are thought to contribute to the shaping of organisational culture. This assertion is supported by Schein (1992; 2010) who argued strongly that organisational culture and leadership were intertwined. He illustrates this inter-connection by looking at the relationship between leadership and culture in the context of the organisational life cycle. According to Schein, during the process of organisational formation, the founder creates an organisation which reflects their beliefs and values. In this sense, the founder creates and shapes the cultural traits of their organisation. However, as the organisation develops and time passes, the created culture of the organisation exerts an influence on the leader and shapes the action and style of the leader depending upon the emotional intelligence (Antonakis, 2012; Mathews, Zeidner & Roberts, 2002). Through this dynamic ongoing process, the leader creates and is in turn shaped by organisational culture.

Bass and Avolio (1993) mirror the argument of Schein (1992; 2010) by suggesting that the relationship between the two concepts represented an ongoing interplay in which the leader shaped the culture and is in turn shaped

by the resulting culture. Thus, with the set of underlying values, beliefs, and principles that serve as the foundation for an organisation's systems and management practices (Denison, Haaland & Goelzer, 1990), organisational culture permeates every aspect of an organisation and its leadership emotional intelligence which reflects the organisation's essence, or DNA, in the present and the future (Hartnell, Ou & Kinicki, 2011).

Thus, leaders with emotional intelligence are able to transfer values to subordinates as they are able to understand and express emotions and feelings as well as the ability to understand how others feel and relate with them (Lee & Yazdanifard, 2013). These mechanisms correspond with the behaviours in leadership process as described by Conger and Kanungo (1987). The mechanisms that are manifestations of the leader's values can be conscious and deliberate or unconscious and unintended. For most of the mechanisms, awareness of the process and the effect it has on followers increases the power of the transfer of values (Schein, 2010).

House and Howell (1992) opine that leaders with emotional intelligence pro-actively engage in social influence behaviour to get followers committed to the vision of the leader. De Hoogh et al. (2005) found that leadership with emotional intelligence was indeed positively related to a need for social influence and a power motive with the ability to adapt and solve problems of a personal and interpersonal nature. This suggests that behaviour to communicate visions and values are deliberate in leaders with emotional intelligence. It can therefore be expected that leaders with emotional intelligence can communicate their vision and values more effectively than non-emotional intelligence leaders as they accomplish more consensus about shared values among team members

since they are able to manage and control emotions as well as manage change (Byron, 2007).

With regards to leadership emotional intelligence and innovation, researchers have revealed that leaders with emotional intelligence, in general, have significant influence on innovation (Agbor, 2021; Battilana, Gilmartin, Sengul, Pache & Alexander, 2010; Day & Antonakis, 2013; Gunkel, Schlägel & Engle, 2014; Wang, Rode, Shi, Luo & Chen, 2013). Innovation has link with leadership and it has been described as a "core leadership competence" (Puccio, Murdock & Mance, 2007, p. 12); and an "essential component of effective organisational leadership" (Mumford & Connelly, 1999, p. 144). In essence, given the importance of leadership in stimulating and ensuring the success of innovation (Gunkel, Schlägel & Engle, 2014; Wanget al., 2013), Borins (2001) asserts that individuals in positions of power with emotional intelligence can influence innovative culture within any organisation.

It has been argued that leader's emotional intelligence influences the perception of employees about climate at work and they are able to affect the emotions of their employees through their own emotional states. Such leaders who drive emotions positively create a climate of enthusiasm, information sharing and motivation in which individuals show exceptional creativity and innovation (Goleman, Boyatzis & McKee, 2002; Porter-O'Grady & Malloch, 2010; Williams & Foti, 2011). Previous studies have revealed that emotionally intelligent leaders nurture the climate by inculcating confidence in employees, guiding them in the situations of ambiguity and conflict, offering support and assisting them to bounce back from being surrounded by negative emotions (George, 2000; Zhou & George, 2003). Thus, a leader who is high on emotional

intelligence appreciates the impact of one's emotions on the needs and feelings of employees and therefore ensures to facilitate favourable psychological climate thereby encouraging creativity and innovation (Klem & Schlechter, 2008; Momeni, 2009).

According to Rego et al. (2007), leaders' emotional intelligence has been found to streamline different steps in the creative process which ultimately influence employee's innovativeness. On the other hand, leaders with negative emotions lead to climate characterised by fear, anxiety, anger and lack of bonding, thus, hampering individuals' performance in terms of creativity and innovation (Goleman, Boyatzis & McKee, 2002). In order to enhance innovation, the emotional intelligence of a leader is imperative for the generation, integration and application of novel and diverse concepts and approaches (Jafri, Dem & Choden, 2016; Jaiswal & Dhar, 2015; Mahon, Taylor & Boyatzis, 2014; Williams & Foti, 2011). When the emotional intelligence of a leader is favourable, the organisational climate becomes conducive, individuals at work involve themselves with experimentation and risk taking (Edmondson & Mogelof, 2006). Such an atmosphere eventually makes the employees willingly explore and express new ideas without any fear leading to more creative behaviours (Kark & Carmeli, 2009). This assertion reflects on empirical studies including meta-analysis which have shown positive relationship between leadership emotional intelligence and creativity (Castro, Gomes & de Sousa, 2012; Chang, Jia, Takeuchi & Cai, 2014; Hunter, Bedell & Mumford, 2007; Jafri, Dem & Choden, 2016).

In general, it can be said that while leadership can influence the delivery of innovative practices by fostering an organisational climate, such influence

does not happen in a vacuum. Leadership can help or hurt the creation, growth, and sustainment of an organisational climate that encourages employee attitudes and behaviours that support creative practice (Aarons & Sommerfeld, 2012; Dragoni, 2005; Michaelis, Stegmaier & Sonntag, 2010). This means that for a leader to be able to have influence on innovation the leadership emotional intelligence must be high. This supports the idea that between organisational culture and innovation, leadership emotional intelligence can be used as an intermediary variable.

Empirical Studies on Organisational Culture, Innovation and Leadership Emotional Intelligence

Empirically, various researchers have come to realise the positive relationships that exist among the three constructs of this study namely: organisational culture, innovation and leadership emotional intelligence as the mediating role. For example, a research by Lau and Ngo (2004) who studied the effects of adhocracy culture found a positive effect on innovation in industrial enterprises. Obenchain, Johnson and Dion (2004) demonstrated empirically that in case of Universities, adhocratic cultures favour innovation, while hierarchical cultures have an inhibitory effect on it. Lee and Choi (2003) proved the existence of a positive relationship between organisational culture and the process of knowledge creation. Further evidence that upholds that there is a positive relationship between organisational culture and innovation is provided by Valencia, Sanz Valle and Jiménez (2010).

Recent studies have also proven these assertions about leaders with emotional intelligence. For example, Cha and Edmondson (2006) have confirmed that leaders with emotional intelligence can appeal to shared values

and subsequently enhance organisational performance through innovation. Tsui et al. (2006) also concluded from their extensive study on the relationship between leader behaviour and organisational culture that leaders with emotional intelligence can shape culture by understanding the context, taking advantage of it, and introducing systems and processes to institutionalise values. Thus, organisational culture is a consequence of the leadership emotional intelligence, and it is critical for the creation of shared values. Lord and Brown (2001) suggest that leaders with emotional intelligence shape organisational culture by influencing socialisation processes and certain behaviours of subordinates to stress the importance of certain values. When leaders shape an organisation's culture by embedding certain values, it may be that they do not only transfer organisational values, but consciously or unconsciously also their own personal values (Bardi & Schwartz, 2003; Sosik, 2005).

According to researchers such as (George & Jones, 1997; Verplanken & Holland, 2002) to think that personal values will influence the way leaders with emotional intelligence behave towards their subordinates is very reasonable, considering that there is evidence that there is a relationship between values and behaviour. This is supported by studies (Batool, 2013; Hannah, Schaubroeck & Peng, 2016; Waterbury, 2016) which suggest that leaders with higher emotional intelligence competency have cordial working relationships with their staff which influence positively the innovative skills. Due to the feelings that they have, emotionally intelligent leaders are less resistant to change and achieve higher support in engagements, consequently nurturing innovation (Batool, 2013; Hannah, Schaubroeck & Peng, 2016; Waterbury, 2016).

Also, studies conducted in various places support the fact that organisational culture has an impact on innovation. For example, a study by Pichlak (2012) in Poland revealed that organisational culture was one of the many factors affecting organisational innovation. This study confirms that the highest level of innovation occurs in organisations where organisational culture fosters experimenting, creative problem solving as well as employee's initiative, which are all characteristics of adhocracy culture.

Another study by Ashraf, Kadir, Pihie and Rashid (2013) also show significant positive relationships between three types of organisational culture (which are: adhocracy, market and hierarchy) and organisational innovativeness. While the Clan culture manifests a non-significant correlation with organisational innovativeness, the adhocracy culture contributed most to predicting organisational innovativeness.

Orhan and Dinçer (2012) studied the relationship between emotional intelligence and innovative work behaviours in Turkish banking sector and reported that there was a significant relationship between emotional intelligence and innovative work behaviour. Besides, a study among managers by Shojaei and Siuki (2014) which used Pearson correlation coefficient and multiple regression analysis for data analysis indicated that there was a positive and significant relationship between emotional intelligence and its components with innovative work behaviour of managers. In addition, regression analysis showed that the self-management variable had the highest effect in estimating the managers' innovative work behaviour followed by relationship-management, self-awareness and social-awareness. In addition, a recent study by Al-Omari's (2017) showed that emotional intelligence has a strong

connection with innovative work behaviour among telecommunications engineers in the telecommunications sector in Jordan.

A study by Birwatkar (2015) which aimed at examining the relationship between emotional intelligence, organisational culture and organisational learning in the service providing organisations showed that emotional intelligence has a direct impact on organisational culture. This study revealed a direct relationship between the factors of emotional intelligence and organisational culture where the relationship between self-stimulation and organisational culture showed the strongest value. This means that the creation of emotional intelligence could pave the way for the development of organisational culture in an organisation.

Rego et al. (2007) also studied the relationship between emotional intelligence of leaders and creativity of employees and found that leaders with high emotional intelligence stimulate the creativity of their teams. In the case of Zhou and George (2003) they examined the role of emotional intelligence of leaders and concluded that emotional intelligence plays a critical role in enabling and supporting the awakening of employee's creativity. A recent study by Abdullah et al. (2021) aimed to examine the relationship between emotional intelligence and its respective dimensions with innovative work behaviour among employees working in food and beverage medium sized enterprises in Malaysia. The results indicated a positive relationship between the dimensions and innovative work behaviour.

In spite of these positives associated with emotional intelligence studies, not all studies recognise emotional intelligence as something positive, even if the majority do (Chatterjee & Kulakli, 2015; Tang, Yin & Nelson, 2010).

Researchers claim that there is a dark side of emotional intelligence, and that people with a high amount of emotional intelligence in some cases use it to manipulate people to get what they desire. Moreover, emotional intelligence is used strategically in organisational settings in a negative aspect as people are using their competence for their own interests only and not caring about how that would affect others at the workplace. When someone possesses high emotional intelligence both one's emotions and the emotions of other people can be controlled and calculated to fit in a specific situation (Kilduff, Chiaburu & Menges, 2010). In some experiments regarding the dark side of emotional intelligence, results indicated that dominant individuals are more likely to lie. Also, emotional intelligence can be used in the wrong way by psychopaths (unemotional, do not care what other people are feeling) and machiavellians (deceptive, they manipulate other's feelings to achieve their own goals) (Cummins, 2014). A study measured emotional manipulation at workplaces and came to the conclusion that it is more common by males to use emotional manipulation than by females (Hyde & Grieve, 2018).

However, the majority of studies indicate that emotional intelligence is crucial for effective leadership (Chatterjee & Kulakli, 2015). Leaders who can use, identify and manage their own and others' emotions in a controlled way will improve relationships in orgainisations. This will most likely lead to achieving work-related successes. Emotional intelligence is in most cases more helpful than being disadvantageous (Goleman, 1995; Mayer, Caruso & Salovey, 1997; Schlaerth, Ensari & Christian, 2013).

Conceptual Framework

This study's conceptual framework is informed by the existing literature on organisational culture; innovation and leadership emotional intelligence. The study examines how leadership emotional intelligence, conceptualised as the leader's ability to understand, use and manage his or her own emotions in positive ways mediates the relationship between organisational culture and employees' innovative behaviour in the Public Universities in Ghana. The conceptual framework is shown in Figure 2. From Figure 2, it could be noted that the indicators for organisational culture include; clan, adhocracy, hierarchical and market cultures, while the leadership emotional intelligence was operationalised in terms of; self-awareness, self-management and social skills. The indicators of innovation work behaviour included; incremental, radical, architectural, and disruptive innovations.

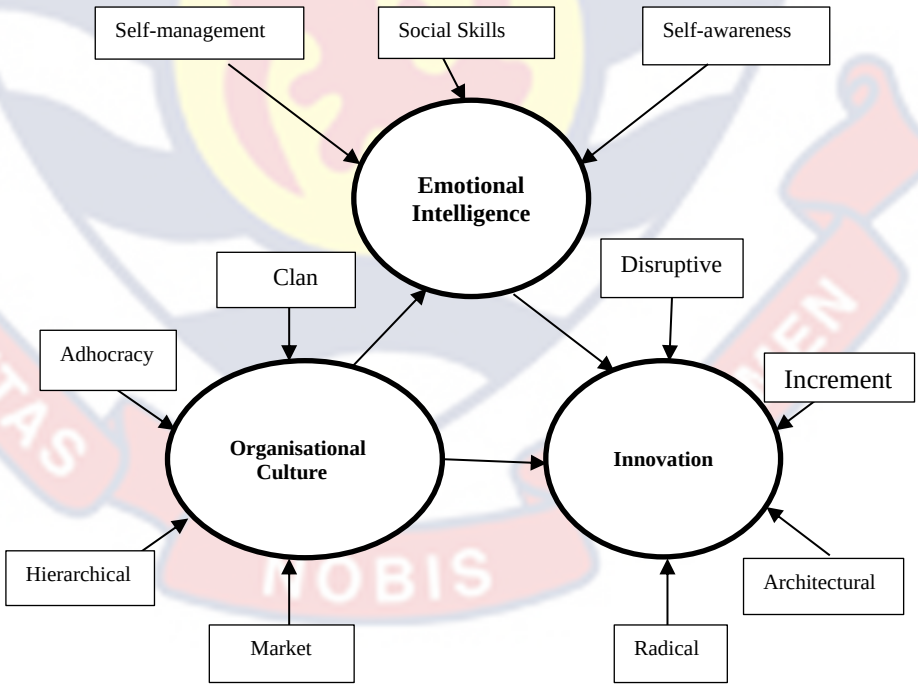

Figure 2: Conceptual Framework

Source: Author's construct (2021)

The study proposes that organisational culture has influence on innovation. Additionally, this study proposes that leadership emotional intelligence has effect on innovation. The study also suggests that the leadership emotional intelligence mediates the relation between organisation culture and innovative work behaviour based on the assertion of prior scholars, which the study sets out to investigate. Considering the leadership emotional intelligence as human capital, it can be considered as the basis of the stock of knowledge necessary for innovation and is an essential drive for innovation (González, Miles-Touya & Pazó, 2016). Therefore, emotional intelligence which is acquired human capital stimulates innovation because it helps create organisational knowledge, and it can make knowledge available, tacitly and explicitly (Chesbrough & Boger, 2014; Farooq, 2018).

In terms of hypotheses, the study's conceptual framework is shown in Figure 3. The indicators for organisational culture include; clan culture, adhocracy culture, hierarchical culture and market culture. Leadership emotional intelligence was operationalised in terms of; self-awareness, self-management and social skills. Whiles the indicators of innovation work behaviour included; incremental innovation, radical innovation, architectural innovation and disruptive innovation.

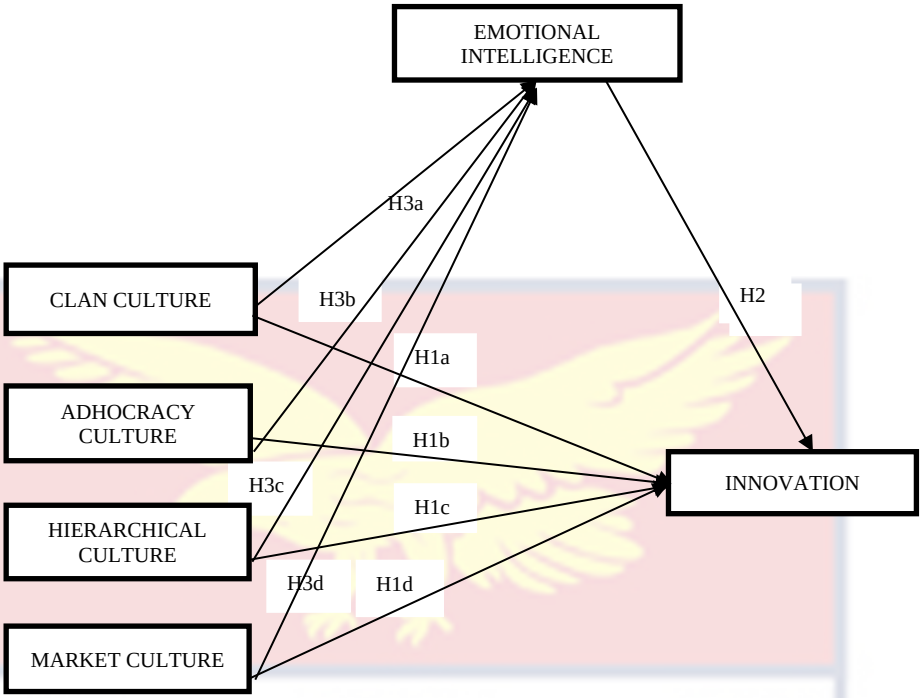

Figure 3: Conceptual Framework with Hypotheses

Source: Author's construct (2020)

The study proposes that organisational culture has both a direct and indirect positive influence on innovative work behaviour and a direct positive influence on leadership emotional intelligence. The study also suggests that the leadership emotional intelligence has a positive influence on innovative work behaviour based on the assertion of past scholars. The four theoretical dimensions of organisational culture by Ricard et al. (2017) was adopted to examine the influence of leadership emotional intelligence and innovation work behaviour from multiple perspectives.

The three dimensions of leadership emotional intelligence by Jansen van Rensburg (2018) were adapted to examine the mediating effect on the relationship between organisational culture and innovation work behaviour

which was measured using four dimensions namely incremental, radical, architectural and disruptive innovations.

Chapter Summary

The general purpose of this literature review was to explore relevant extant studies, theories and models associated with the topic under study. The chapter started by discussing the various theoretical models underpinning the study. The following were explored under the theoretical models: Componential theory of organisational creativity and innovation; Interactionist model of organisational creativity; Individual creative action model; Ambidexterity theory; and Competing values framework model. The three main concepts of the study namely; Innovation, Organisational Culture and Leadership Emotional Intelligence as well as the relationships between them were thoroughly examined. The literature also looked into the mediating role of leadership emotional intelligence between organisational culture and innovation. The chapter concluded with discussions on some empirical studies on the subject matter and the conceptual framework for the study, which was informed by the objectives of the study in relations to the reviewed literature.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

The study investigates the influence of organisational culture on innovation in Public Universities in Ghana with the role of leadership emotional intelligence as the mediator. In this chapter, the discussion is centered on the methodology that was followed by the researcher. The chapter aimed to give an outline of the scientific beliefs and paradigms informing the study by articulating how the researcher went about the study and the logic behind each one used. The second purpose of this chapter was to propose the research methods in the study. Accordingly, the following areas are some of the key issues discussed; research philosophy, research approach and research design. The chapter also covers description of the study areas, sample and sampling procedure, the description of the data collection instrument, pre-testing and data collection procedure. Additionally, data analysis, ethical considerations and data management procedure to be used are included.

Research Philosophy

Certain beliefs, values, and views of the world influence every researcher during the study process (Adjei, 2015), this is referred to as paradigms or philosophical assumptions which set the scene for the study to begin (Guba, 1990). Research philosophy thus is a set of beliefs and assumptions about the development of knowledge (Saunders, Lewis & Thornhill, 2009). The stance of the individual researchers on these beliefs and assumptions often drive them to choose either one of the approaches for their research: qualitative, quantitative or mixed-methods (Creswell & Creswell,

2005). Saunders, Lewis and Thornhill (2009) opine that a planned and coherent assumptions form a reliable research philosophy, which in turn determines one's choice of research methods. Onwuegbuzie, Johnson and Collins (2009) recommend that as business and management researchers, we need to be aware of the philosophical commitments we make through our choice of research strategy, since this will have a significant impact on what we do and how we understand what we are investigating into. Saunders et al. (2009) suggest three types of research assumptions to distinguish research philosophies: ontology, epistemology and axiology.

Ontology refers to our assumptions about how we see the world, that is, the nature of reality. The ontological assumptions of a researcher shapes the way in which he/she sees the world of research and accordingly the choice of what to investigate for his/her research project.

Epistemology concerns assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge, and how we can communicate knowledge to others (Burrell & Morgan, 2017). Epistemology thus simply refers to the researcher's assumptions about the best way to study the world, for example should we use an objective or subjective approach to study social reality. Business and management studies are multidisciplinary, as such various forms of knowledge, varying from numerical data to textual and visual data, from facts to interpretations, and including narratives, stories and even fictional accounts – can all be considered legitimate. Consequently, various researchers in business and management adopt varying epistemologies in their research, including projects based on archival research and autobiographical accounts (Martí & Fernández, 2013), narratives (Gabriel et al., 2013) and fictional

literature (De Cock & Land, 2006). Saunders et al. (2009) explain a variety of acceptable epistemologies that offer researchers much greater choice of methods. They however caution the importance of understanding the implications of different epistemological assumptions in relation to the choice of method(s) and the strengths and limitations of subsequent research findings.

Axiology in this context refers to the role of values and ethics within the research process. This encompasses questions about how researchers handle both their own values and those of our research participants (Saunders, Lewis, Thornhill & Bristow, 2015). Heron (1996) claims that our values form the motives for all human action. He further advocates that researchers should exhibit axiological skill by being able to articulate their values as a basis for making decisions about what research they are conducting and how they go about doing it.

Though there are a lot of philosophies that dictate the direction of researches, Saunders et al., are of the view that the three main philosophies are Positivism, Interpretivism and Pragmatism.

Positivism

Positivism relates to the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalisations (Saunders, 2003). With positivism, truth is assumed to be universal and can be objectively observed without the researcher being involved. Knowledge is acquired deductively through scientific methods to provide law-like generalisations (Creswell, 2014). The positivist thus focuses strictly on scientific empiricist method designed to yield pure data and facts uninfluenced by human interpretation or biasness. Saunders et al. (2019)

commends that positivism guarantees unambiguous and accurate knowledge. Researchers such as (Saunders et al., 2015; Sekaran & Bougie, 2016) claim that positivism gives room for objective reality and has the goal of universal truth that deals with human practices in the field of management sciences. Researchers who adopt extreme positivist position, regard organisations and other social entities as real physical objects and natural phenomena.

Epistemologically, positivist focuses on discovering observable and measurable facts and regularities, as they are of the conviction that only phenomena that are observable and measurable would result in the coming out with trusted and important data (Crotty, 1998) and they look out for the underlying associations in the data to make generalisations in the form of rules and laws (Johnson & Gill, 2010). Positivists use these universal rules and laws to help one to explain and predict behaviour and events in organisations.

A positivist researcher uses existing theory to develop hypotheses. These hypotheses would be tested and confirmed, in whole or part, or rejected. This will necessitate the development of theory which then may be verified by studies. The study of natural sciences has developed from an engagement with the world where hypotheses were framed, data were collected and tested against the hypotheses that were formulated.

Axiologically, positivists do their best to remain neutral and detached from research and data in order to avoid influencing the outcome (Crotty, 1998). This means that research is undertaken as far as possible, in a value-free way. For positivists, this is a possible position, because of the measurable and quantifiable data they collect. Positivists claim to be external to the process of

data collection as there is little that can be done to alter the constituents of the data collected.

Positivist researchers adopt and follow a highly organised approach in order to facilitate replication (Johnson & Gill, 2010). Positivist place importance on quantifiable observations that lend themselves to statistical analysis. However, occasionally positivist research extends itself to other data collection methods and seeks to quantify qualitative data, for example by applying hypothesis testing to data originally collected through interviews (Saunders et al., 2019).

Interpretivism

The underlying principle in interpretivism is that humans are different from physical phenomena because they create or generate meanings; and its these meanings that interpretivists study. Interpretivism contends that human beings and their social worlds cannot be studied in the same way as physical phenomena, and therefore social sciences research needs to be different from natural sciences research rather than trying to emulate the latter (Saunders et al., 2019). Interpretivist researchers therefore embrace the subjective method so as to create novel, greater comprehension and clarifications of societal issues. Interpretivists are of the belief that different people of different cultural backgrounds, under different circumstances and at different times make different meanings, and so create and experience different social realities. Interpretivists are thus critical of the positivist attempts to discover definite, universal ‘laws’ that apply to everybody (Saunders et al., 2019). Rather Interpretivists believe that rich insights into humanity are lost if such complexity is reduced entirely to a series of lawlike generalisations.

The purpose of interpretivist research is therefore to create new, richer understandings and interpretations of social worlds and contexts. For business and management researchers, this means looking at organisations from the perspectives of different groups of people. Interpretivism is thus very subjectivist because it places significance on complexity, richness, multiple interpretations and meaning-making (Saunders et al., 2019).

An axiological implication of interpretivism is the acceptance of the fact that the researchers' own values and beliefs influence the research process. The difficulty for the interpretivist however, is to enter the social world of the research participants and understand that world from their point of view unadulterated.

Pragmatism

Pragmatism is explained by Saunders et al. (2015) as a philosophical stance that is mainly concern with the problems that need to be addressed and come out with the accepted solution without much attention to abstract distinctions in terms of how truth is conceived**.** Saunders et al., explains it as a research that focus on making a difference to organisational practice. It attempts to merge both objectivism and subjectivism, facts and values, accurate and rigorous knowledge and different contextualised experiences. It does these by considering theories, concepts, ideas, hypotheses and research findings not in an abstract form, but in terms of the roles they play as instruments of thought and action, and in terms of their practical consequences in specific contexts. Accordingly, pragmatism asserts that concepts are only relevant when they support action (Kelemen & Rumens, 2008).

Due to the fact that practical effects of ideas and knowledge are important to facilitate actions to be executed successfully, reality is of much importance to pragmatists. For a pragmatist researcher, the most important determinant for a research design and strategy would be the research problem that the researcher would try to address, and the research question. The research question, in turn, would incorporate the pragmatist emphasis of practical outcomes.

The view of pragmatist is that it is perfectly possible to work with varieties of knowledge and approaches within a study. Pragmatists recognise that there are many different ways of interpreting the world and undertaking research, that no single point of view can ever give the entire picture and that there may be multiple realities. This does not mean that pragmatists always use multiple methods; rather they use the method or methods that enable credible, well-founded, reliable and relevant data to be collected that advance the research (Kelemen & Rumens, 2008).

This study employs the positivist approach as the researcher takes the stance that knowledge is objective and can be obtained deductively through empirical research based on theories or hypotheses (Creswell, 2014). Positivism is apt because of its objectivity and systematic way of gathering and measuring data in determining whether leadership emotional intelligence influences the relationship between organisational culture and innovation. The philosophy is also suitable for social research such as the one understudy as it takes into accounts the social aspects. This paradigm is considered appropriate for this study as it involves the systematic collection of observables, measurable data, statistical analysis of the data and the development of a statistical model. The

aim is to empirically examine the relationship among variables that are measurable and that have accepted validated measurement instruments. Additionally, the research attempts to quantitatively link the relationship among a specified set of variables. In general, the research is conducted within the ideals of a scientific approach as defined by Kerlinger, Lee and Bhanthumnavin (2000) as "…the systematic, controlled, empirical, amoral, public and critical investigation of natural phenomena. It is guided by theory and hypotheses about the presumed relations amongst such phenomena" (p.14).

Research Approach

According to Creswell (2016), there are three approaches to research: qualitative, quantitative and mixed methods. Saunders et al. (2015) suggest three main distinctions between quantitative and qualitative research methods. The first difference is that with quantitative research method, the researcher can thoroughly review the associated variables, detach, define variables, and link them together to formulate research hypotheses. Conversely, this is not so with qualitative research method. The next difference is that quantitative research is objective and impartial with respect to the methods used in the collection of data and analysis. Contrary, with qualitative research method, the data collection procedures and analysis is highly subjective. Finally, larger samples are used in quantitative research method making it acceptable for the sample results to be generalised to the entire population, whilst qualitative research method use small sample and hence its outcome cannot be generalised for or applicable to the entire population.

Unlike the qualitative and quantitative methods, mixed method is a research methodology that integrates multiple methods into a single study to

address a research problem (Bryman, 2012; Creswell, 2014), and it involves collecting, analysing, interpreting and reporting both qualitative and quantitative data (Dawadi, Shrestha & Giri, 2021). The use of mixed method enables researchers to answer research questions with sufficient depth and breadth (Enosh, Tzafrir & Stolovy, 2014), that is to say, research questions are meaningfully explained (Dawadi et al., 2021).

Based on the positivist stance already adopted, this study employed the quantitative approach. The aim of quantitative approach is to depict, clarify or forecast, while the investigator distances himself from the research to prevent skewing the findings (Cooper & Schindler, 2011). Creswell (2014) asserts that quantitative approach explains concepts by collecting numerically-based data that are processed with mathematical and statistical tools. In line with Creswell's assertion, in this study, the researcher collected and analysed quantitative data to investigate whether leadership emotional intelligence influences the relationship between organisational culture and innovation. The standpoint taken was justified by the fact that the researcher established, defined variables in the concepts of the study and linked them to formulate hypotheses. Besides, the use of questionnaire as the research instrument enabled the researcher to gather and analysed data objectively without the researcher's influence. The study used three Public Universities whose combined staff population and the associated sample size was large. With large sample size, the sample results of the study could be generalised to the entire population.

Research Design

Asenahabi (2019, p.77) explains that "research design is the overall plan for connecting the conceptual research problems to the pertinent empirical

research". Simply put by Creswell (2014), research design provides specific direction for procedures in research. It is described as a plan or blueprint of how the researcher intends conducting the research (Du Toit & Mouton, 2003). Du Toit and Mouton clarify that research design focuses on the end product, that is, what kind of study is being planned and what kind of result is aimed at.

This study was conducted to discover and report some relationships among different aspects of the phenomenon under study, thus making the selection and use of explanatory research design very obvious. Explanatory design is used to investigate a phenomenon that had not been studied before or had not been well explained previously in a proper way. Therefore an explanatory study sets out to explain and account for the descriptive information. So, while descriptive studies may ask 'what' kinds of questions, explanatory studies seek to ask 'why' and 'how' questions. Like the current study, explanatory research is used for finding the reason why an occurrence takes place by establishing cause-effect relationships. Unlike descriptive design which provides the description of a phenomenon via profiling, explanatory design enables the determination of causal relationship between two or more variables (Bhattacherjee, 2012; Kothari, 2004).

With respect to time horizon, cross-sectional study was employed as data was collected from a cross section respondents within a certain agreed duration. Neuman (2014) as well as Saunders et al. (2015) state that a cross-sectional study entails the collection of data on some entities over a short period so as to get qualitative or quantitative data related to variables, with the purpose of analysing the variables and establishing the relationship among the them. Cohen, Manion and Morrison (2017) also describe cross sectional study as

'snapshot' or view of a population at a certain point in time. They further explain that a single 'snapshot' of the cross-sectional study provides researchers with data for either a retrospective or a prospective enquiry. The choice of cross-sectional survey was informed by the fact that it was faster and economical to undertake. Besides, researcher sought to conduct the study with the same set of variables of interest over a set period. Therefore, in this study data was collected from the three selected Public Universities independently within a defined start and end point.

Study Areas

Ecologically, the Ghana Statistical Service (2014) Living Standards Survey Round 6 (GLSS6) divides the country into three zones namely savannah, forest and coastal. Based on this demarcation and in order to cover the whole country, one Public University was randomly selected from each zone for the object of collecting data. University of Development Studies (UDS), Tamale, Kwame Nkrumah University of Science & Technology (KNUST) and University of Cape Coast (UCC) were randomly chosen from the savanna, forest and coastal zones respectively. In order to situate the selected Public Universities into the study, brief descriptions of each of them are provided.

University for Development Studies (UDS)

UDS is Ghana's first Public University in the savannah zone. It was established by the Government of Ghana by PNDC Law 279 and gazetted on 15th May, 1992.

The pedagogical philosophy of UDS is said to have been borne out of a new thinking in higher education emphasising the need for Universities as teaching and research institutions to play more active role in addressing societal

problems, especially rural areas, for speedy development. The vision of the university is to be a home of world-class pro-poor scholarship and this is reflected in its methodology of teaching, research and outreach services. The university began academic work in September 1993. Currently, the university has six (6) Schools, six (6) Faculties, three (3) Institutes and four (4) Centers, including two (2) Centers of Excellence.

The Governing Council of the UDS is the highest decision-making body of the university, which is presided over by a Chairman of Council. It controls the finances, property, academic and administrative activities of the university.

Kwame Nkrumah University of Science and Technology (KNUST)

KNUST is a Public University located in Kumasi in the Ashanti region of Ghana. KNUST was established as Kumasi College of Technology in 1952. The College was affiliated to the University of London. The Kumasi College of Technology was transformed into a full-fledged university and renamed Kwame Nkrumah University of Science and Technology by an Act of Parliament on 22nd August 1961.

The vision of the university is to be globally recognised as the Premier Center of excellence in Africa for teaching in science and technology for development; producing high calibre graduates with knowledge and expertise to support the industrial and socio-economic development of Ghana and Africa.

The KNUST has, since January 2005, transformed from its previous centralised system of administration into significantly decentralised one called the Collegiate System. Under this system, the various faculties have been condensed into six colleges. The following officers are the Principal Officers of

the university: The Chancellor, The Chairman of Council and The Vice Chancellor. The other Officers are the Pro Vice-Chancellor and The Registrar.

University of Cape Coast (UCC)

UCC was established in 1962 out of a dire need for highly qualified and skilled manpower in education and was affiliated to the University of Ghana. It was established to train graduate teachers for second cycle institutions such as teacher training colleges and technical institutions, a mission that the two existing Universities were unequipped to fulfil. On October 1, 1971, the College attained the status of a full and independent university, with the authority to confer its own degrees, diplomas and certificates by an Act of Parliament - The University of Cape Coast Act, 1971 [Act 390] and subsequently the University of Cape Coast Law, 1992 [PNDC Law 278]. Since its establishment, the university has added to its functions the training of educational planners, administrators, agriculturalists and health care professionals.

The vision of the university is to have a university that is strongly positioned, with worldwide acclaim. The University Council is the executive body of the university's governance system. It has overall responsibility for the administration of the university and the management of its resources.

On the whole, the visions of the three universities suggest that they aspire to be world-class institutions. To attain such a high feat requires the blend of organisational culture and leadership emotional skills that can foster innovation. This study, accordingly fits into the philosophies of the universities. This is because the outcome of the study will help unearth the right dimensions of organisational culture that will harmoniously blend and work with leadership

emotional intelligence to provide the desired innovations required to propel and attain the visions of the respective Universities.

Study Population

According to Leedy and Ormrod (2005), the study population is the target/focus group or unit about which information is gathered, analysed and findings made. The population for this study comprised the Senior Members of the three selected Public Universities in Ghana, namely: University for Development Studies (UDS), Tamale; Kwame Nkrumah University of Science & Technology (KNUST) and University of Cape Coast (UCC).

A Senior Member by the Universities' statute is a category of staff who are lecturers/researchers, herein termed as teaching staff or senior administrators and senior professionals group, here designated as non-teaching. The population of the study is 3095; the breakdown is depicted in Table 1.

Table 1: Population of the Study

University	Staff Strength		
	Teaching	Non-Teaching	Total
UDS	588	120	708
KNUST	1125	206	1331
UCC	827	239	1056

Source: Human Resource Directorates of Respective Universities (2020)

It is worth mentioning that assessing the influence of the culture of an organisation on innovation behaviour and success can be done in so many ways. Studies show that some models have been developed for predicting the relationship between organisational culture and innovation. With some of the

studies, it has become the norm for some researchers to engage mainly top technocrats and top management in their attempt to validate the association that organisational culture has with innovation and also to determine a mediator that can foster innovation. This approach has its own shortcomings, resulting in varied reactions and disagreements among researchers and academics, necessitating the purposive pursuit for an all-inclusive method. The stakeholder theory propounded by Freeman (1984) is one of the comprehensive methods. The stakeholder theory fits very well and have been adopted in several researches in diverse fields such as corporate social responsibility (Buchholz & Rosenthal, 2004), business ethics and project management (Turner & Simister, 2000) and change management (Peltokorpi, Alho, Kujala, Aitamurto & Parvinen, 2008). This informed the choice of this current study to engage not only managerial staff, but also other senior professionals and academic staff, as they are indispensably key stakeholders in the management of the Universities.

What constitutes a 'stakeholder' is highly subjective, however in the context of this study, it is defined as any group or individual who can influence or is affected by the implementation of a project (Freeman, 1984). Accordingly, the study falls back on Freeman's conception, and considers the university's key stakeholders' inputs. For this study therefore, two categories of stakeholders, namely Lecturers/Researchers and Senior Administrative/Professional Staff were identified and sampled for the study across the selected Public Universities in Ghana.

Sample and Sampling Procedure

A sample is a smaller set of elements drawn from a population and is considered to be representative of that population under study (Baughn, Chua

& Neupert, 2006). Malhotra, Birks and Wills (2013) explain sampling as the process of picking a representative few from a wider population for the purpose of knowing some features about the population. Samples are usually used instead of a census where the entire population is used for the study. This is because it is difficult to use census method when the entire population is large (Saunders et al., 2015). Other factors for sampling from a population are its cost effectiveness, the impracticability of using the whole population if the size is large and the time/resource constraint faced by the researcher. Sekaran and Bougie (2016) explain that sampling can be divided into two main types, namely; probability sampling and non-probability sampling. They further elaborate that unlike non-probability sampling, with probability sampling, each element of the population has an equal and known chance of being selected to be included in the sample.

Probability sampling guarantee the picking of sample which is representative from the target population and also making deductions from the sample (Ofori & Dampson, 2011), and it is suitable for quantitative research approach (Saunders et al., 2015). Because probability sampling ensures equity in the selection of the study units, it was adopted for the study. There are four main types of probability sampling, namely: simple random sampling, systematic sampling, stratified sampling and cluster sampling.

Because the sampling frame consisted teaching staff and non-teaching (senior administrative) staff within the three different Universities, there was the need to structure the sampling such that the sample was not biased towards one category of staff or one university. The study therefore utilised multiple sampling techniques at various stages of the sampling process, specifically

stratified sampling and simple random sampling. Thus, within the selected Universities, the senior members were grouped into strata, teaching staff and non-teaching staff. The respondents were selected from the strata or divisions using simple random method. Stratified sampling involves dividing the population into subpopulations that may differ in important ways. It allows researchers to draw more precise conclusions by ensuring that every subgroup is properly represented in the sample.

In order to guarantee that the sample was randomly selected, a number was assigned to each of the staff and random numbers were generated to select the samples from the strata within each university. The number of samples selected within each stratum in each university were proportional of the university's population to the total population of the study.

Kariuki, Wanjau and Gakure (2011) recommend that it is important that the best sample size is used for research. The determination of the appropriate sample size can be by computation using the appropriate method or by making reference to tables, which suggest sample sizes for the population under study (Sekaran & Bougie, 2016).

Based on the staff strength of senior members of the selected Public Universities which was 3095 representing the population size, the sample size of the study was three hundred and forty-one (341) staff. This was determined using Krejcie and Morgan (1970) sample determination table (attached as Appendix B). Using the agreed sample size of 341, a proportionate representation was calculated for each of the three Public Universities. The sample size distribution among the Universities are indicated in Table 2.

Table 2: Sample Distribution Among the Selected Universities

University	Sample		
	Teaching	Non-Teaching	Total
UDS	65	13	78
KNUST	124	23	147
UCC	91	25	116

Source: Author's construct (2020)

Measurement of Variables

The variables used in this study were measured relying on previous empirical literature in areas of organisational culture, innovation and leadership emotional intelligence. This allowed for the design of an instrument based on validated scales.

Organisational culture

The four culture dimensions used in this study for innovation were adapted from Ricard et al. (2017), and the measures of the individual organisational culture were adopted from scales with confirmed reliability. Organisational culture dimensions were measured in terms of the shared values, beliefs and assumptions about how people should behave and interact in the organisation. This conformed the studies carried out in the areas of organisational culture (Contreras Kallens, Dale & Smaldino, 2018). The indicators for organisational culture include; clan culture, adhocracy culture, hierarchical culture and market culture. All the items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Leadership emotional intelligence

Leadership emotional intelligence was operationalised in terms of self-awareness, self-management and social skills. A survey questionnaire adapted from Goleman (1995) was developed and used as the research instrument to collect data. The emotional intelligence questionnaire consisted of 30 items using close-ended questions with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This measurement tool was chosen as it provided the capabilities of capturing a broader spectrum of dispositions related to emotions and social conditions at the workplace (O'Connor, 2019).

Innovation

With respect to innovation, the indicators included: incremental innovation, radical innovation, architectural innovation and disruptive innovation. Innovation was measured by adapting the Work-place Innovation Scale (WIS) developed by McMurray and Dorai (2003). This scale was designed to identify and measure the behavioural aspects of innovation practices by individuals in their work-place and comprised the four dimensions of organisational innovation. The scale comprised items that measure the extent to which respondents subscribe to the assertions that were listed. The items were anchored to a Likert scale with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The constructs in the study were measured with regard to the opinions of the respondents. This prevented biases that could potentially arise due to the influence of the respondents, supervisors and other colleagues (Chen et al., 2016; Radaelli et al., 2014).

Data Collection Instrument

This study adopted a self-administered questionnaire as the instrument used for the collection of data from the respondents. Neuman (2007) commends the use of questionnaire as it helps the investigator to assess variables, test multiple hypotheses and make conclusions. The use of questionnaire for data collection ensures standardisation, consistency and impartiality (Sekaran & Bougie, 2016), in addition, anonymity is guaranteed because the questionnaires are administered and filled at the privacy and convenience of respondents (Neelankavil, 2015). For ease of use, close-ended questions were used to elicit responses needed. The closed ended nature of the questions also afforded the respondents the opportunity to examine each possible response without being influenced by the other alternatives. Self-administered questionnaire was adopted to afford the respondents to provide responses in a non-supervised way at their leisure time.

The questionnaire for the study comprised four sections – comprising 76 questionnaire items. Section A was used to collect demographic information of the respondents, and the variables were categorical. Sections B, C and D were used to capture data on organisational culture, leadership emotional intelligence and innovation behaviour respectively. All the questionnaire items in sections B, C and D were measured on a five-point Likert scale response having the continuum: 'strongly disagree', 'disagree', 'neither agree nor disagree', 'agree', and 'strongly agree', with 'one' indicating the least level of agreement with the statements and 'five' indicating the highest level of agreement, that is, 1 (strongly disagree) to 5 (strongly agree). The Likert scale makes it easy to measure the thoughts of respondents through the combination of scores of those

respondents on different items into a single index (Likert, 1932), and it is used in assessing the attitudes, opinions and beliefs of peoples (Yates, 2004).

Pre-Testing

Pre-testing is a method of validating the survey instrument and its measurements (Rothgeb, 2008). Pallant et al. (2016) posits that it is essential for researcher to undertake pre-tests before the actual survey. This process helps to guarantee that guidelines, questionnaire items and scale items are clear and unambiguous to prospective respondents so as to facilitate the giving of appropriate responses. In effect, it aids to fine-tune the survey instrument. Converse and Presser (1986) state that pre-testing is analytical examination of the survey instrument and helps in establishing if the survey will function appropriately as a valid and reliable social science research tool. They further articulate that pretesting is one of the means to ensure that respondents and researchers understand the survey in the same way, which is very important in survey design.

Pre-testing was undertaken with twenty-five (25) staff of the University of Mines and Technology (UMAT), Tarkwa. The sample size was considered adequate because it satisfies Saunders et al.'s (2015) minimum criteria of 10 for pre-testing studies by students. The choice of UMAT, Tarkwa was informed by the fact as a university, the Senior Members there exhibited similar characteristics as those who were used for the main studies. The pre-testing accordingly enabled the researcher to fine-tune some of the questionnaire items.

Validity and Reliability

The two fundamental issues of interest when assessing a research instrument are validity and reliability. Validity is the extent to which a research

instrument measures what it is supposed to measure, instead of something else (Taber, 2013). Reliability on the other hand according to Taber is the extent to which a research instrument can be expected to give the same measured result when the measurements are repeated.

Cronbach's alpha value is used to measure the level of the reliability of an instrument (Saunders & Rojon, 2014). Accordingly, Cronbach's alpha coefficient for variables were produced to validate and endorse the reliability of the instrument (Pallant et al., 2016). Generally, Cronbach's alpha coefficient of 0.70 or above are considered suitable (Taber, 2017), though alpha value of 0.5 are also approved (Boohene, Agyapong & Asomaning, 2012). The pre-test results on the reliability of the instrument are provided in Table 3. All the items exhibited the acceptable level of reliability per the benchmark of Taber (2017) and Boohene et al. (2012).

Table 3: Questionnaire Items and their Reliability Coefficients

Variable	Questionnaire Items	Sample	Cronbach's Alpha
Clan Culture	5	25	0.804
Adhocracy Culture	5	25	0.776
Hierarchical Culture	5	25	0.604
Market Culture	5	25	0.702
Self-management	10	25	0.908
Social Skills	10	25	0.749
Self-awareness	10	25	0.818
Incremental Innovation	4	25	0.800
Disruptive Innovation	4	25	0.774
Architectural Innovation	4	25	0.612
Radical Innovation	4	25	0.732

Source: Field survey (2021)

Data Collection Procedure

There are variety of means by which questionnaires can be transmitted to respondents for administration such as by the use of the Internet, via the post office or through hand delivery (Sekaran & Bougie, 2016). For this study, the hand delivery and collection of the questionnaires method was employed. This approach puts the burden of delivering and collection of the filled questionnaires on the researcher instead of unduly bothering the respondents by using the post office or the Internet. This method meant that the researcher visited the premises of the selected Public Universities and hand-delivered the questionnaires to the respondents and picked them at an agreed time.

The administration of the questionnaires was undertaken in line with the requirements of the Institutional Review Board of University of Cape Coast (UCCIRB). Accordingly, the researcher took letters of introduction from both his supervisor and the Head of Department of Management and applied to the UCCIRB. When approval was given after going through the requirements of UCCIRB, the researcher used an introductory letter from Head of Department of Management to seek the consent of the Directorate of Human Resource of the selected Universities where the questionnaires were to be administered.

The researcher visited the offices of the respondents during the normal working hours. The respondents who are senior members of the selected Universities were informed by the researcher inviting them to participate in the study. The purpose and importance of the study were underscored. The respondents were further informed of the voluntary and anonymous nature of the study. The researcher administered the questionnaires upon the approval of the consent he sought from the Universities and the willingness of the staffs to

be partakers of the study. Upon consensus, the filled questionnaires were collected within two weeks.

Response Rate

In this study, out of the 341 the researcher was able to make contact with by way of administering the questionnaire, the researcher was able to get back 255 duly-filled questionnaires leaving 86 not returned as shown in Table 4

Table 4: Response Rate

Questionnaire	Sample size	Percentage (%)
Returned	255	74.78
Non-Returned	86	25.22
Total	**341**	**100.00**

Source: Field data (2021)

From Table 4, it can be noted that the 255 returned questionnaires represented 74.78 % response rate as against 25.22% not responded. Though there is no simple answer as to what constitute appropriate response rate (Morton et al., 2012), 60% or more should be the target of a researcher (Fincham, 2008). This assertion is consistent with Mugenda and Mugenda (2008) who opined that a response rate of 50% is adequate for analysis and reporting. Thus, a rate of (60%) is good and a response rate of (70%) and over is excellent. The high response rate was attributed to the fact that the researcher had personal contacts in the study areas and also made several follow-ups calls to clarify queries. These facilitated the data collection process which resulted in high entry and response rate. However, this did not affect respondents' biases and data quality. This is because the researcher did not consider himself as a staff during the data administration but rather as a researcher. Besides, the ethical rules in data collection, namely; informed

consent, anonymity and confidentiality were strictly adhered to. Thus the insider factor did not affect the respondents' responses.

Data Analysis

The study used Statistical Package for Services Solution (SPSS) version 24 and SmartPLS version 3 were employed for the analysis of the data. SPSS was used for the descriptive analyses, which involved the use of frequencies and percentages to establish some of the characteristics of the respondents. Structural Equation Modeling using SmartPLS was employed to test the hypotheses of this study.

Structural Equation Modeling (SEM) was used as a tool for testing the overall fit of the model, including the structural model simultaneously (Gefen et al., 2000). SEM is a popular multivariate technique that is used in evaluating the overall linkage between components and the linkage that exists between a component and its corresponding measures (Gunzler et al., 2013), and it belongs to a family of statistical models that seek to explain the relationship among multiple variables (Hair, Black, Babin & Anderson, 2010).

Two main approaches are commonly used in SEM: a component-based approach being a partial least square (PLS-SEM), and a co-variance-based approach (CB-SEM) (Fornell & Bookstein, 1982; Marcoulides & Saunders 2009; Wetzels et al., 2009). The two methods differ by their underlying statistical assumptions, which are fit analysis models. This research utilises the partial least square approach to test/predict the theoretical model derived from the literature, and it is not geared towards the identification of the model that would fit best (Sosik et al., 2009). There are two steps in assessing the data, the first being the assessment of the measurement model that involves internal

consistency, indicator reliability, convergent validity, and the discriminant validity of the measurement model for the various constructs. The second step is the assessment of the effect of the independent variable on the dependent variable via the structural model. Overall, SEM consists of measurement model and structural model. Confirmatory Factor Analysis (CFA) is used to test and validate the measurement model, while path analysis which is used to display the relationships that exist among study constructs test for the structural model.

Jeon (2015) provides a litany of benefits of SEM has over other models such as regression that informed the researcher to adopt it for the current study: SEM uses latent variables which permits many indicators to capture constructs validly and reliably. In addition, compared to regression, SEM makes the causal equation model between latent variables clearer. Furthermore, with SEM, one or more independent variables can be regressed on one or more dependent variable. Finally, SEM permits a researcher to show the direct effect, indirect effect, and total effect since several exogenous variables and endogenous variables can be assessed concurrently (Hair, Black, Babin & Anderson, 2010).

Due to the benefits associated with SEM as vouched for by Jeon (2015), SEM was employed to validate the variables in this study and to test the various hypotheses that were set out in line with the objectives set out for the study.

Mediation Procedure in SEM

Structural equation modeling is the recommended technique for mediation analysis by most researchers (Baron & Kenny, 1986; Frazier, Tix & Barron, 2004; Hoyle & Smith, 1994). One reason that accounts for their choice is that with regression, the mediator and the dependent variable are not reliable

and lessen relationships in multiple regression, but in SEM, the mediating and the dependent variables may be detached from their measurement errors.

Hair et al. (2017) states that when a third variable or construct intervenes between two other related constructs, mediation effect is said to have occurred. In a mediation model, the independent (exogeneous) variable cannot influence the dependent (endogenous) variable directly, and instead does so by means of a third 'middle' variable. The mediator variable thus governs the nature of the relationship between two constructs.

In this study, leadership emotional intelligence mediated the relationship between organisational culture (exogenous) and innovation behaviour (endogenous). The effect of the mediator which was tested in this study is in accordance with the methodical mediator analysis process in PLS-SEM provided by Hair et al. (2017).

Nitzl, Roldan and Cepeda (2016) propose that it is not necessary to conduct separate tests for direct and indirect paths when using PLS-SEM. A significant indirect effect satisfies the condition for establishing a mediation effect. Therefore, mediation process starts by testing the indirect effect, that is, through the intervening variable to assess the significance. According to Hair et al. (2017) there are two different types of mediation, full and partial mediation in literature.

Assessment of Measurement Models

Two main criteria which are validity and reliability have to be satisfied in measurement model before the structural model can be evaluated. In this study, validity was accomplished by determining convergent validity and

discriminant validity of the model, whilst reliability of the constructs was achieved by assessing internal consistency reliability and composite reliability.

Convergent validity

It is the extent to which a number of questionnaire items used to measure the same concept agree (Gonzalez, MacKinnon & Muniz, 2021). Construct validity means that a test which measures a particular construct actually measures that construct. Convergent validity takes two items that are supposed to measure the same construct and shows that they are related. It is determined through Average Variance Extracted (AVE) and factor loadings. An AVE value of 0.50 or higher indicates that a convergent validity is satisfied. (Benitez, Henseler, Castillo & Schuberth, 2020; Fornell & Larcker, 1981).

Discriminant validity

Discriminant validity confirms that two constructs that are not expected to be related are truly, unrelated. Discriminant validity means that a construct is distinct and represents concept not denoted by another construct in the model (Gonzalez, MacKinnon & Muniz, 2021). Discriminant validity can be evaluated by assessing the cross loadings among constructs, Fornel-Larcker criterion, and Heterotrait-Monotrait Ratio of correlation (HTMT) (Hair et al., 2017). A HTMT ratio of below 0.85 means a latent construct has discriminant validity (Henseler, Ringle & Sarstedt, 2015).

Internal consistency reliability

It is a form of reliability used to assess if the results across items within the same test are consistent (Hajjar, 2018). It checks if the questionnaire items measuring a construct have similar scores, in other words if the items are highly correlated (Drolet & Morrison, 2001). Values between 0.6 to 0.7 are deemed

sufficient for exploratory research and within the range of 0.7 to 0.9 acceptable in advanced research (Considine, Botti & Thomas, 2005). In this study the values were between 0.6 to 0.9 and thus deemed acceptable.

Assessment of the Structural Model

After satisfying prerequisites of measurement model, analysis have to proceed to the evaluation of the structural model. The first step for the assessment of the PLS-SEM is the coefficient of multiple determinations (R^2) for each endogenous construct. A coefficient of determination (R^2) of 0.75 is significant (Hair et al., 2014). The second step is to assess the regression coefficients among the validated latent variable. Regression coefficient of 0.05 is deemed significant (Bradley & Tibshirani, 1993). Thirdly, it is essential to measure the effect of individual endogenous variables on the exogenous variable**.** This is achieved by assessing the effect size (f^2) which is used to measure the impact. In general, f^2 values of 0.02, 0.15, and 0.35, represent small, medium, and large effects of the exogenous latent variable, respectively (Cohen, 1988). The last assessment is the ability of the model to predict, and this is determined by the Stone-Geisser's Q^2 statistic (Stone, 1974).

The structural model of the study

The section describes the structure of the model of this study as illustrated in Figure 3. It indicates the exogenous and the endogenous variables with the various indicators. There are four exogenous variables and seven endogenous variables in this study. The exogenous variables are; clan culture (CL), adhocracy culture (AD), hierarchical culture (HC) and market culture (MC) representing the organisational culture construct. The endogenous are; self-awareness (EE), self-management (SM) and social skills (SS) for the

mediating variable, leadership emotional intelligence, and incremental innovation (II), disruptive innovation (DI), architectural innovation (AI) and radical innovation (RI) for innovation.

The latent variable clan culture was measured by five indicators (CL1, CL2, CL3, CL4 *and* CL5). Again, adhocracy culture was measured by five indicators (*AD1*, AD2, AD3, AD4 *and* AD5). Hierarchical culture was also measured by five indicators (HC1, HC2, HC3, HC4 and HC5). Market culture has five indicators (MC1, MC2, MC3, MC4 and MC5). The latent variable incremental innovation is measured by four indicators (II1, II2, II3 and II4). Again, disruptive innovation was measured by four indicators (DI1, DI2, DI3, and DI4). Architectural innovation was also measured by four indicators (AI1, AI2, AI3 and AI4). Finally, radical innovation was also measured by four indicators (RI1, RI2, RI3 and RI4).

The mediating variable, leadership emotional intelligence, was operationalised in terms of self-awareness (EE), self-management (SM) and social skills (SS).The variable self-awareness was measured by four indicators (EE1, EE2, EE3 and EE4), self-management was measured by four indicators (SM1, SM2, SM3 and SM4). Finally Social skills was measured by five indicators (SS1, SS2, SS3, SS4 and SS5).

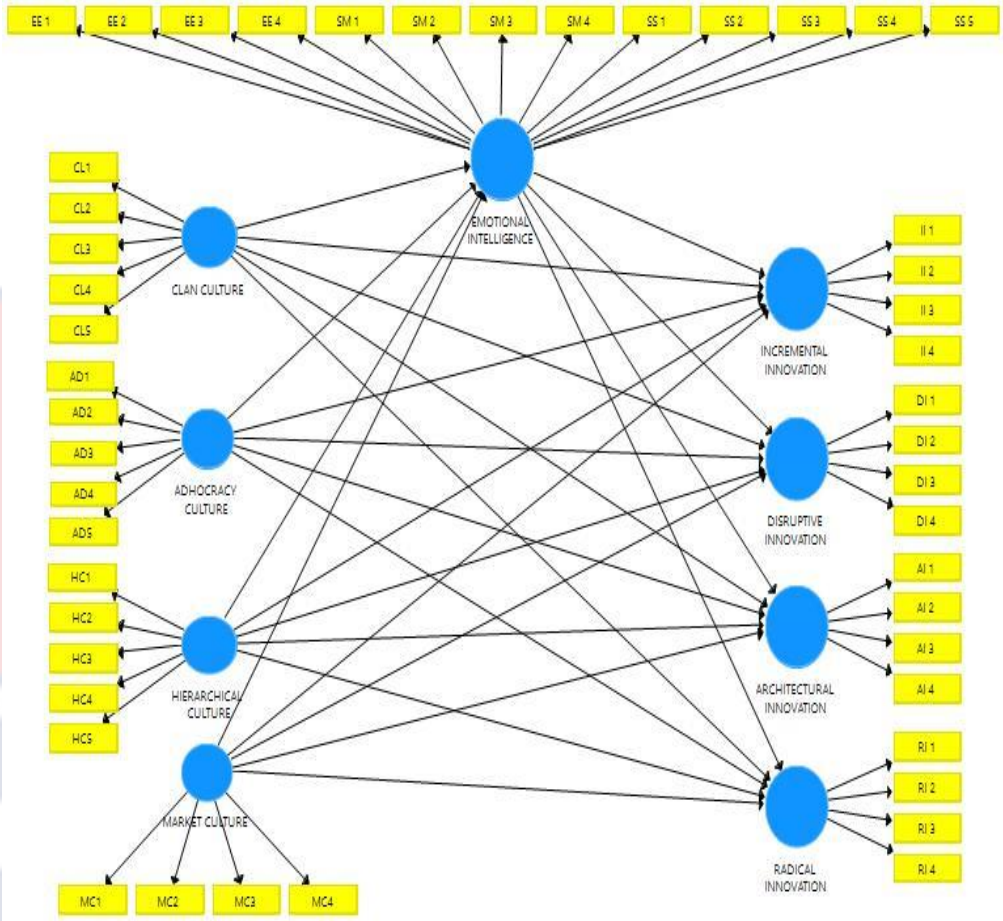

Figure 4: Structural Model

Source: Smart PLS (2021)

There are 29 paths hypotheses in the model Figure 4. The study proposes a positive link between CL and II, AC and II, MC and II and HC and II. Also, the study hypothesises a positive relationship between CL and DI, AC and DI, MC and DI and HC and DI. Likewise, the study proposes a positive link between CL and AI, AC and AI, MC and AI and HC and AI. Again, the study hypothesises a positive relationship between CL and RI, AC and RI, MC and RI and HC and RI.

The study proposes a positive link between SM and II, SS and II and EE and II. Also, the study hypothesises a positive relationship between SM and DI, SS and DI and EE and DI. Likewise, the study proposes a positive link between

SM and AI, SS and AI and EE and AI. The study proposes a positive link between SM and RI, SS and RI and EE and RI.

Common Method Bias

Common method bias (CMB) is a biasing of results that are attributed to common method, such as a single survey (Favero & Bullock, 2015). Another possible cause of common method bias is the implicit social desirability associated with answering questions in a questionnaire in a particular way, again causing the indicators to share a certain amount of common variation (Kock & Lynn, 2012). In order to avoid this biasness, only scales that have been tested and used in earlier studies were adapted for this study (Alfes et al., 2013).

Harman's single factor test is used to test for CMB (Podsakoff, MacKenzie & Podsakoff, 2012). In Harman's single factor test, all the items used in a study are allowed to load on one common factor and if the total variance for a single factor accounts for less than 50%, then it means that CMB does not affect the data (Podsakoff et al., 2012; Thakur et al., 2018).

In this study, seven variables were examined using exploratory factor analysis with a principal axis factoring analysis, extracting eleven factors, with factor 1 accounting for only 30.32 percent of the variance. From the results, it was revealed that no specific factor emerged and that none general factor is responsible for the majority of the covariance among the latent factors. Therefore, it was improbable that CMB was a concern as far as this study was concern.

Ethical Consideration

Ethics in research entails what is right and what is not right to do when conducting research (Neuman, 2014); and it forms an integral part of any

research study in particular when human beings are involved (Taylor, 1994). To guarantee that the study does not contravene acceptable ethical values, the research was guided by the UCC's ethical guidelines. Consequently, the researcher sought approval and ethical clearance from the Institutional Review Board of University of Cape Coast. Permission was also obtained from the Universities within which the respondents to the questionnaire work. Saunders, Lewis and Thornhill (2009) suggest that researchers should seek respondents' consent, state the objectives of the research and assurance that the research is guided by ethics. Accordingly, the questionnaire included a cover letter requesting the assent of the respondents. They were also informed that that the study was for academic purposes only and assured that their responses would be treated with anonymity and confidentiality.

Although a researcher has the right to search for new knowledge, this cannot be done at the expense of those being studied (Neuman, 2014). Thus, in terms of the current research study, the rights of the respondents of the research were respected at all times and they were told about their right to withdraw from the survey if they felt uncomfortable responding to the questionnaire items. Thus, respondents were made aware that their participation in the research study was purely voluntary.

On the basis of the afore-discussed issues, the researcher can vouch that he fulfilled the ethical guidelines proposed by Bless and Higson-Smith (2000) on data collection which are: voluntary participation, privacy, freedom, anonymity and confidentiality.

Data Management

Data management involves organising, storing and preserving the data from the field, which in this study, took the form of filled hardcopy questionnaires and its corresponding softcopy version. To ensure that data collected met the requirements for subsequent analysis, the researcher assigned numbers to the questionnaires that were collected from the field. This facilitated cross referencing. Issues about inconsistent answers, missing data were resolved to attain the utmost data quality.

Various measures discussed below were employed to ensure the anonymity, confidentiality and security of the hardware, software, storage media, hardcopies and softcopies that were associated with this research. Again, these measures were taken so that the study conformed to the dictates as specified in the Ghana Data Protection act with regard to management of data.

As an insider, while collecting the data there was the tendency of some biases as a result of finding myself in dual role as a staff and a researcher. As a result, all efforts were made to overcome the problem of biases by taking some preventative approaches. First, the respondents were made aware of my role as a researcher but not as colleague. Although I maintained close social contact with the staff, all efforts were made not to interfere with the subjects related to the study in order not to influence them. Furthermore, during the research, I tried to minimise any biases by trying hard to consider my research within the social circumstance and by clarifying the research process and the researcher's role within the context of ethical consideration. The researcher was thus strictly guided by the ethical rules in data collection.

Finally, in order to ensure restrictive access to the data, the hardware and data files were locked with passwords and it was only the researcher who was privy to the passwords. The researcher safeguarded the materials connected with the research such as the ICT hardware, software, storage media and paper documents by physically securing them under lock and key. The researcher also securely disposed all unwanted hardcopy or paper records by shredding them. This was done to avoid dumpster-diving, which is the situation where a person goes through someone's garbage in order to obtain any material of interest.

Furthermore, to guarantee the privacy of the respondents, they were identified anonymously. This was realised by assigning a unique number which had no direct identifiers with the respondents to each questionnaire.

Chapter Summary

In a nutshell, the goals of this chapter had been to provide the understanding of the research methodology that were adopted by the researcher, as well as explain the rationale for choosing those methods for the research. This was to afford readers the opportunity to assess the reliability of the research. The chapter thus, started by giving an outline of the scientific beliefs, paradigms and research philosophy underpinning the study. The chapter also discussed the research approach, research design, the study population, sampling and sampling procedures adopted for the study. Additional areas examined were the validity and reliability of the research instrument and the data collection procedures.

Based on the positivist stance the study adopted, the study employed the quantitative approach. Questionnaires were accordingly used to collect data from respondents from the three selected Public Universities (UDS, KNUST

and UCC). The sample size of the study was 341, out of 255 (75%) questionnaires were returned and 86 (25%) not returned. The data analysis technique used was SEM. The chapter ended on discussions on ethical considerations and data management measures adopted for the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Chapter Overview

This study sought to examine the extent to which the influence of organisational culture on innovation is mediated by leadership emotional intelligence in selected Public Universities in Ghana. In view of this aim, a detailed analysis using the statistical techniques discussed in chapter 3 was undertaken in this chapter to test the hypotheses and to present and discuss the research findings. The first part presents and discusses the profile of the respondents used for the study. The second part assesses the measurement and structural models for the study. Specifically, issues pertaining to indicator loadings, CR (Composite reliability), AVE (Average variance extracted) and DV (Discriminant validity) were considered for the measurement models. The direct effect and the indirect effect were tested. The following hypotheses of the study were also tested and the outcomes duly discussed:

H1a: There is a significant positive relationship between clan culture and innovation,

H1b: There is a significant positive relationship between adhocracy culture and innovation,

H1c: There is a significant positive relationship between hierarchical culture and innovation,

H1d: There is a significant positive relationship between market culture innovation,

H2: There is significant positive relationship between leadership emotional intelligence and innovation,

H3a: There is significant positive mediating effect of leadership emotional intelligence on the relationship between clan culture and innovation,

H3b: There is significant positive mediating effect of leadership emotional intelligence on the relationship between adhocracy culture and innovation,

H3c: There is significant positive mediating effect of leadership emotional intelligence on the relationship between hierarchical culture and innovation, and

H3d: There is significant positive mediating effect of leadership emotional intelligence on the relationship between market culture and innovation.

Demographic Profile of Respondents

This section provides information on the background characteristics of respondents which are summarised in Table 5. The table depicts demographic statistics on the frequencies and percentages of responses on sex, age, academic qualifications and years of working experience.

Table 5: Demographic Profile of the Respondents

Variables	Options	Frequency	Percentage (%)
Gender	Female	110	43
	Male	145	57
	Total	**255**	**100**
Age (Years)	31-40	72	28
	41-50	106	42
	51 years and above	77	30
	Total	**255**	**100**
Level of Education	2nd Degree	98	38
	PhD Degree	152	60
	Professionals	5	2
	Totals	**255**	**100**
Years of Service	1-5	45	18
	6-10	120	47
	11-15	50	20
	16 years and above	40	15
	Total	**255**	**100**

Source: Field survey (2021)

As presented in Table 5, the workforce at the selected Public Universities in Ghana is male dominated. Majority of the respondents, numbering 145 (57%) were males with 110 (43%) of the respondents being females. This implies that more males are employed in the service which is not surprising considering the gender inequality in terms of higher educational levels differentials between male and female and subsequent differences in gender employment levels in the country. From the Annual Report of Ghana Statistical Service (2014), it can be noted that generally, labour force participation rate of females remains lower than that of males although females constitute over half of the entire population. In addition, the unemployment rate

is estimated to be higher among women than men, whilst at the same time the share of females in wage employment is also lower than that of males.

In terms of the age distribution of the respondents, the least age group was those between the ages 31 and 40 years representing 72 (28%). This could mean that within the Public Universities in Ghana, the young and inexperienced few staff will have the potential to benefit from the experiences of the matured ones. It was realised that 106 (42%) of the respondents are between the ages of 41 and 50 years. This gives a good impression that a large number of the respondents are in their prime age and that the universities can be considered to have a lot of potentials in terms of innovative behaviours in the future. The result further indicates that 77 (30%) were 51 years and above, implying that quite a number of employees are endowed with experience which could be of benefit to the universities in the context of mentoring the young ones.

With respect to the level of education, it can be noted that majority of the respondents representing 152 (60%) were PhD holders, while respondents with second degree were 98 (38%). The least group was Professionals representing 5 (2%). With regards to how long each respondent has worked in the university, it was found that almost half 120 (47%) of the respondents fell within 6 to 10 years, while 50 (20%) have worked for years between 11 and 15. Those who have worked between 1 and 5 years were 45 (18%), whereas 40 (15%) respondents have worked for 16 years and above. This means that those who have worked longer in the institutions were not largely represented.

Results of the Main Findings of the Study

This section provides the results of the main findings of the study which are in line with the three principal objectives set out in the study.

Research Objective One: **To Examine the Influence that Organisational Culture (Clan, Adhocracy, Hierarchical and Market) has on Innovation**

The first objective of this study sought to examine the influence of organisational culture on innovation among the selected Public Universities in Ghana. The path model in Figure 4 shows four direct paths from organisational culture to innovation. These paths represent hypotheses 1a to 1d. Per the objective, the study hypothesised that: H1a: Clan culture has a positive effect on innovation; H1b: Adhocracy culture has a positive effect on innovation; H1c: Hierarchical culture has a positive effect on innovation; H1d: Market culture has a positive effect on innovation. The findings of the objective were presented after assessment of the measurement model as shown in Figure 5 and Tables 6 and 7.

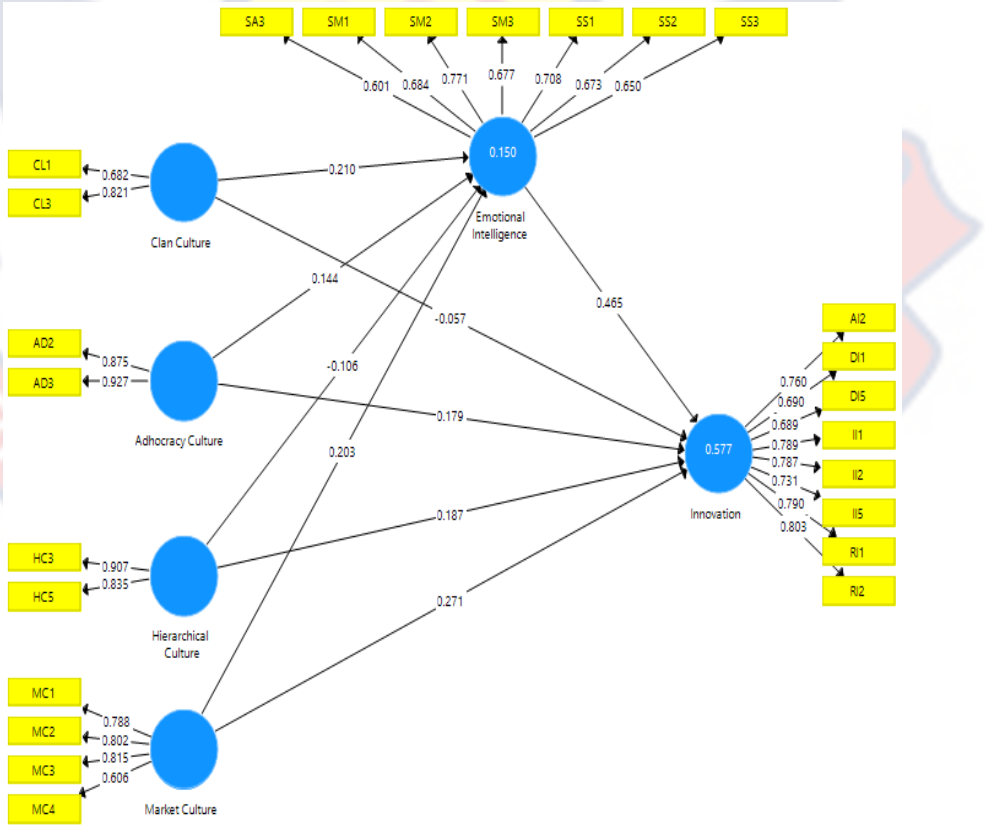

Figure 5: PLS-SEM Final Output

Source: Field survey (2021)

The direct effect showed that organisational culture and emotional intelligence accounted for 57.7 percent of the variation in innovation.

The first hypothesis was formulated to determine whether there is a relationship between clan culture and innovation. The formulated hypothesis thus reads:

H1a: Clan culture has a positive effect on innovation.

Table 6: Structural Model Results for Hypotheses 1a, 1b, 1c, and 1d

	Path	T Statistics	R^2	Adjusted R^2	Q^2	P Value	F^2
IN			0.577	0.544	0.309		
CL	-0.057	0.573				0.567	0.006
AD	0.179	2.056				0.040	0.055
HC	0.187	2.076				0.038	0.049
MC	0.271	2.730				0.007	0.087

Source: Field survey (2021)

Based on the path estimation, the results of the PLS-SEM showed that clan culture had no significant effect on innovation (β = -0.057, p>0.05; Table 6, Figure 5). The result fails to support the hypothesis that clan culture has a positive effect on innovation. The results are inversely related to what was hypothesised.

The second hypothesis was formulated to determine whether there is a relationship between adhocracy culture and innovation. The formulated hypothesis thus reads:

H1b: Adhocracy culture has a positive effect on innovation.

Based on the path estimation, the results of the PLS-SEM showed that adhocracy culture had a significant positive effect on innovation (β = 0.179, p<0.05; Table 6, Figure 5). As it was hypothesised, adhocracy culture has a

positive effect on innovation. This study, therefore, supports the second hypothesis.

The third hypothesis of this study sought to test the effect of hierarchical culture on innovation among Public Universities in Ghana. The hypothesis was stated that:

H1c: Hierarchical culture has a positive effect on Innovation.

Based on the path estimation, the results of the PLS-SEM showed that a hierarchical culture had a significant effect on innovation ($\beta = 0.187$, $p<0.05$; Table 6, Figure 5). The path coefficient was in the same direction as hypothesised, hence the hypothesis that hierarchical culture was related to innovation is supported.

The *fourth hypothesis* of this study sought to test the effect of market culture on innovation. The hypothesis was stated that:

H1d: Market culture has a positive effect on Innovation.

The study estimated the path between market culture and innovation. Based on the path estimation, the results of the PLS-SEM showed that a market culture had a significant effect on innovation as shown in Figure 5 and Table 6 which indicated a path coefficient of 0.271 and a p-value of 0.007. The path coefficient was in the same direction as hypothesised, hence the hypothesis that market culture was related to innovation is supported.

A summary of the decisions with respect to objective one is presented in Table 7.

Table 7: Summary of Objective 1

	Path	t-values	P-value	Decision
CL ->IN	-0.057	0.573	0.567	Not Supported
AD ->IN	0.179	2.056	0.040	Supported
HC->IN	0.187	2.076	0.038	Supported
MC->IN	0.271	2.730	0.007	Supported

Source: Field survey (2021)

The hypothesis *H1a: Clan culture has a positive effect on innovation* stated as part of the four hypotheses for objective one was not supported because the *p*-value was > 0.05. The results, however, show that, market culture had the highest significant effect on innovation due to the magnitude of its path coefficient (0.271), this is followed by hierarchical culture (0.187) and adhocracy culture (0.179).

Research Objective Two: **To Examine the Influence that Leadership Emotional Intelligence has on Innovation**

The second objective sought to assess the effect of leadership emotional intelligence on innovation. The objective was tested as part of the entire model, representing the direct path from leadership emotional intelligence to innovation. Thus, it was hypothesised that;

H2: Leadership emotional intelligence has a positive effect on innovation

The structural model results for hypothesis 2 are shown in Table 8 and Figure 5.

Table 8: Structural Model Results for Hypothesis 2

	Path	T Stats.	R^2	Adjusted R^2	Q^2	P-Values	F^2
IN			0.150	0.115	0.051		
EI	0.465	5.625				0.000	0.435

Source: Field survey (2021)

Based on the path estimation, the results of the PLS-SEM showed that leadership emotional intelligence had a significant positive effect of innovation ($\beta = 0.465$, $p < 0.05$; Table 8, Figure 5). The results show that the emotional intelligence of leaders within the selected universities is a key determinant of innovation. Comparatively, leadership emotional intelligence shows a larger effect on innovation than all four organisational culture constructs. Therefore, based on the direction and the significance of the path between leadership emotional intelligence and innovation, the study supports the assertion that leadership emotional intelligence has a positive effect on innovation. Thus, with the p-value < 0.05, the study supports the hypothesis stated earlier.

Research Objective Three: **To Investigate the Mediating Role of Leadership Emotional Intelligence on the Relationship Between Organisational Culture and Innovation of the Selected Universities in Ghana.**

The third objective of this study sought to examine the mediating role of leadership emotional intelligence on the relationship between organisational culture and innovation of the selected Public Universities. Given that organisational culture has a significant effect on innovation, and emotional intelligence also has a positive effect on innovation, a mediation test was possible. As Nitzl (2016) had indicated, a significant indirect effect is the only prerequisite for establishing a mediation effect. According to the procedure outlined by Hair et al. (2017), the mediating effect of leadership emotional intelligence on the nexus between organisational culture and innovation was examined through bootstrapping.

The results of the total effect are presented in Table 9. It indicates the significance of every path hypothesised in the model. With respect to clan culture, it was discovered that, it had no influence on both innovation (p= 0.567) and emotional intelligence (p= 0.095), this shows that clan culture is not fit for mediation analysis.

Table 9: Total Effect

	Path	T Statistics	P-Values	f^2
CL ->IN	-0.057	0.573	0.567	0.006
CL ->EI	0.210	1.673	0.095	0.041
AD ->IN	0.179	2.056	0.040	0.055
AD ->EI	0.144	1.394	0.164	0.018
HC->IN	0.187	1.076	0.393	0.008
HC->EI	-0.106	2.854	0.038	0.049
MC->IN	0.271	2.730	0.007	0.087
MC->EI	0.203	1.619	0.106	0.025
EI->IN	0.465	5.625	0.000	0.435

Source: Field survey (2021)

From Table 9, it can be inferred that hierarchical culture only has a direct influence on innovation (path=0.187), but was rejected due to the p-value (0.393). Negative relationship was established between hierarchical culture and leadership emotional intelligence (path= -0.106), however that relationship was found to be significant (p=0.038). Hence, Hierarchical culture can only have a direct influence on stimulating innovation when the emotional intelligence of the leader is of essence within the public universities identified in the study. In this study it has been concluded that leadership emotional intelligence has a positive influence on innovation (p=0.000). Having already established a positive relationship between adhocracy culture and innovation (p=0.040), the relationship between adhocracy culture and leadership emotional intelligence is

not significant (p=0.164). Lastly, the results from Table 9 indicate the study established a positive relationship between market culture and innovation (p=0.007), however, the relationship between market culture and emotional intelligence is not significant (p=0.106).

Table 10: Coefficient of Determination (R^2) and Predictive Relevance

	R^2	R^2 Adjusted	Q^2(=1-SSE/SSO)
IN	0.577	0.554	0.051
EI	0.150	0.115	0.309

Source: Field survey (2021)

Table 10 shows the coefficient of determination and predictive relevance of the model on the two endogenous variables. The results show that the entire model accounts for 57.7% of the variation in the innovation in the selected Public Universities. According to Chin (1998), an R^2 value of 57.7% indicates large variation, which is sufficient (Hair et al., 2017). Also, with respect to the mediating variable, the results show that 15% of the variation in leadership emotional intelligence is accounted for by organisational culture. The Stone-Geisser's Q^2 statistic (Stone, 1974) was used to assess the predictive relevance of the model. The model shows a predictive relevance of 0.294 for innovation and 0.116 for leadership emotional intelligence which indicate medium predictive relevance according to Hair et al. (2016).

Based on the positive significant effect of the mediating variable (leadership emotional intelligence) on innovation, and the positive effect of some organisational culture on leadership emotional intelligence, the specific indirect effect was assessed to determine the nature and type of mediating effect as proposed by (Hair et al., 2017; Nitzl, Roldan & Cepeda, 2016). The mediation analysis was tested between all the dimensions of organisational culture and

innovation. This led to testing 4 hypotheses with respect to the indirect effect. The results of the specific indirect effect are presented in Table 11.

Table 11: Structural Model Results for Hypotheses 3a, 3b, 3c and 3d

	T Statistics	P Values	Decision
CL ->EI->IN	1.066	0.286	Not supported
AD ->EI->IN	3.383	0.003	Supported
HC ->EI->IN	3.610	0.001	Supported
MC->EI->IN	3.377	0.014	Supported

Source: Field survey (2021)

The first step of testing the effect of the exogenous variable on the mediating variable showed that adhocracy, hierarchical and market cultures had a relationship with leadership emotional intelligence. The results from Table 11 shows that leadership emotional intelligence mediates the relationship between culture and innovation. Based on the criteria of Carrión, Nitzland Roldán (2017), it can be concluded that in general, mediation occurs between organisational culture and innovation.

Discussions of the Main Findings

This study was focused on the association between organisational culture and the innovation with the mediating role of leadership emotional intelligence. Although literature suggests that organisational culture is relevant to institutional innovative capabilities there is a lack of empirical evidence on the kind of organisational culture that has such influence on innovation as well as the mediating role of leadership emotional intelligence, which this study investigates. This section discusses the main findings of the study based on the study objectives that were proposed namely; to examine the influence that organisational culture has on innovation; to assess the relationship between

leadership emotional intelligence and innovation and, finally; to determine the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation in the Public Universities in Ghana.

Research objective one

Research objective one was to examine the influence that organisational culture (clan, adhocracy, hierarchical and market) has on innovation. With regard to this objective, the findings provided, supported the relationship between organisational culture and innovation. In particular, we found that organisational culture can significantly affect innovation at Public Universities. According to the findings, besides clan culture which had no significant effect on innovation ($\beta = -0.057$, $p > 0.05$), all the other dimensions namely: market, adhocracy and hierarchy cultures had significant positive relationship with innovation. The significant relationship suggests that with organisational culture predominantly characterised by three of its dimensions namely; market, adhocracy and hierarchy cultures, innovation will tend to flourish. Based on this result, it stands to reason that authorities of Public Universities can create an exciting image of what is essential to consider in their organisational culture and in so doing encourage team spirit and general enthusiasm around it. University authorities who employ positive cultural dimensions potentially can influence a range of critical business success factors such as extra effort, creative behaviour and thinking, learning orientation and organisational success.

The finding of this study which reveals that organisational culture significantly affect innovation at Public Universities is not surprising. This is because some characteristics of the dimensions of market, adhocracy and

hierarchical cultures, such as formal structures, policies and procedures are positively related to innovation as these environmental structural enablers facilitate risk taking, exploration, and out-of-the-box thinking (Lumpkin & Dess, 1996). This is particularly true with the culture of Public Universities which is often characterised by innovative systems with certain set of values supporting innovation, autonomy, risk taking and freedom (Obenchain, Johnson & Dion, 2004; Pichlak, 2012).

These findings are significant because they are consistent with the existing theoretical literature (Detert, Schroeder & Mauriel, 2000; Menzel, Aaltio & Ulijn, 2007) and also in line with previous empirical studies (De Brentani & Kleinschmidt, 2004; Droge, Calantone & Harmancioglu, 2008; Skerlavaj et al., 2010). For example, Obenchain and Johnson (2004) demonstrated empirically that in case of universities, adhocratic cultures favour innovation, while hierarchical cultures have an inhibitory effect on it. Also, a study by Pichlak (2012) in Poland revealed that organisational culture was one of many factors affecting organisational innovation. This study confirms that the highest level of innovation occurs in organisations where organisational culture fosters experimenting, creative problem solving as well as employee's initiative. Finally, another study by Ashraf, Kadir, Pihie and Rashid (2013) also show significant positive relationships between three types of organisational culture (which are: adhocracy, market and hierarchical) and organisational innovativeness. These previous findings are in line with the outcome of the current study which also disclose that adhocracy, market and hierarchical culture dimensions affect innovation.

Theoretically, the study's finding that organisational culture influences innovation in Public Universities could be said to be in line with the componential theory of creativity (Amabile, 1983; Lubart, 1999) which suggests that institutions should be able to accomplish their goals with both internal and external enabling factors. This is also supported by Ford's (1996) Theory of Creative Individual Action which links the work environment with intra-individual factors to explain individual creativity (Pirola-merlo & Mann, 2004).

This result of this study implies that the public tertiary institutional environment in Ghana can be seen as a dynamic and entrepreneurial place where people are willing to take risks. According to the study results of Ashraf et al. (2013), while the clan culture manifests a non-significant correlation with organisational innovativeness, the adhocracy culture contributes to predicting organisational disruptive innovativeness. Clan culture qualities such as culture of sharing, communication and teamwork among members of the organisation may have to be promoted so as to ensure innovation (Cao, Huo, Li & Zhao, 2015). However, in the Public Universities, although team work is encouraged, such culture is limited, rather, it is more like individual efforts that are mostly taking place with their associated reward. In essence, the Public Universities are market cultured with competition and organisational goal achievement being mostly considered (Pinho, Rodrigues & Dibb, 2014).

In general, the findings of the study that disclose that adhocracy, market and hierarchical culture dimensions affect innovation show that the relationship between culture and innovation is complex. In a way, taking this study's finding into account, it seems that dominant characteristics of organisational cultures

when balanced with other formal rules and procedures will promote creative problem solving, as well as employees initiative-taking thereby fostering innovation. Thus, although Public Universities have been blamed for lacking culture of innovation (Barbosa, 2014), in recent times, their organisational culture has been in a position to boost their ability to innovate because of their flexibility and receptive to changing times (Wang, Guidice, Tansky & Wang, 2010).

Research objective two

With respect to research objective two, the study focuses on examining the influence that leadership emotional intelligence has on the various dimensions of innovation. Accordingly, based on the path estimation, the results of the PLS-SEM showed that leadership emotional intelligence had a significant positive effect on innovation ($\beta = 0.465$, $p < 0.05$). This means that emotional intelligent leaders who find themselves in adhocracy, market and hierarchical oriented universities are likely to impact on a range of critical institutional innovations. This is because leaders with high emotional intelligence usually form a leadership style that can have effect on innovation. Also emotional intelligence leaders easily become role models where followers demonstrate a high degree of trust and develop innovative work behaviours (Orhan & Dinçer, 2012).

In theory, this finding is in line with the Interactionist Model of Organisational Creativity by Woodman, Sawyer and Griffin (1993) which is grounded on the belief that creativity is an individual level issue that can be influenced by both dispositional and situational variables. These variables can be individual characteristics that influence behaviour, actions and situational

variables, which are predisposed by external factors not within the control of the individual. Again, the finding is supported by Ford's (1996) Theory of Creative Individual Action which links the work environment with intra-individual factors to explain individual creativity (Pirola-merlo & Mann, 2004). This is consistent with Goleman's (2001) assertion that leaders with emotional intelligence affect the emotions of their employees through their own emotional states. Such leaders who drive emotions positively create a climate of enthusiasm, information sharing and motivation in which individuals show exceptional performance (Goleman, Boyatzis & McKee, 2002; Porter-O'Grady & Malloch, 2010; Williams & Foti, 2011).

In terms of empirical studies, previous studies (George, 2000; Zhou & George, 2003) have demonstrated that emotionally intelligent leaders nurture the climate by inculcating confidence in employees, guiding them in the situations of ambiguity and conflict, offering support and assisting them to bounce back from being surrounded by negative emotions. Besides, other earlier studies like Rego et al. (2007) as well as Castro, Gomes and de Sousa (2012) have all revealed that leaders' emotional intelligence helps to streamline different steps in the creative process which ultimately influence employee's innovativeness. According to Edmondson and Mogelof (2006) when the emotional intelligence of a leader is favourable, the organisational climate becomes conducive, individuals at work involve themselves with experimentation and risk taking. Such an atmosphere eventually makes the employees willingly explore and express new ideas without any fear leading to more creative behaviours (Kark & Carmeli, 2009). On the other hand, leaders with negative emotions lead to organisational climate characterised by fear,

anxiety, anger and lack of bonding, and therefore, hampering individuals' performance in terms of creativity and innovation (Goleman, Boyatzis & McKee, 2002).

However, it has to be said that not all studies recognise leadership emotional intelligence as something positive, even if a large number of them do since there is a dark side of emotional intelligence (Chatterjee & Kulakli, 2015; Tang, Yin & Nelson, 2010). According to Kilduff, Chiaburu and Menges (2010) people with a high amount of emotional intelligence in some cases use it to manipulate people to get what they desire. This means leadership emotional intelligence can be used strategically in organisational settings in a negative way since people will be employing their competence for their own interests only and not caring about how that would affect others at the workplace. Besides, a recent study's finding by Hyde and Grieve (2018) revealed that emotional intelligence can be used in the wrong way by psychopaths (that is, those who simply do not care what other people are feeling) and Machiavellians (those who manipulate other's feelings to achieve their own goals).

Notwithstanding these caveats, from the perspectives of practical implication, it can be noted that emotional intelligent leadership is an essential requirement for organisational success in innovation and its sustenance in the current global economy (Islam et al., 2013). In essence, leaders without emotional intelligence can be seen to be potentially one of the major causes of innovative project failures within organisations (Kamisan & King, 2013). The result from this study therefore indicated that when the characteristics of emotional intelligent leadership are lacking, innovative ideas in managing institutions will tend to decrease (Gialuisi & Coetzer, 2013). By implications,

institution, like a university, can obtain an improvement in employee morale and productivity, by helping staff develop necessary innovative skills for managing projects and achieving project success. Institutional leaders who, out of their emotional intelligence, improve staff innovative behaviour are likely to increase the propensity of organisational success. This means, from managerial points of view, university authorities, in aiming to promote innovation, should adopt a strategy that could enhance the emotional intelligence of their leaders.

Research objective three

The objective was to investigate the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation. The results of the study show that leadership emotional intelligence mediates the relationship between organisational culture and innovation. However, after testing the effect of the exogenous variable on the mediating variable, it was revealed that adhocracy, hierarchical and market cultures had relationships with leadership emotional intelligence. Evidently, the results show that 15% of the variation in leadership emotional intelligence is accounted for by organisational culture. Thus, this study, in general, established that leadership emotional intelligence mediates the relationship between organisational culture and innovation. This is because three out of four variables namely: adhocracy, market and hierarchical cultures could stimulate innovation through leadership emotional intelligence. This means that leadership emotional intelligence in public institutions should be able to concurrently explore some aspects of cultures and also exploit existing competences as suggested by theory of ambidexterity (Benner & Tushman, 2003; Gupta, Smith & Shalley, 2006; O'Reilly & Tushman, 2004) to foster innovation.

The study revealed the leadership emotional intelligence mediates the relationship between organisational culture and innovation in Public Universities. This finding supports the earlier work of Maqbool, Sudong, Manzoor and Rashid (2017) when they also concluded that emotional intelligence mediates the relationship between the organisational cultures and innovation. Maqbool et al. (2017) further argued that emotional intelligence of a leader strengthened positive work attitude, effective work outcomes, and altruistic behaviour which could help improve communication, problem-solving, management and workplace relationship management. In effect, leadership emotional intelligence encompasses multidirectional themes including facets of personality, perceived skills, motivations, and better employee collaboration (Maqbool et al., 2017). These findings of Maqbool et al., could be said to reflect the findings of this study, this is because the multidirectional themes listed could be identified within the three dimensions of emotional intelligence (self-management, social skills, and self-awareness) that influenced innovation in this study. Through altruistic behaviour, leaders with emotional intelligence are able to act out of concern to ensure the well-being of other people (Livesey, 2017), and this has positive influence on staff desire to innovate. For example, having empathy towards employees can be considered one of the crucial aspects of employee retention and creativity as it improves employees' work satisfaction and commitment (Livesey, 2017).

According to Suwandana (2019), empowering employees, motivating them, and utilising an agile and transparent approach can be considered as a significant element of emotional intelligence that improves work outcomes in innovation. To this end, Rezvani, Khosravi and Ashkanasy (2018) argue that

while organisational leaders need to develop a blend of altruistic and self-serving attitudes, it should not be forgotten that emotional intelligence is central to this balance. This is because, a leader who is high on emotional intelligence understands the impact of one's emotions on the needs and feelings of employees and therefore ensures to facilitate favourable psychological climate which nurtures innovative behaviour (Klem & Schlechter, 2008; Momeni, 2009).

Chapter Summary

This chapter discussed the main research findings which reflect the three main research objectives of the study. This study sought to examine the extent to which the influence of organisational culture on innovation is mediated by leadership emotional intelligence in selected Public Universities in Ghana. Hypotheses were used to answer the three research objectives and the following outcomes were unearthed. It was found out that generally, organisational culture significantly affect innovation at Public Universities. Furthermore it was established that leadership emotional intelligence had a significant positive effect of innovation. The study also revealed that leadership emotional intelligence mediates the relationship between organisational culture and innovation.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This is the last Chapter on the study that set out to understand whether organisational culture has influence on innovation, taking into account the mediation effect of leadership emotional intelligence in the selected Public Universities in Ghana. As a final Chapter, information relating to the summary of the study, conclusions on the significant findings of the study, recommendations and suggestions for future research are discussed in this chapter.

Summary of the Study

The main aim of this study was to investigate the extent to which the influence of organisational culture on innovation is mediated by leadership emotional intelligence in Public Universities in Ghana. Specifically, the study sought to; investigate the influence that organisational culture has on innovation; assess the relationship between leadership emotional intelligence and innovation, and finally, determine the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation in the Public Universities in Ghana.

In order to attain the goals of these objectives, four hypotheses were developed for the first objective, one hypothesis for the second objective and four hypotheses for the last objective. They were as follows:

H1a: There is a significant positive relationship between clan culture and innovation,

H1b: There is a significant positive relationship between adhocracy culture and

innovation,

H1c: There is a significant positive relationship between hierarchical culture and innovation,

H1d: There is a significant positive relationship between market culture and innovation,

H2: There is significant positive relationship between leadership emotional intelligence and Innovation

H3a: There is significant positive mediating effect of leadership emotional intelligence on the relationship between clan culture and innovation,

H3b: There is significant positive mediating effect of leadership emotional intelligence on the relationship between adhocracy culture and innovation,

H3c: There is significant positive mediating effect of leadership emotional intelligence on the relationship between hierarchical culture and innovation, and

H3d: There is significant positive mediating effect of leadership emotional intelligence on the relationship between market culture and innovation.

From a population of 3095 staff from the three selected Public Universities from three geographical zones in Ghana, 341 were sampled based on Krejcie & Morgan (1970) Table. Using the simple random technique, the Microsoft Excel random number generator was used to randomly select respondents for the study. In total, 255 valid responses were obtained from the three selected Universities out of the 341 questionnaires that were sent out. The study started with a pre-test with staff of the University of Mines and

Technology, Tarkwa. Having succeeded in the pretesting exercise, a self-administered questionnaire based on validated scales and from extensive literature was administered to the respondents. The demographic profile of the respondents was analysed by means of descriptive statistics (frequencies and percentages) with the use of SPSS Version 24. In analysing the main objectives of this study, structural equation modeling techniques, with the aid of the SMART PLS version 3.0 were employed. An alpha level of 0.05 was used for all tests of significance.

Summary of the Main Findings

The major findings, as they related to the specific objectives and hypotheses of the study have been summarised below:

In respect to the first objective (to examine the effect of organisational culture on innovation), the results of the study showed that three organisational cultural dimensions namely; adhocracy, market and hierarchical foster innovation in public universities in Ghana. However, clan culture practices inhibit innovation, per the study's revelation.

Regarding the second objective (to assess the relationship between leadership emotional and intelligence innovation), it was found out that emotional intelligence of leadership promotes innovative behaviours in universities.

In the case of the third objective (to determine the mediating effect of leadership emotional intelligence on the relationship between organisational culture and innovation). The outcome of the study disclosed that the relationship between organisational culture and innovation is influenced by emotional intelligence of the leader. This means that leaders with emotional intelligence

traits in the universities can through the use of their organisational culture (especially adhocracy, hierarchical and market dimensions) greatly enhance innovation.

Conclusion

The following conclusions are drawn based on the findings of the study. In respect to the first objective, it was concluded that with the exception of the clan, all the other dimensions of organisational culture (market, adhocracy and hierarchical) had positive significant relationship with innovation. Regarding the organisational culture and innovation nexus, the results show that organisational culture is a key determinant for institutional innovation. This means organisational culture cannot only actually boost it but also it can act as a barrier against innovation. In particular, the findings show a positive influence of the market, adhocracy and hierarchical cultures on an organisation's innovation. As identified in the discussion, it was realised that certain traits such as competitiveness, creativity, freedom and a risk-taking attitude that are associated with the adhocracy culture, for example, promote innovation. The negative result of the clan cultures on innovation could suggest that while clan culture factors, such as teamwork, mentoring and collaboration promote innovation, it is not often the case especially in the public tertiary institutions. Staff prefer to do things solo because of perceived competitions among the staffs and the nature of the reward systems. Staff may possibly embrace clan culture to promote innovation when certain considerations, such as group compensation, motivations for collaborative research are put in place.

When it comes to objective two, it could be concluded that leadership emotional intelligence is crucial for innovation, in the context of the Public

Universities. With empathetic leadership behaviours based on understanding, influencing and motivating staff within the Public Universities, innovation can easily be stimulated. It can, therefore, be concluded that leaders and/or managers of public tertiary institutions must embrace the attributes of emotional intelligence to achieve desired results and organisational excellence in innovation.

With regards to the final objective, a vital conclusion that could be drawn from this study is that although this study did not find a full mediation of leadership emotional intelligence between organisational culture and innovation, the findings showed that the direct effect of organisational culture on innovation in the Public Universities could be enhanced through leadership emotional intelligence. Empirically, it was found out that all, but clan culture could not directly stimulate innovation through leadership emotional intelligence.

On the whole, the researcher is of the belief that, to a greater extent the aim of the study has been achieved. This is because the study has disclosed that leadership emotional intelligence mediates the relationship between organisational culture and innovation in Public Universities in Ghana, which the study set out to establish.

Implications

In general, the findings of this study have various implications which include: managerial, professional, social and policy.

Managerial Implications

From leadership emotional intelligence perspective, the outcomes of this study imply that management of Public Universities should be able to

achieve several innovative outcomes by boosting skills, creativity-relevant processes and task motivation, especially, the intrinsic motivation to engage in an activity out of interest, enjoyment or a personal challenge, as suggested by Componential Theory of Organisational Creativity and Innovation (Amabile, 1983; Lubart, 1999). With emotional intelligent leaders, authorities of Public Universities should create better and conducive atmosphere that could be capitalised on by individual employees to ensure high level of innovation. This argument is supported by Woodman, Sawyer and Griffin's (1993) Interactionist Model of Organisational Creativity. The Interactionist Model is grounded on the belief that creativity is an individual level issue that can be influenced by both dispositional variables, that is individual characteristics that effect behaviour and actions and situational variables, which are influenced by external factors not within the control of the individual. This is supported by Ford's (1996) Theory of Creative Individual Action which links the work environment with intra-individual factors to explain individual creativity (Pirola-merlo & Mann, 2004).

Although technology is moving very fast and the Public Universities are faced with the culture of bureaucracy, there should be the possibility for the management of these public institutions to simultaneously explore new capabilities and exploit existing competences as suggested by Theory of Ambidexterity (Benner & Tushman, 2003; Gupta, Smith & Shalley, 2006; O'Reilly & Tushman, 2004) to foster and manage innovation. With emotional intelligent skills, and in line with the explanation of Theory of Ambidexterity by Raisch and Birkinshaw (2008), leaderships of Public Universities, should be

able to manage the demands of their institutions in a coordinated and effective manner, while also being adaptable to changes in the environment.

Professional Implications

For practitioners, the implication of the above results is that an organisation that wishes to enhance innovation should pay attention to its organisational culture as it can be a key enabler or a major barrier against innovation. In particular, the findings of this research show that culture values such as are creativity, a risk-taking attitude, freedom, experimentation and flexibility foster novelty. Thus, universities should take advantage of these values and make effort to develop dynamic culture that ensures innovation.

Social Implications

The present study also benefits individuals by alerting them to the important social role that emotional intelligence has on their creativity and individual successes. Emotional intelligence helps individuals in their relationship with others, bond well, share ideas and more capable of expressing creative thought. This implies that the more emotional intelligent employees are within an organisation, the more innovative an organisation is likely to be. This is based on the grounds that employees with high emotional intelligence potentially have the vital skills to accomplish satisfactory interaction, control themselves and manage the emotions of others. Such skills strengthen individual's popularity, managerial power and personal authority which can enhance the person in his/her social activities and intimate relations and direct the person toward creative and innovative activities. In this regard, Goleman et al. (2002) demonstrated that individuals with vitality and good feelings think about other people or events optimistically. With such mentality, individual

employees are more optimistic about their abilities to attain certain goals which lead to creativity and innovation.

Policy Implications

In terms of policy, this study's finding demonstrate that in the highly competitive milieu in which institutions, both for-profit and not-for-profit, must survive, the implementation of policy strategies on emotional intelligence skills can assist in enhancing the quality of innovation and innovation processes. This is particularly true considering the fact that majority of institutions are approaching innovation in a collaborative environment, recognising that the process of creating and sustaining relationships is intrinsically human (Chatterjee & Kulakli, 2015). This situation demands a policy strategy that demands emotional perspective, which, while time consuming, has the potential to produce better creative and innovations solutions. Furthermore, it has to be noted that in every organisation, problems demanding innovative solutions usually create conflict, and the ability to manage that conflict involves a policy strategy on emotional intelligence skill that can determine the ultimate success of the innovation process. In essence, the practical implementation of policy strategy on emotional intelligence skills and behaviours can promote not only the innovation itself but also the processes associated with innovation.

From the above arguments on this study's findings and their implications, it can be said that organisations can benefit from individuals by encouraging them to take advantage of emotional intelligence of their leader. Having a leader who is more emphatic will help them to be more motivated, committed and more importantly, be innovative. The idea here is that even if emotional intelligence is an individual trait, as suggested by Ford's (1996)

Theory of Creative Individual Action and Woodman, Sawyer Griffin's (1993), Interactionist Model of Organisational Creativity, managers can both contribute to increase the workers' emotional intelligence and adopt more practical selection and recruitment practices, giving priority to workers who are more endowed with innovative trait.

Recommendations of the Study

The findings from this study indicated that a significant relationship existed between organisational culture and innovation which is mediated by emotional intelligence of a leader. Based on these findings it can be said that if universities choose to take account of these variables, there is a possibility of creating a more favourable working environment, as well as fostering harmony in the workplace and enhancing innovation. On the basis of this, the following recommendations are made on the conclusions drawn from this study:

1. Organisational culture can foster or inhibit innovation. Therefore, Universities should promote innovative-oriented cultural practices such as creativity, freedom to experiment, risk-taking, open-mindedness, exploration and team work. Staff should not be excessively controlled or limited to traditions or rules so that they may think 'unconventionally' and come out with novel ideas and solutions.
2. The management of Public Universities in Ghana should promote and place emphasis on teamwork and collaboration that come along with proper rewards among the various departments and staffs to ensure creativity and innovation. This is because from the results of the study, it was noted that clan culture had no significant positive effect on innovation. This implies that institutions should focus on developing and

encouraging teamwork or group work which will benefit the institutions. Working in groups and sharing of ideas through the creation of proper channels of communication networks among staffs will provide a platform that will go a long way to develop creative ideas and their resultant innovations.

3. Universities should encourage and educate senior employees on the need to understand their own and other people's emotions. This is because the study has established that positive leadership emotional intelligence indeed influences innovation. Thus, when senior employees of universities espouse constructive emotional intelligence qualities, they will get the best out of their staff as well as stimulate their creative outputs.
4. Universities should adopt the 'human-centered' approach such as the use of emotional intelligence, design thinking and critical thinking to complement the traditional research and development methods to innovation. Accordingly, staffs appointed into leadership position should be trained thoroughly both in emotional intelligence issues and in understanding the potential impact that they may have on their staffs' innovative outputs. This is essential taking into account of the fact that tertiary institutional environment has the propensity to put extra strain on human aptitudes, relationships and emotions. Such leaders need to imbibe into their staffs how to be self-encouraging, which means, how to look positive in the face of difficulties and stressful situations at work or home.

5. The Directorate of Human Resources in the Universities should organise regular dedicated training to staffs at all levels so that their various emotional intelligence traits and skills can be nurtured and developed in order to foster innovation. The exercise should also focus on developing the emotional intelligence of staffs for better understanding of each other and be adaptable to changes which current technology brings. The public sector employees in Ghana are noted of being resistant to changes, particularly those that are brought by technological innovations. In view of this, while an innovator may describe himself or herself as more accommodating or participatory, the more critical aspect is the perception of others who may perceive the innovative ideas of their colleague as threat to their parochial interest. In this case, although it is fair for sceptics to be protesting for fear of being replaced by innovation, the emotional intelligence function will make it possible for innovators to tolerate and communicate to others on the need for the innovation to be embraced. The fact is, the emotionally intelligent innovator often has the potential to see every solution as a potential opportunity to develop themselves as well as those around them (Hess, 2014). Thus, through training and education, employees with emotional intelligence who become problem solvers will be able to judge the impact of not only their solutions but also the manner in which those solutions are reached (Goleman, 2001).
6. Universities should motivate staffs appropriately to advance creativity and innovation. This is because Amabile's (1983) Componential Theory of Organisational Creativity suggests that motivation drives individuals'

attitudes toward a task. There should therefore be laid down policy on both extrinsic and the intrinsic motivation. This will encourage both individuals and groups to engage in innovative activities out of interest, enjoyment, or a personal challenge.

7. Just as courses in critical thinking have become the order of day, it is high time policy makers come out with a national policy on emotional intelligence and introduce it in our educational curricula. This will enable graduates of the universities to get equipped with competencies in emotional intelligence needed to be very innovative at their work places as well as in their social lives. As a softer component of total intelligence, emotional intelligence complements traditional intelligence and contributes to both one's professional and personal lives.

Suggestions for Further Research

At the end of the study, it was discovered that the findings would have been enriched if qualitative information was gathered thorough interview to complement, give more explanation and insight to the quantitative data that was collected through questionnaire. However, due to time and resource constraint, the researcher could not incorporate the qualitative aspect.

It is thus suggested that further research be carried out by using a mixed (pragmatic) approach to do a comparative study and look into the extent to which leadership emotional intelligence could influence the relationship between organisational culture and innovation in Public Universities and Private Universities in Ghana.

REFERENCES

Aarons, G. A., & Sommerfeld, D. H. (2012). Leadership, innovation climate, and attitudes toward evidence-based practice during a statewide implementation. *Journal of the American Academy of Child & Adolescent Psychiatry*, *51*(4), 423-431.

Abdullah, N. H., Lai, Y. X., Hamid, N. A. A., Takala, J., & Wahab, E. (2021). The relationship between emotional intelligence and innovative work behavior. *Journal of Techno-Social*, *13*(1), 29-36.

Abend, G. (2008). The meaning of 'theory'. *Sociological theory*, *26*(2), 173-199.

Abernathy, W. J., & Clark, K. B. (1993). Innovation: Mapping the winds of creative destruction. *Research Policy*, *22*(2), 102-102.

Acar, A. Z. (2012). Organizational culture, leadership styles and organizational Commitment in Turkish logistics industry. *Procedia-Social and Behavioral Sciences*, *58*, 217-226.

Adjei, B.(2015). *Leadership through the Spectacles of Gender: Does It Predict Followers' Stress Levels? Evidence from Ecobank* (Doctoral dissertation, University of Ghana).

Adom, D., & Hussein, E. K. (2018). Theoretical and Conceptual Framework: Mandatory Ingredients Engineering. *Int. J. Sci. Res*, *7*(1), 438-441.

Agbor, F. (2021). *Exploring the Experiences of African-Born Leaders in the US Army at the Intersections of Race, Culture, and Ethnicity.* (Unpublished Doctoral dissertation, Indiana Institute of Technology).

Ahmad, H., Shah, S. R., Latada, F., & Wahab, M. N. (2019). Teacher identity development in professional learning: An overview of theoretical frameworks. *Bulletin of Advanced English Studies*, *3*(1), 1-11.

Ahmed, P. K. (1998). Culture and climate for innovation. *European journal of innovation management*.

Ahn, J. M., Minshall, T., & Mortara, L. (2018). How do entrepreneurial leaders promote open innovation adoption in small firms? In *Researching Open Innovation in SMEs* (pp. 137-177).

Ahn, M. J., Adamson, J. S., & Dornbusch, D. (2004). From leaders to leadership: Managing change. *Journal of leadership & organizational studies*, *10*(4), 112-123.

Al-Omari, M. (2017). Engineers innovative work behavior: the role of emotional intelligence. *European Journal of Business and Management*, *9*(21), 8-18.

Alfes, K., Truss, C., Soane, E. C., Rees, C., & Gatenby, M. (2013). The relationship between line manager behavior, perceived HRM practices, and individual performance: Examining the mediating role of engagement. *Human resource management*, *52*(6), 839-859.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, *45*(2), 357–376. https://doi.org/10.1037/0022-3514.45.2.357

Amabile, T. M. (1996). *Creativity and innovation in organizations* (Vol. 5). Harvard Business School.

Amabile, T. M. (1997). Entrepreneurial creativity through motivational synergy. *The journal of creative behavior*, *31*(1), 18-26.

Amabile, T. M., & Mueller, J. (2008). Assessing creativity and its antecedents: An exploration of the componential theory of creativity.

Amabile, T. M., & Pillemer, J. (2012). Perspectives on the social psychology of creativity. *The Journal of Creative Behavior*, *46*(1), 3-15.

American Association for the Advancement of Science (2016).

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management*, *40*(5), 1297-1333.

Anderson, P., & Tushman, M. L. (2018). Technological discontinuities and dominant designs: A cyclical model of technological change. In *Organizational Innovation* (pp. 373-402). Routledge.

Antonakis, J. (2012). Transformational and charismatic leadership. *The nature of leadership*, 256-288.

Arnold, J. (2005). Work Psychology: *Understanding human behaviour in the workplace*, (4th ed.). Prentice Hall Financial Times.

Arundel, A., & Huber, D. (2013). From too little to too much innovation? Issues in measuring innovation in the public sector. *Structural change and economic dynamics*, *27*, 146-159.

Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, *6*(5), 76-89.

Ashraf, G., Kadir, S. A., Pihie, Z. A. L., & Rashid, A. M. (2013). Relationship between organizational culture and organizational innovativeness in private universities in Iran. *World Applied Sciences Journal*, *22*(6), 882-885.

Avolio, B. J. (2004). Examining the full range model of leadership: Looking back to transform forward. In *Leader development for transforming organizations* (pp. 91-118). Psychology Press.

Bar-On, R., Brown, J. M., Kirkcaldy, B. D., & Thome, E. P. (2000). Emotional expression and implications for occupational stress; an application of the Emotional Quotient Inventory (EQ-i). *Personality and individual differences*, *28*(6), 1107-1118.

Barbosa, E. (2014). Organizational culture oriented for innovation: Influencing variables. *Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie*, *2*(25), 37-45.

Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. *Creativity and innovation management*, *19*(4), 332-345.

Bardi, A., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and social psychology bulletin*, *29*(10), 1207-1220.

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management decision*.

Barjak, F., & Heimsch, F. (2021). Understanding the relationship between organizational culture and inbound open innovation. *European Journal of Innovation Management*.

Barling, J., Slater, F., & Kelloway, E. K. (2000). Transformational leadership and emotional intelligence: An exploratory study. *Leadership & Organization Development Journal*.

Barney, J. B. (1986). Organizational culture: Can it be a source of sustained competitive advantage? *Academy of management review*, *11*(3), 656-665.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173.

Bartel, C. A., & Garud, R. (2009). The role of narratives in sustaining organizational innovation. *Organization science*, *20*(1), 107-117.

Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public administration quarterly*, 112-121.

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Psychology press.

Batool, B. F. (2013). Emotional intelligence and effective leadership. *Journal of business studies quarterly*, *4*(3), 84.

Battilana, J., Gilmartin, M., Sengul, M., Pache, A. C., & Alexander, J. A. (2010). Leadership competencies for implementing planned organizational change. *The leadership quarterly*, *21*(3), 422-438.

Baughn, C. C., Chua, B. L., & Neupert, K. E. (2006). The normative context for women's participation in entrepreneurship: A multicountry study. *Entrepreneurship theory and practice*, *30*(5), 687-708.

Baumol, W. J. (2004). Four sources of innovation and stimulation of growth in the Dutch economy. *De Economist*, *152*(3), 321.

Bawakyillenuo, S., Akoto, I. O., Ahiadeke, C., Aryeetey, E. B. D., & Agbe, E. K. (2013). Tertiary education and industrial development in Ghana. *Policy Brief, 33012*.

Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information & Management*, *57*(2), 103168.

Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of management review*, *28*(2), 238-256.

Beran, T. N., & Violato, C. (2010). Structural equation modeling in medical research: a primer. *BMC research notes*, *3*(1), 1-10.

Bhatt, G., Emdad, A., Roberts, N., & Grover, V. (2010). Building and leveraging information in dynamic environments: The role of IT infrastructure flexibility as enabler of organizational responsiveness and competitive advantage. *Information & Management*, *47*(7-8), 341-349.

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices*.

Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of management perspectives*, *27*(4), 287-298.

Birkinshaw, J., Hamel, G., & Mol, M. J. (2008). Management innovation. *Academy of management Review*, *33*(4), 825-845.

Birwatkar, V. P. (2015). Riding the waves of emotional culture.

Bland, T., Bruk, B., Kim, D., & Lee, K. T. (2010). Enhancing public sector innovation: Examining the network-innovation relationship. *The innovation journal: The public sector innovation journal*, *15*(3), 1-17.

Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizational Psychology*, *2*(3), 305-337.

Bless, C., & Higson-Smith, C. (2000). *Fundamentals of social methods*. Juta.

Boateng, K., & Ofori-Sarpong, E. (2002). An analytical study of the labour market for tertiary graduates in Ghana. *World Bank/National Council for Tertiary Education and National Accreditation Board Project Report*, 278200-1099079877269.

Bolden, R., Gosling, J., Marturano, A., & Dennison, P. (2003). A review of leadership theory and competency frameworks.

Boohene, R., Agyapong, D., & Asomaning, R. (2012). A micro level analysis of the market orientation–small business financial performance nexus.

Borins, S. (2001). Encouraging innovation in the public sector. *Journal of intellectual capital*.

Boyatzis, R. E. (2011). Managerial and leadership competencies: A behavioral approach to emotional, social and cognitive intelligence. *Vision*, *15*(2), 91-100.

Bradberry, T., & Greaves, J. (2009). *Emotional Intelligence 2.0*. TalentSmart.

Bradley E., & Tibshirani, R. J. (1993). *Monographs on statistics and applied probability: An introduction to the bootstrap*. Chapman and Hall/CRC Press.

Brettel, M., Chomik, C., & Flatten, T. C. (2015). How organizational culture influences innovativeness, proactiveness, and risk-taking: Fostering entrepreneurial orientation in SMEs. *Journal of small business management*, *53*(4), 868-885.

Brondizo, E., Leemans, R., & Solecki, W. (2014). *Current opinion in environmental sustainability*. Elsevier Press Inc.

Brown, F. W., & Moshavi, D. (2005). Transformational leadership and emotional intelligence: A potential pathway for an increased understanding of interpersonal influence. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *26*(7), 867-871.

Brown, M. F. (1998). Can culture be copyrighted?. *Current anthropology*, *39*(2), 193-222.

Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of management review*, *20*(2), 343-378.

Bryman, A. (2012). *Social Research Methods*. Oxford University Press.

Buchholz, R. A., & Rosenthal, S. B. (2004). Stakeholder theory and public policy: How governments matter. *Journal of business ethics*, *51*(2), 143-153.

Burchardi, K. B., Chaney, T., Hassan, T. A., Tarquinio, L., & Terry, S. J. (2020). *Immigration, innovation, and growth* (No. w27075). National Bureau of Economic Research.

Burns Jr, W. A. (2017). A descriptive literature review of harmful leadership styles: Definitions, commonalities, measurements, negative impacts,

and ways to improve these harmful leadership styles. *Creighton journal of interdisciplinary leadership*, *3*(1), 33-52.

Burrell, G., & Morgan, G. (2017). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. Routledge.

Burton, L., & Welty Peachey, J. (2013). The call for servant leadership in intercollegiate athletics. *Quest*, *65*(3), 354-371.

Büschgens, T., Bausch, A., & Balkin, D. B. (2013). Organizational culture and innovation: A meta-analytic review. *Journal of product innovation management*, *30*(4), 763-781.

Byron, K. (2007). Male and female managers' ability to read emotions: Relationships with supervisor's performance ratings and subordinates' satisfaction ratings. *Journal of Occupational and Organizational Psychology*, *80*(4), 713-733.

Çakar, N. D., & Ertürk, A. (2010). Comparing innovation capability of small and medium-sized enterprises: examining the effects of organizational culture and empowerment. *Journal of small business management*, *48*(3), 325-359.

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management*, *31*(6), 515-524.

Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework*. John Wiley & Sons.

Camp, W. (2001). Formulating and evaluating theoretical frameworks for career and technical education research. *Journal of Vocational Education Research*, *26*(1), 4-25.

Cao, C., Simon, D. F., & Suttmeier, R. P. (2009). China's innovation challenge. *Innovation*, *11*(2), 253-259.

Cao, Z., Huo, B., Li, Y., & Zhao, X. (2015). The impact of organizational culture on supply chain integration: a contingency and configuration approach. *Supply Chain Management: An International Journal*.

Carrión, G. C., Nitzl, C., & Roldán, J. L. (2017). Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples. In *Partial least squares path modeling* (pp. 173-195). Springer, Cham.

Castro, F., Gomes, J., & de Sousa, F. C. (2012). Do intelligent leaders make a difference? The effect of a leader's emotional intelligence on followers' creativity. *Creativity and Innovation Management*, *21*(2), 171-182.

Cha, S. E., & Edmondson, A. C. (2006). When values backfire: Leadership, attribution, and disenchantment in a values-driven organization. *The Leadership Quarterly*, *17*(1), 57-78.

Chang, S., Jia, L., Takeuchi, R., & Cai, Y. (2014). Do high-commitment work systems affect creativity? A multilevel combinational approach to employee creativity. *Journal of Applied Psychology*, *99*(4), 665.

Chang, S. C., & Lee, M. S. (2007). A study on relationship among leadership, organizational culture, the operation of learning organization and employees' job satisfaction. *The learning organization*.

Chatterjee, A., & Kulakli, A. (2015). An empirical investigation of the relationship between emotional intelligence, transactional and transformational leadership styles in banking sector. *Procedia-Social and Behavioral Sciences*, *210*, 291-300.

Chen, L., Zheng, W., Yang, B., & Bai, S. (2016). Transformational leadership, social capital and organizational innovation. *Leadership & Organization Development Journal*.

Chen, W. J. (2011). Innovation in hotel services: Culture and personality. *International Journal of Hospitality Management*, *30*(1), 64-72.

Chen, Y. S., Lin, M. J. J., & Chang, C. H. (2009). The positive effects of relationship learning and absorptive capacity on innovation performance and competitive advantage in industrial markets. *Industrial marketing management*, *38*(2), 152-158.

Cherry, K. (2018). Overview of Emotional Intelligence.

Chesbrough, H., & Bogers, M. (2014). Explicating Open Innovation. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *Clarifying an Emerging Paradigm for Understanding Innovation* (pp. 3-28). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199682461.003.0001

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, *295*(2), 295-336.

Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement*, *12*(4), 425-434.

Cohen, L., Manion, L., & Morrison, K. (2017). Surveys, longitudinal, cross-sectional and trend studies. In *Research methods in education* (pp. 334-360). Routledge.

Colfax, R. S., Rivera, J. J., & Perez, K. T. (2010). Applying emotional intelligence (EQ-I) in the workplace: Vital to global business success. *Journal of International Business Research*, *9*, 89.

Conger, J. A., & Kanungo, R. N. (1987). Toward a behavioral theory of charismatic leadership in organizational settings. *Academy of management review*, *12*(4), 637-647.

Considine, J., Botti, M., & Thomas, S. (2005). Design, format, validity and reliability of multiple choice questions for use in nursing research and education. *Collegian*, *12*(1), 19-24.

Contreras Kallens, P. A., Dale, R., & Smaldino, P. E. (2018). Cultural evolution of categorization.

Converse, J. M., & Presser, S. (1986). *Survey questions: Handcrafting the standardized questionnaire* (Vol. 63). Sage.

Cooper, D., & Schindler, P. (2011). *Business Research Methods*. McGraw Hill.

Cozzolino, A., Verona, G., & Rothaermel, F. T. (2018). Unpacking the disruption process: New technology, business models, and incumbent adaptation. *Journal of Management Studies*, *55*(7), 1166-1202.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.

Creswell, J. W. (2016). Reflections on the MMIRA the future of mixed methods task force report. *Journal of Mixed Methods Research*, *10*(3), 215-219.

Creswell, J. W., & Creswell, J. D. (2005). Mixed methods research: Developments, debates, and dilemmas. *Research in organizations: Foundations and methods of inquiry*, *2*, 315-326.

Cropley, D. H. (2009). Fostering and measuring creativity and innovation: individuals, organisations and products. *Measuring creativity*, 257-278.

Crotty, M. J. (1998). The foundations of social research: Meaning and perspective in the research process. *The foundations of social research*, 1-256.

Cudeck, R., Harring, J. R., & du Toit, S. H. (2009). Marginal maximum likelihood estimation of a latent variable model with interaction. *Journal of Educational and Behavioral Statistics*, *34*(1), 131-144.

Cumming, B. S. (1998). Innovation overview and future challenges. *European journal of innovation management*.

Cummins, D. (2014). The dark side of emotional intelligence. *Denise Cummins*.

Daft, R. L., & Becker, S. W. (1978). *The innovative organization: Innovation adoption in school organizations*. Elsevier Publishing Company.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal*, *34*(3), 555-590.

Damanpour, F. (1996). Organizational complexity and innovation: developing and testing multiple contingency models. *Management science*, *42*(5), 693-716.

Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic management journal*, *23*(12), 1095-1121.

Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-methods research: A discussion on its types, challenges, and criticisms. *Online Submission*, *2*(2), 25-36.

Day, D. V., & Antonakis, J. (2013). The future of leadership. *The Wiley-Blackwell handbook of the psychology of leadership, change, and organizational development*, 221-235.

De Brentani, U., & Kleinschmidt, E. J. (2004). Corporate culture and commitment: impact on performance of international new product development programs. *Journal of product innovation management*, *21*(5), 309-333.

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

De Hoogh, A. H., Den Hartog, D. N., Koopman, P. L., Thierry, H., Van den Berg, P. T., Van der Weide, J. G., & Wilderom, C. P. (2005). Leader motives, charismatic leadership, and subordinates' work attitude in the profit and voluntary sector. *The Leadership Quarterly*, *16*(1), 17-38.

Dellana, S. A., & Hauser, R. D. (2000). Corporate culture's impact on a strategic approach to quality. *American Journal of Business*.

Demirci, M. K., Gümüştekin, G. E., Mercan, N., Alamur, B., & Tiryaki, S. (2013, May). Machiavellianism in Relation to Ethical Leadership and a Practice. In *International Conference on Economic and Social Studies (ICESoS'13)* (Vol. 10, p. 11).

Denison, D. R., Haaland, S., & Goelzer, P. (2003). Corporate culture and organizational effectiveness: is there a similar pattern around the world? In *Advances in global leadership*. Emerald Group Publishing Limited.

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization science*, *6*(2), 204-223.

DeRue, D. S. (2011). Adaptive leadership theory: Leading and following as a complex adaptive process. *Research in organizational behavior*, *31*, 125-150.

Deshpande, R., & Farley, J. U. (2004). Organizational culture, market orientation, innovativeness, and firm performance: an international research odyssey. *International Journal of research in Marketing*, *21*(1), 3-22.

Deshpande, R., & Webster Jr, F. E. (1989). Organizational culture and marketing: Defining the research agenda. *Journal of marketing*, *53*(1), 3-15.

Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of management Review*, *25*(4), 850-863.

Dewar, R. D., & Dutton, J. E. (1986). The adoption of radical and incremental innovations: An empirical analysis. *Management science*, *32*(11), 1422-1433.

Dobni, C. B. (2008). Measuring innovation culture in organizations: The development of a generalized innovation culture construct using exploratory factor analysis. *European journal of innovation management*.

Dong, X. (2008). Symbolic Interactionism in Sociology of Education Textbooks in Mainland China: Coverage, Perspective and Implications. *International education studies*, *1*(3), 14-20.

Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: the role of leadership and multilevel climate perceptions. *Journal of applied psychology*, *90*(6), 1084.

Droge, C., Calantone, R., & Harmancioglu, N. (2008). New product success: is it really controllable by managers in highly turbulent environments?. *Journal of Product Innovation Management*, *25*(3), 272-286.

Drolet, A. L., & Morrison, D. G. (2001). Do we really need multiple-item measures in service research?. *Journal of service research*, *3*(3), 196-204.

Du Toit, J. L., & Mouton, J. (2013). A typology of designs for social research in the built environment. *International Journal of Social Research Methodology*, *16*(2), 125-139.

Duncan, B. L. (1976). Differential social perception and attribution of intergroup violence: Testing the lower limits of stereotyping of Blacks. *Journal of personality and social psychology*, *34*(4), 590.

Edmondson, A. C., & Mogelof, J. P. (2006). Explaining psychological safety in innovation teams: organizational culture, team dynamics, or personality?. In *Creativity and innovation in organizational teams* (pp. 129-156). Psychology Press.

Education Sector Performance Report (2018).

ElMelegy, A. R., Mohiuddin, Q., Boronico, J., & Maasher, A. A. (2016). Fostering creativity in creative environments: An empirical study of Saudi Architectural Firms. *Contemporary Management Research*, *12*(1).

Enosh, G., Tzafrir, S. S., & Stolovi, T. (2014, Online). The development of the Client Violence Questionnaire (CVQ). Journal of Mixed Methods Research. DOI: 1558689814525263

Ettlie, J. E. (1983). A note on the relationship between managerial change values, innovative intentions and innovative technology outcomes in food sector firms. *R&D Management*, *13*(4), 231-244.

Ettlie, J. E., Bridges, W. P., & O'keefe, R. D. (1984). Organization strategy and structural differences for radical versus incremental innovation. *Management science*, *30*(6), 682-695.

Faltas, I. M. (2018). *Effect of administrative practices on law enforcement officers' emotional intelligence and behavior*. (Unpublished Doctoral dissertation, Walden University).

Farooq, R. (2018). Developing a conceptual framework of knowledge management. *International Journal of Innovation Science*.

Farr, J. L., & Ford, C. M. (1990). Individual innovation.

Favero, N., & Bullock, J. B. (2015). How (not) to solve the problem: An evaluation of scholarly responses to common source bias. *Journal of Public Administration Research and Theory*, *25*(1), 285-308.

Fincham, J. E. (2008). Response rates and responsiveness for surveys, standards, and the Journal. *American journal of pharmaceutical education*, *72*(2).

Fiordelisi, F., & Ricci, O. (2014). Corporate culture and CEO turnover. *Journal of Corporate Finance*, *28*, 66-82.

Flynn, T. (2009). *Existentialism*. Sterling Publishing Company, Inc..

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management review*, *21*(4), 1112-1142.

Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing research*, *19*(4), 440-452.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.

Fraj, E., Matute, J., & Melero, I. (2015). Environmental strategies and organizational competitiveness in the hotel industry: The role of learning and innovation as determinants of environmental success. *Tourism management*, *46*, 30-42.

Francis, D., & Bessant, J. (2005). Targeting innovation and implications for capability development. *Technovation*, *25*(3), 171-183.

Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of counseling psychology*, *51*(1), 115.

Freeman, R. B. (1984). Longitudinal analyses of the effects of trade unions. *Journal of labor Economics*, *2*(1), 1-26.

Gabriel, D., Sait, S. M., Kunin, W. E., & Benton, T. G. (2013). Food production vs. biodiversity: comparing organic and conventional agriculture. *Journal of applied ecology*, *50*(2), 355-364.

Galunic, D. C., & Eisenhardt, K. M. (2001). Architectural innovation and modular corporate forms. *Academy of Management journal*, *44*(6), 1229-1249.

Galunic, D. C., & Rodan, S. (1998). Resource recombinations in the firm: Knowledge structures and the potential for Schumpeterian innovation. *Strategic management journal*, *19*(12), 1193-1201.

García-Morales, V. J., Matías-Reche, F., & Hurtado-Torres, N. (2008). Influence of transformational leadership on organizational innovation and performance depending on the level of organizational learning in the pharmaceutical sector. *Journal of organizational change management*.

Gardner, L., & Stough, C. (2002). Examining the relationship between leadership and emotional intelligence in senior level managers. *Leadership & organization development journal*.

Gatignon, H., Tushman, M. L., Smith, W., & Anderson, P. (2002). A structural approach to assessing innovation: Construct development of innovation locus, type, and characteristics. *Management science*, *48*(9), 1103-1122.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the association for information systems*, *4*(1), 7.

George, J. M. (2000). Emotions and leadership: The role of emotional intelligence. *Human relations*, *53*(8), 1027-1055.

George, J. M., & Jones, G. R. (1997). Organizational spontaneity in context. *Human performance*, *10*(2), 153-170.

Ghana. Statistical Service. (2014). *Ghana Living Standards Survey Round 6 (GLSS 6).: Poverty profile in Ghana (2005-2013)*.

Gialuisi, O., & Coetzer, A. (2013). An exploratory investigation into voluntary employee turnover and retention in small businesses. *Small Enterprise Research*, *20*(1), 55-68.

Giustiniano, L., Lombardi, S., & Cavaliere, V. (2016). How knowledge collecting fosters organizational creativity. *Management Decision*.

Gloet, M., & Terziovski, M. (2004). Exploring the relationship between knowledge management practices and innovation performance. *Journal of manufacturing technology management*.

Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harvard University Press.

Goleman, D. (1995). *Emotional intelligence*. Bantam Books, Inc.

Goleman, D. (1998) *Working with emotional intelligence*. Bantam Books, New York. Goleman, D. (2001). An EI-Based Theory of Performance. In C. Cherniss, & D. Goleman (Eds.), The Emotionally Intelligent Workplace (pp. 27-44). Jossey-Bass.

Goleman, D. (2002). Emotional intelligence: Five years later. *New Horizons for learning*.

Goleman, D., Boyatzis, R. E., & McKee, A. (2002). The new leaders: Transforming the art of leadership into the science of results.

Gondwe, M., & Walenkamp, J. (2011). Alignment of higher professional education with the needs of the local labour market: The case of Ghana. *The Hague: NUFFIC and The Hague University of Applied Sciences*.

Gonzalez, O., MacKinnon, D. P., & Muniz, F. B. (2021). Extrinsic convergent validity evidence to prevent jingle and jangle fallacies. *Multivariate Behavioral Research*, *56*(1), 3-19.

González, X., Miles-Touya, D., & Pazó, C. (2016). R&D, worker training and innovation: Firm-level evidence. *Industry and Innovation*, *23*(8), 694-712.

Gorzelany, J., Gorzelany–Dziadkowiec, M., Luty, L., Firlej, K., Gaisch, M., Dudziak, O., & Scott, C. (2021). Finding links between organisation's culture and innovation. The impact of organisational culture on university innovativeness. *Plos one*, *16*(10), p.e0257962.

Green, H. E. (2014). Use of theoretical and conceptual frameworks in qualitative research. *Nurse researcher*, *21*(6).

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *The milbank quarterly*, *82*(4), 581-629.

Guba, E. G. (1990). The paradigm dialog. In *Alternative paradigms conference, mar, 1989, indiana u, school of education, san francisco, ca, us*. Sage Publications, Inc.

Gudmundson, D., Tower, C. B., & Hartman, E. A. (2003). Innovation in small businesses: Culture and ownership structure do matter. *Journal of Developmental entrepreneurship*, *8*(1), 1.

Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of business research*, *62*(4), 461-473.

Gunkel, M., Schlägel, C., & Engle, R. L. (2014). Culture's influence on emotional intelligence: An empirical study of nine countries. *Journal of International Management*, *20*(2), 256-274.

Gunzler, D., Chen, T., Wu, P., & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai archives of psychiatry*, *25*(6), 390.

Guo, J., Pan, J., Guo, J., Gu, F., & Kuusisto, J. (2019). Measurement framework for assessing disruptive innovations. *Technological Forecasting and Social Change*, *139*, 250-265.

Gupta, A. K. (2007). Towards an inclusive innovation model for sustainable development. *Global Business Policy Council of AT Kearney–CEO's Retreat, Dubai*, 9-11.

Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of management journal*, *49*(4), 693-706.

Gupta, R., & Bajaj, B. (2017). The relationship between leader's emotional intelligence and employee creativity: A conceptual framework of mechanism. *Procedia computer science*, *122*, 471-477.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis: A global perspective.

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107-123.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-151.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*.

Hair Jr, J. F., Sarstedt, M., Matthews, L. M., & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I–method. *European business review*.

Hajjar, S. T. (2018). Statistical analysis: internal-consistency reliability and construct validity. *International Journal of Quantitative and Qualitative Research Methods*, *6*(1), 46-57.

Hamel, G. (1999). Bringing silicon valley inside. *Harvard business review*, *77*(5), 71-71.

Hamel, G. (2006). The why, what, and how of management innovation. *Harvard business review*, *84*(2), 72.

Hampden-Turner, C. (1990). *Corporate culture*. Hutchinson.

Han, H. (2012). The relationship among corporate culture, strategic orientation, and financial performance. *Cornell Hospitality Quarterly*, *53*(3), 207-219.

Hannah, S. T., Schaubroeck, J. M., & Peng, A. C. (2016). Transforming followers' value internalization and role self-efficacy: Dual processes promoting performance and peer norm-enforcement. *Journal of Applied Psychology*, *101*(2), 252.

Hao, M. J., & Yazdanifard, R. (2015). How effective leadership can facilitate change in organizations through improvement and innovation. *Global journal of management and business research*, *15*(9), 1-6.

Harkema, S. (2003). A complex adaptive perspective on learning within innovation projects. *The learning organization*.

Harrison, J. K., & Clough, M. W. (2006). Characteristics of "state of the art" leaders: Productive narcissism versus emotional intelligence and Level 5 capabilities. *The social science Journal*, *43*(2), 287-292.

Hartmann, A. (2006). The role of organizational culture in motivating innovative behaviour in construction firms. *Construction innovation*.

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational effectiveness: a meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of applied psychology*, *96*(4), 677.

Hatch, M. J. (1993). The dynamics of organizational culture. *Academy of management review*, *18*(4), 657-693.

Hazem, S. M., & Zehou, S. (2019, August). Organizational culture and innovation: A literature review. In *2019 3rd International Conference on Education, Culture and Social Development (ICECSD 2019)* (pp. 465-472). Atlantis Press.

He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization science*, *15*(4), 481-494.

Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative science quarterly*, 9-30.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*(1), 115-135.

Heron, J. (1996). Quality as primacy of the practical. *Qualitative Inquiry*, *2*(1), 41-56.

Hess, J. D. (2014). Enhancing innovation processes through the application of emotional Intelligence skills. *Review Pub Administration Manag*, *2*(143), 2.

Hess, J. D., & Bacigalupo, A. C. (2011). Enhancing decisions and decision-making processes through the application of emotional intelligence skills.

Higgs, M., & Dulewicz, V. (2016). *Leading with emotional intelligence*. Palgrave Macmillan.

Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of business research*, *67*(8), 1609-1621.

Holbert, R. L., & Stephenson, M. T. (2002). Structural equation modeling in the communication sciences, 1995–2000. *Human Communication Research*, *28*(4), 531-551.

House, R. J., & Howell, J. M. (1992). Personality and charismatic leadership. *The Leadership Quarterly*, *3*(2), 81-108.

Hoyle, R. H., & Smith, G. T. (1994). Formulating clinical research hypotheses as structural equation models: a conceptual overview. *Journal of consulting and clinical psychology*, *62*(3), 429.

Humphrey, R. H. (2002). The many faces of emotional leadership. *The leadership quarterly*, *13*(5), 493-504.

Hunter, S. T., Bedell, K. E., & Mumford, M. D. (2007). Climate for creativity: A quantitative review. *Creativity research journal*, *19*(1), 69-90.

Hurley, R. F. (1995). Group culture and its effect on innovative productivity. *Journal of Engineering and Technology Management*, *12*(1-2), 57-75.

Hyde, J., & Grieve, R. (2018). The dark side of emotion at work: Emotional manipulation in everyday and work place contexts. *Personality and Individual Differences*, *129*, 108-113.

Imenda, S. (2014). Is there a conceptual difference between theoretical and conceptual frameworks?. *Journal of social sciences*, *38*(2), 185-195.

Inyang, B. J. (2013). Defining the role engagement of small and medium-sized enterprises (SMEs) in corporate social responsibility (CSR). *International business research*, *6*(5), 123.

Isaksen, S. G. (2017). Leadership's role in creative climate creation. In *Handbook of research on leadership and creativity* (pp. 131-158). Edward Elgar Publishing.

Islam, T., Ahmad, U. N. B. U., Ali, G., Ahmed, I., & Bowra, Z. A. (2013). Turnover intentions: The influence of perceived organizational support and organizational commitment. *Procedia-Social and Behavioral Sciences*, 103, 1238-1242.

Ismail, T. (2016). Culture control, capability and performance: Evidence from creative industries in Indonesia. *Asian Review of Accounting*.

Jackson, E. T. (2013). Evaluating social impact bonds: Questions, challenges, innovations, and possibilities in measuring outcomes in impact investing. *Community Development*, *44*(5), 608-616.

Jafri, M. H., Dem, C., & Choden, S. (2016). Emotional intelligence and employee creativity: Moderating role of proactive personality and

organizational climate. *Business Perspectives and Research*, *4*(1), 54-66.

Jaiswal, N. K., & Dhar, R. L. (2015). Transformational leadership, innovation climate, creative self-efficacy and employee creativity: A multilevel study. *International journal of hospitality management*, *51*, 30-41.

Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management science*, *52*(11), 1661-1674.

Jansen van Rensburg, A. S. (2018). *Exploring the impact of emotional intelligence training in the workplace* (Unpublished Doctoral dissertation).

Janssen, O. (2005). The joint impact of perceived influence and supervisor supportiveness on employee innovative behaviour. *Journal of occupational and organizational psychology*, *78*(4), 573-579.

Jaskyte, K. (2004). Transformational leadership, organizational culture, and innovativeness in nonprofit organizations. *Nonprofit Management and Leadership*, *15*(2), 153-168.

Jeon, J. (2015). The strengths and limitations of the statistical modeling of complex social phenomenon: Focusing on SEM, path analysis, or multiple regression models. *International Journal of Economics and Management Engineering*, *9*(5), 1634-1642.

Johnson, P., & Gill, J. (2010). Research methods for managers. *Research Methods for Managers*, 1-288.

Johnson, S. D. (1990). Toward clarifying culture, race, and ethnicity in the context of multicultural counseling. *Journal of Multicultural Counseling and Development*.

Joo, B. K., & Lim, T. (2013). Transformational leadership and career satisfaction: The mediating role of psychological empowerment. *Journal of Leadership & Organizational Studies*, *20*(3), 316-326.

Jorfi, H., Jorfi, S., & Moghadam, K. (2010). Impact of emotional intelligence on performance of employees. *Postmodern Openings*, *1*(4), 63-74.

Jung, T., Scott, T., Davies, H. T., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public administration review*, *69*(6), 1087-1096.

Kaasa, A., & Vadi, M. (2010). How does culture contribute to innovation? Evidence from European countries. *Economics of innovation and new technology*, *19*(7), 583-604.

Kalaiarasi, V., & Sethuram, S. (2017). Literature review on organization culture and its influence. *International Journal of Advanced Research in Engineering & Management (IJAREM)*, *3*(8), 9-14.

Kamisan, P. A., & King, B. E. M. (2013). Transactional and transformational leadership: A comparative study of the difference between Tony Fernandes (Airasia) and Idris Jala (Malaysia Airlines) leadership styles from 2005-2009. *International Journal of Business and Management*, *8*(24), 107-116.

Kang, S. C., & Snell, S. A. (2009). Intellectual capital architectures and ambidextrous learning: a framework for human resource management. *Journal of management studies*, *46*(1), 65-92.

Kariuki, M., Wanjau, K. L., & Gakure, R. W. (2011). Relationship between Corporate Governance and Growth of Organizations: A survey of Companies listed in Nairobi Stock Exchange. In *Proceedings of Kabarak University First International Conference*.

Kark, R., & Carmeli, A. (2009). Alive and creating: The mediating role of vitality and aliveness in the relationship between psychological safety and creative work involvement. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *30*(6), 785-804.

Kasim, N. M., & Zakaria, M. N. (2019). The Significance of Entrepreneurial Leadership and Sustainability Leadership (Leadership 4.0) towards Malaysian School Performance. *International Journal of Entrepreneurship*, *2*(8), 27-47.

Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of management journal*, *45*(6), 1183-1194.

Kelemen, M. L., & Rumens, N. (2008). *An introduction to critical management research*. Sage.

Kerlinger, F. N., Lee, H. B., & Bhanthumnavin, D. (2000). Foundations of behavioral research: The most sustainable popular textbook by Kerlinger & Lee (2000). *Journal of Social Development*, *13*, 131-144.

Khazanchi, S., Lewis, M. W., & Boyer, K. K. (2007). Innovation-supportive culture: The impact of organizational values on process innovation. *Journal of operations management*, *25*(4), 871-884.

Kilduff, M., Chiaburu, D. S., & Menges, J. I. (2010). Strategic use of emotional intelligence in organizational settings: Exploring the dark side. *Research in organizational behavior*, *30*, 129-152.

Kimberly, J. R., & Evanisko, M. J. (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of management journal*, *24*(4), 689-713.

Klem, C., & Schlechter, A. F. (2008). The relationship between leader emotional intelligence and psychological climate: An exploratory study. *South African Journal of Business Management*, *39*(2), 9-23.

Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for information Systems*, *13*(7).

Koetzier, W., & Alon, A. (2013). Why "low risk" innovation is costly: Overcoming the perils of renovation and invention. *Accenture report, https://www. google. ca/url*.

Kohlenberg, R. J., Hayes, S. C., & Tsai, M. (1993). Radical behavioral psychotherapy: Two contemporary examples. *Clinical Psychology Review*, *13*(6), 579-592.

Korkmaz, T., & Arpacı, E. (2009). Relationship of organizational citizenship behavior with emotional intelligence. *Procedia-Social and Behavioral Sciences*, *1*(1), 2432-2435.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Kozbelt, A., Beghetto, R. A., & Runco, M. A. (2010). Theories of creativity.

Kratzer, J., Meissner, D., & Roud, V. (2017). Open innovation and company culture: Internal openness makes the difference. *Technological Forecasting and Social Change*, *119*, 128-138.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Lacatus, M. L. (2013). Organizational culture in contemporary university. *Procedia-Social and Behavioral Sciences*, *76*, 421-425.

Lau, C. M., & Ngo, H. Y. (2004). The HR system, organizational culture, and product innovation. *International business review*, *13*(6), 685-703.

Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. *Journal of management information systems*, *20*(1), 179-228.

Lee, J., & Yazdanifard, R. (2013). The relationship between emotional intelligence, transformational leadership and organizational culture. *Research Gate*.

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research* (Vol. 108). Pearson Custom.

Lester, F. K. (2005). On the theoretical, conceptual, and philosophical foundations for research in mathematics education. *Zdm*, *37*(6), 457-467.

Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic management journal*, *14*(S2), 95-112.

Liehr, P., & Smith, M. J. (1999). Middle range theory: Spinning research and practice to create knowledge for the new millennium. *Advances in Nursing Science*, *21*(4), 81-91.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology*.

Livesey, P. V. (2017). Goleman-Boyatzis model of emotional intelligence for dealing with problems in project management. *Construction Economics and Building*, *17*(1), 20-45.

Longenecker, C. O., Neubert, M. J., & Fink, L. S. (2007). Causes and consequences of managerial failure in rapidly changing organizations. *Business Horizons*, *50*(2), 145-155.

Lord, R. G., & Brown, D. J. (2001). Leadership, values, and subordinate self-concepts. *The Leadership Quarterly*, *12*(2), 133-152.

Lubart, T. I. (1999). *17 Creativity across cultures* (pp. 339-350). Cambridge University Press.

Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of management*, *32*(5), 646-672.

Lubit, R. (2004). The tyranny of toxic Managers: An emotional intelligence approach to dealing with difficult personalities. *Ivey Business Journal*, *2*.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management Review*, *21*(1), 135-172.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of business venturing*, *16*(5), 429-451.

Magnusson, P. R., Matthing, J., & Kristensson, P. (2003). Managing user involvement in service innovation: Experiments with innovating end users. *Journal of Service Research*, *6*(2), 111-124.

Mahon, E. G., Taylor, S. N., & Boyatzis, R. E. (2014). Antecedents of organizational engagement: exploring vision, mood and perceived organizational support with emotional intelligence as a moderator. *Frontiers in psychology*, *5*, 1322.

Maital, S., & Seshadri, D. V. R. (2012). *Innovation management: strategies, concepts and tools for growth and profit*. SAGE Publications India.

Malhotra, N. K., Birks, D. F., & Wills, P. (2013). *Essentials of marketing research*. Pearson Education.

Maqbool R., Sudong, Y., Manzoor, N., & Rashid, Y. (2017). The impact of emotional intelligence, project managers' competencies, and transformational leadership on project success: An empirical perspective. *Project Management Journal*, *48*(3), 58-75

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, *2*(1), 71-87.

Marcoulides, G. A., Chin, W. W., & Saunders, C. (2009). A critical look at partial least squares modeling. *MIS quarterly*, *33*(1), 171-175.

Maroto, A., & Rubalcaba, L. (2008). Services productivity revisited. *The Service Industries Journal*, *28*(3), 337-353.

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

Martins, E. C., & Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European journal of innovation management*.

Massaro, M., Bardy, R., & Pitts, M. (2012). Supporting creativity through knowledge integration during the creative processes. A management control system perspective. *Electronic Journal of Knowledge Management*, *10*(3), 258-267.

Matthews, G., Zeidner, M., & Roberts, B. (2002). Transformational leadership: Industry, military, and educational impact.

Mayer, J. D., Caruso, D. R., & Salovey, P. (1997). Emotional Intelligence Meets.

McClelland, D. C. (1965). Toward a theory of motive acquisition. *American psychologist*, *20*(5), 321.

McCleskey, J. A. (2014). Situational, transformational, and transactional leadership and leadership development. *Journal of business studies quarterly*, *5*(4), 117.

McMurray, A. J., & Dorai, R. (2003, May). Workplace innovation scale: A new method for measuring innovation in the workplace. In *The 5th European*

Conference on Organizational Knowledge, Learning and Capabilities (OKLC 2003).

Mensah, R. O., Agyemang, F., Acquah, A., Babah, P. A., & Dontoh, J. (2020). Discourses on Conceptual and Theoretical Frameworks in Research: Meaning and Implications for Researchers. *Journal of African Interdisciplinary Studies*, *4*(5), 53-64.

Menzel, H. C., Aaltio, I., & Ulijn, J. M. (2007). On the way to creativity: Engineers as intrapreneurs in organizations. *Technovation*, *27*(12), 732-743.

Michaelis, B., Stegmaier, R., & Sonntag, K. (2010). Shedding light on followers' innovation implementation behavior: The role of transformational leadership, commitment to change, and climate for initiative. *Journal of Managerial Psychology*.

Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other?. *Journal of organizational behavior*, *25*(2), 175-199.

Moghadam, S. K., Jorfi, H., & Jorfi, S. (2010) Impact of emotional intelligence on performance of employees. *Postmodern Openings*, *1*(4), 63-74.

Momeni, N. (2009). The relation between managers' emotional intelligence and the organizational climate they create. *Public personnel management*, *38*(2), 35-48.

Mozammel, S., & Haan, P. (2016). Transformational leadership and employee engagement in the banking sector in Bangladesh. *The Journal of Developing Areas*, *50*(6), 43-55.

Mugenda, A. G., & Mugenda, A. G. (2008). Social science research: Theory and principles.

Mumford, M. D., & Connelly, M. S. (1999). Leadership, encyclopedia of creativity.

Murphy, P. J., Cooke, R. A., & Lopez, Y. (2013). Firm culture and performance: intensity's effects and limits. *Management Decision*.

Nagy, A. (2014). The orientation towards innovation of spa hotel management: the case of Romanian spa industry. *Procedia-Social and Behavioral Sciences*, *124*, 425-431.

Naqshbandi, M. M., Kaur, S., & Ma, P. (2015). What organizational culture types enable and retard open innovation?. *Quality & Quantity*, *49*(5), 2123-2144.

Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation or imitation? The role of organizational culture. *Management decision*.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language teaching research*, *19*(2), 129-132.

Neelankavil, J. P. (2015). *International business research*. Routledge.

Nelson, R. R., & Winter, S. G. (1982). The Schumpeterian tradeoff revisited. *The American Economic Review*, *72*(1), 114-132.

Neuman, D. (2014). Qualitative research in educational communications and technology: A brief introduction to principles and procedures. *Journal of Computing in Higher Education*, *26*(1), 69-86.

Neuman, L. W. (2007). *Social research methods* (6th ed.)Pearson Education India.

Neuman, W. L., & Wiegand, B. (2000). *Criminal justice research methods: Qualitative and quantitative approaches*. Allyn and bacon.

Nitzl, C. (2016). The use of partial least squares structural equation modeling (PLS-SEM) in management accounting research: Directions for future theory development. *Journal of Accounting Literature*.

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial management & data systems*.

Nongo, E. S., & Ikyanyon, D. N. (2012). The influence of corporate culture on employee commitment to the organization. *International Journal of Business and Management*, *7*(22), 21-28.

O'reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, cults, and commitment.

O'Reilly, C. A., & Tushman, M. L. (1997). Using culture for strategic advantage: promoting innovation through social control. *Managing strategic innovation and change: A collection of readings*, 200-216.

O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard business review*, *82*(4), 74-83.

O'Reilly III, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in organizational behavior*, *28*, 185-206.

Obenchain, A. M., Johnson, W. C., & Dion, P. A. (2004). Institutional types, organizational cultures, and innovation in Christian colleges and universities. *Christian higher education*, *3*(1), 15-39.

O'Connor, C. (2019). *The origins of unfairness: Social categories and cultural evolution*. Oxford University Press, USA.

Ofori, R., & Dampson, D. G. (2011). Research methods and statistics using SPSS. *Amakom-Kumasi: Payless Publication Limited*.

Ogbonna, E., & Harris, L. C. (2000). Leadership style, organizational culture and performance: empirical evidence from UK companies. *international Journal of human resource management*, *11*(4), 766-788.

Olayisade, A., & Awolusi, O. D. (2021). The Effect of Leadership Styles on Employee's Productivity in the Nigerian Oil and Gas Industry. *Information Management and Business Review*, *13*(1 (I)), 47-64.

Onwuegbuzie, A. J., Johnson, R. B., & Collins, K. M. (2009). Call for mixed analysis: A philosophical framework for combining qualitative and quantitative approaches. *International journal of multiple research approaches*, *3*(2), 114-139.

Orhan, N., & Dincer, H. (2012). The impacts of emotional intelligence competency on job satisfaction in the service sector: An application on the Turkish banking sector. *Asian Economic and Financial Review*, *2*(5), 617-634.

Pallant, J. F., Dixon, L., Sidebotham, M., & Fenwick, J. (2016). Adaptation and psychometric testing of the Practice Environment Scale for use with midwives. *Women and Birth*, *29*(1), 24-29.

Parris, D. L., & Peachey, J. W. (2013). Encouraging servant leadership: A qualitative study of how a cause-related sporting event inspires participants to serve. *Leadership*, *9*(4), 486-512.

Pathiranage, Y. L., Jayatilake, L. V., & Abeysekera, R. (2020). A literature review on organizational culture towards corporate performance. *International journal of management, accounting and economics*, *7*(9), 522-544.

Peltokorpi, A., Alho, A., Kujala, J., Aitamurto, J., & Parvinen, P. (2008). Stakeholder approach for evaluating organizational change projects. *International journal of health care quality assurance*.

Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating

individual creativity. *Academy of Management journal*, *49*(1), 85-101.

Petzold, N., Landinez, L., & Baaken, T. (2019). Disruptive innovation from a process view: A systematic literature review. *Creativity and Innovation Management*, *28*(2), 157-174.

Pichlak, M. (2012). Determinants of Organization Innovativeness. A theoretical study and empirical research findings.

Pinho, J. C., Rodrigues, A. P., & Dibb, S. (2014). The role of corporate culture, market orientation and organisational commitment in organisational performance: the case of non-profit organisations. *Journal of management development*.

Pirola-Merlo, A., Härtel, C., Mann, L., & Hirst, G. (2002). How leaders influence the impact of affective events on team climate and performance in R&D teams. *The leadership quarterly*, *13*(5), 561-581.

Pirola-Merlo, A., & Mann, L. (2004). The relationship between individual creativity and team creativity: Aggregating across people and time. *Journal of Organizational behavior*, *25*(2), 235-257.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, *63*(1), 539-569.

Pollitt, C., & Bouckaert, G. (2017). *Public management reform: A comparative analysis-into the age of austerity*. Oxford university press.

Porac, J. F., & Meindl, J. (1982). Undermining overjustification: Inducing intrinsic and extrinsic task representations. *Organizational Behavior and Human Performance*, *29*(2), 208-226.

Porter-O'Grady, T., & Malloch, K. (Eds.). (2010). *Innovation leadership: Creating the landscape of healthcare*. Jones & Bartlett Learning.

Potters, L. (2009). *Innovation input and innovation output: differences among sectors* (No. 10/2009). IPTS Working Papers on Corporate R&D and Innovation.

Puccio, G. J., Murdock, M. C., & Mance, M. (2007). Change, Leadership, and Creativity: the powerful connection. *Creative Leadership: skills that drive change*.

Punnett, B. J., & Greenidge, D. (2009). Cultural mythology and global leadership in the Caribbean islands. *Cultural mythology and global leadership*, 65-78.

Radaelli, G., Lettieri, E., Mura, M., & Spiller, N. (2014). Knowledge sharing and innovative work behaviour in healthcare: A micro-level investigation of direct and indirect effects. *Creativity and Innovation Management*, *23*(4), 400-414.

Rafferty, A. E., & Griffin, M. A. (2004). Dimensions of transformational leadership: Conceptual and empirical extensions. *The leadership quarterly*, *15*(3), 329-354.

Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of management*, *34*(3), 375-409.

Rakic, K. (2020). Breakthrough and disruptive innovation: A theoretical reflection. *Journal of technology management & innovation*, *15*(4), 93-104.

Rasool, F., Koomsap, P., Afsar, B., & Panezai, B. A. (2018). A framework for disruptive innovation. *Foresight*.

Ravasi, D., & Schultz, M. (2006). Responding to organizational identity threats: Exploring the role of organizational culture. *Academy of management journal*, *49*(3), 433-458.

Ravitch, S. M., & Carl, N. M. (2016). Validity: Process, strategies, and considerations. *Qualitative research: Bridging the conceptual, theoretical, and methodological*, 185-214.

Rego, A., Sousa, F., Pina e Cunha, M., Correia, A., & Saur-Amaral, I. (2007). Leader self-reported emotional intelligence and perceived employee creativity: An exploratory study. *Creativity and innovation management*, *16*(3), 250-264.

Rezvani, A., Khosravi, P., & Ashkanasy, N. M. (2018). Examining the interdependencies among emotional intelligence, trust, and performance in infrastructure projects: A multilevel study. *International Journal of Project Management*, *36*(8), 1034-1046.

Ricard, L. M., Klijn, E. H., Lewis, J. M., & Ysa, T. (2017). Assessing public leadership styles for innovation: A comparison of Copenhagen, Rotterdam and Barcelona. *Public Management Review*, *19*(2), 134-156.

Ritzer, G. (Ed.). (2004). *Encyclopedia of social theory*. Sage publications.

Rosete, D., & Ciarrochi, J. (2005). Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadership & Organization Development Journal*.

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The leadership quarterly*, *22*(5), 956-974.

Rothgeb, M. K. (2008). Creating a nursing simulation laboratory: A literature review. *Journal of Nursing Education*, *47*(11), 489-494.

Russell, R. D. (1990). Innovation in organizations: Toward an integrated model. *Review of Business*, *12*(2), 19-28.

Ruvio, A. A., Shoham, A., Vigoda-Gadot, E., & Schwabsky, N. (2014). Organizational innovativeness: Construct development and cross-cultural validation. *Journal of Product Innovation Management*, *31*(5), 1004-1022.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, *25*(1), 54-67.

Saffold III, G. S. (1988). Culture traits, strength, and organizational performance: Moving beyond "strong" culture. *Academy of management review*, *13*(4), 546-558.

Salaman, G., & Storey, J. (2005). Achieving "fit": Managers' theories of how to manage innovation. *Strategic human resource management: Theory and practice. A reader*, 91-115.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, cognition and personality*, *9*(3), 185-211.

Sanchez, R., & Mahoney, J. T. (1996). Modularity, flexibility, and knowledge management in product and organization design. *Strategic management journal*, *17*(S2), 63-76.

Sánchez-Báez, E. A., Fernández-Serrano, J., & Romero, I. (2020). Organizational culture and innovation in small businesses in Paraguay. *Regional science policy & practice*, *12*(2), 233-247.

Santos-Vijande, M. L., & Álvarez-González, L. I. (2007). Innovativeness and organizational innovation in total quality oriented firms: The moderating role of market turbulence. *Technovation*, *27*(9), 514-532.

Saunders, C. D. (2003). The emerging field of conservation psychology. *Human ecology review*, 137-149.

Saunders, F., Gilek, M., Day, J., Hassler, B., McCann, J., & Smythe, T. (2019). Examining the role of integration in marine spatial planning: Towards an analytical framework to understand challenges in diverse settings. *Ocean & Coastal Management*, *169*, 1-9.

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

Saunders, M. N., Lewis, P., Thornhill, A., & Bristow, A. (2015). Understanding research philosophy and approaches to theory development.

Saunders, M. N., & Rojon, C. (2014). There's no madness in my method: explaining how your coaching research findings are built on firm foundations. *Coaching: An International Journal of Theory, Research and Practice*, *7*(1), 74-83.

Schein, E.H. (1992). Organization Culture and Leadership. (2nd ed.). Jossey-Bass.

Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2). John Wiley & Sons.

Schein, E. H., & Scheiner, P. (2016). Defining The Structure Of Culture. *Organizational Culture and Leadership*, 1-76.

Schein, R. (2015). Educating Americans for" Overseasmanship": The Peace Corps and the Invention of Culture Shock. *American Quarterly*, *67*(4), 1109-1136.

Schein, V. E. (1985). Organizational realities: The politics of change. *Training & Development Journal*.

Schimmoeller, L. J. (2010). Leadership styles in competing organizational cultures. *Leadership Review*, *10*(2), 125-141.

Schlaerth, A., Ensari, N., & Christian, J. (2013). A meta-analytical review of the relationship between emotional intelligence and leaders' constructive conflict management. *Group Processes & Intergroup Relations*, *16*(1), 126-136.

Schmidt, G. M., & Druehl, C. T. (2008). When is a disruptive innovation disruptive?. *Journal of product innovation management*, *25*(4), 347-369.

Schneider, B., González-Romá, V., Ostroff, C., & West, M. A. (2017). Organizational climate and culture: Reflections on the history of the constructs in the Journal of Applied Psychology. *Journal of applied psychology*, *102*(3), 468.

Sciulli, L. M. (1998). How organizational structure influences success in various types of innovation. *Journal of Retail Banking Services*, *20*(1), 13-19.

Scott Jr, W. E., Farh, J. L., & Podsakoff, P. M. (1988). The effects of "intrinsic" and "extrinsic" reinforcement contingencies on task behavior. *Organizational Behavior and Human Decision Processes*, *41*(3), 405-425.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.

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), 933-958.

Shanthakumary, M. C. M. A., & Nirushika, G. (2020). The effect of work environment on employees' job satisfaction in selected state sector organizations in jaffna district.

Shikanda, E. W., & Okibo, B. W. (2011). Effects of organizational culture on innovation in services industry: A case study of Postal Corporation of Kenya.

Shojaei, M., & Siuki, M. (2014). A study of relationship between emotional intelligence and innovative work behavior of managers. *Management Science Letters*, *4*(7), 1449-1454.

Simon, M. K., & Goes, J. (2011). Developing a theoretical framework. *Seattle, WA: Dissertation Success, LLC*, 13-18.

Sin, K. P., & Yazdanifard, R. (2013). The Comparison between Two Main Leaders of Cell phone Industries (Apple and Samsung) versus Blackberry and Nokia, in terms of Pricing Strategies and Market Demands.

Sinclair, M. (2007). A guide to understanding theoretical and conceptual frameworks. *Evidence-Based Midwifery*, *5*(2), 39-40.

Sjölund, M., & Gustafsson, H. (2001). Outcome study of a leadership development assessment and training program based on emotional intelligence. Educating people to be emotionally intelligent.

Škerlavaj, M., Song, J. H., & Lee, Y. (2010). Organizational learning culture, innovative culture and innovations in South Korean firms. *Expert systems with applications*, *37*(9), 6390-6403.

Slater, S. F., Olson, E. M., & Finnegan, C. (2011). Business strategy, marketing organization culture, and performance. *Marketing letters*, *22*(3), 227-242.

Slåtten, T., Svensson, G., & Sværi, S. (2011). Empowering leadership and the influence of a humorous work climate on service employees' creativity and innovative behaviour in frontline service jobs. *International Journal of Quality and Service Sciences*.

Slimane, M. (2015). Relationship between innovation and leadership. *Procedia-Social and Behavioral Sciences*, *181*, 218-227.

Smith, W. K., & Tushman, M. L. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization science*, *16*(5), 522-536.

Sok, J., Blomme, R., & Tromp, D. (2014). Positive and negative spillover from work to home: The role of organizational culture and supportive arrangements. *British Journal of Management*, *25*(3), 456-472.

Sood, A., & Tellis, G. J. (2005). Technological evolution and radical innovation. *Journal of marketing*, *69*(3), 152-168.

Sosik, J. J. (2005). The role of personal values in the charismatic leadership of corporate managers: A model and preliminary field study. *The leadership quarterly*, *16*(2), 221-244.

Sosik, J. J., Kahai, S. S., & Piovoso, M. J. (2009). Silver bullet or voodoo statistics? A primer for using the partial least squares data analytic technique in group and organization research. *Group & Organization Management*, *34*(1), 5-36.

Sosik, J. J., & Megerian, L. E. (1999). Understanding leader emotional intelligence and performance: The role of self-other agreement on transformational leadership perceptions. *Group & organization management*, *24*(3), 367-390.

Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the royal statistical society: Series B (Methodological)*, *36*(2), 111-133.

Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management journal*, *48*(3), 450-463.

Sun, S. (2008). Organizational culture and its themes. *International Journal of Business and Management*, *3*(12), 137-141.

Sundbo, J., Orfila-Sintes, F., & Sørensen, F. (2007). The innovative behaviour of tourism firms—Comparative studies of Denmark and Spain. *Research policy*, *36*(1), 88-106.

Suroso, E., & Azis, Y. (2015). Defining mainstreams of innovation: a literature review. In *International Conference on Economics and Banking (iceb-15)* (pp. 387-398). Atlantis Press.

Suwandana, I. G. M. (2019). Role of transformational leadership mediation: effect of emotional and communication intelligence towards teamwork effectiveness. *International research journal of management, IT and social sciences*, *6*(2), 52-62.

Swanger, D. (2016). Community colleges partners in community development: approaches to developing our regions. *Planning for Higher Education*, *45*(1), 13-50.

Taber, B. J. (2013). Time perspective and career decision-making difficulties in adults. *Journal of Career Assessment*, *21*(2), 200-209.

Taber, K. S. (2017). Reflecting the nature of science in science education. In *Science Education* (pp. 21-37). Brill.

Takamatsu, T., & Tomita, J. (2015). Disruptive Innovation A Case of Full Mold Casting. *Annals of Business Administrative Science*, *14*(2), 109-126.

Tang, H. W. V., Yin, M. S., & Nelson, D. B. (2010). The relationship between emotional intelligence and leadership practices: A cross-cultural study of academic leaders in Taiwan and the USA. *Journal of managerial psychology*.

Taylor, A., & Greve, H. R. (2006). Superman or the fantastic four? Knowledge combination and experience in innovative teams. *Academy of management Journal*, *49*(4), 723-740.

Taylor, M. F. (1994). Ethical considerations in European cross-national research. *International Social Science Journal*, *46*(4), 523-532.

Thakur, A. V., Ambwani, S., Ambwani, T. K., Ahmad, A. H., & Rawat, D. S. (2018). Evaluation of phytochemicals in the leaf extract of Clitoria ternatea Willd. through GC-MS analysis. *Tropical Plant Research*, *5*(2), 200-206.

The National Council for Tertiary Education (NCTE) (2017).

Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing-Quarterly scientific, online official journal of GORNA*, *7*, 155-163.

Tidd, J. (2001). Innovation management in context: environment, organization and performance. *International journal of management reviews*, *3*(3), 169-183.

Tidd, J., Bessant, J., & Pavitt, K. (2001). Managing Innovation: Integrating.

Timmerman, J. C. (2009). A systematic approach for making innovation a core competency. *The Journal for Quality and Participation*, *31*(4), 4.

Tinoco, J. K. (2010). Marketing innovation: The unheralded innovation vehicle to sustained competitive advantage. *International Journal of Sustainable Strategic Management*, *2*(2), 168.

Tischler, L., Biberman, J., & McKeage, R. (2002). Linking emotional intelligence, spirituality and workplace performance: Definitions, models and ideas for research. *Journal of managerial psychology*.

Tourish, D. (2014). Leadership, more or less? A processual, communication perspective on the role of agency in leadership theory. *Leadership*, *10*(1), 79-98.

Tseng, S. M. (2010). The correlation between organizational culture and knowledge conversion on corporate performance. *Journal of knowledge management*.

Tsui, A. S., Zhang, Z. X., Wang, H., Xin, K. R., & Wu, J. B. (2006). Unpacking the relationship between CEO leadership behavior and organizational culture. *The Leadership Quarterly*, *17*(2), 113-137.

Tuan, L. T., & Venkatesh, S. (2010). Organizational culture and technological innovation adoption in private hospitals. *International Business Research*, *3*(3), 144-153.

Turner, J. R., & Simister, S. J. (2000). Gower handbook of project management. Gower.

Turner, R., & Lloyd-Walker, B. (2008). Emotional intelligence (EI) capabilities training: can it develop EI in project teams?. *International Journal of Managing Projects in Business*, *1*(4), 512–534. doi:10.1108/175383708109062

Tushman, M., Tushman, M. L., & O'Reilly, C. A. (2002). *Winning through innovation: A practical guide to leading organizational change and renewal*. Harvard Business Press.

Uma Mageswari, S. D., Sivasubramanian, C., & Srikantha Dath, T. N. (2015). Impact of size of the manufacturing firms on knowledge management practices: An empirical analysis. *Jurnal Pengurusan*, *45*.

Unsworth, K. L., & Clegg, C. W. (2010). Why do employees undertake creative action?. *Journal of occupational and organizational psychology*, *83*(1), 77-99.

Vaccaro, I. G., Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2012). Management innovation and leadership: The moderating role of organizational size. *Journal of management studies*, *49*(1), 28-51.

Valencia, J. C. N., Valle, R. S., & Jiménez, D. J. (2010). Organizational culture as determinant of product innovation. *European journal of innovation management*.

Van den Berg, P. T., & Wilderom, C. P. (2004). Defining, measuring, and comparing organisational cultures. *Applied Psychology*, *53*(4), 570-582.

Van der Panne, G., Van Beers, C., & Kleinknecht, A. (2003). Success and failure of innovation: a literature review. *International journal of innovation Management*, *7*(03), 309-338.

Van Knippenberg, D., & Sitkin, S. B. (2013). A critical assessment of charismatic—transformational leadership research: Back to the drawing board?. *Academy of management Annals*, *7*(1), 1-60.

Verplanken, B., & Holland, R. W. (2002). Motivated decision making: effects of activation and self-centrality of values on choices and behavior. *Journal of personality and social psychology*, *82*(3), 434.

Walker, R. M., Damanpour, F., & Devece, C. A. (2011). Management innovation and organizational performance: The mediating effect of performance management. *Journal of public administration research and theory*, *21*(2), 367-386.

Walter, F., Cole, M. S., & Humphrey, R. H. (2011). Emotional intelligence: Sine qua non of leadership or folderol?. *Academy of management Perspectives*, *25*(1), 45-59.

Wang, P., Rode, J. C., Shi, K., Luo, Z., & Chen, W. (2013). A workgroup climate perspective on the relationships among transformational leadership, workgroup diversity, and employee creativity. *Group & Organization Management*, *38*(3), 334-360.

Wang, S., Guidice, R. M., Tansky, J. W., & Wang, Z. M. (2010). When R&D spending is not enough: The critical role of culture when you really want to innovate. *Human Resource Management*, *49*(4), 767-792.

Waterbury, S. (2016). Transform your leadership. *Nursing Management*, *47*(8), 53-54.

Watkin, C. (2000). Developing emotional intelligence. *International Journal of selection and assessment*, *8*(2), 89-92.

Weisberg, R. W. (2006). *Creativity: Understanding innovation in problem solving, science, invention, and the arts*. John Wiley & Sons.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied psychology*, *51*(3), 355-387.

West, M. A., & Altink, W. M. (1996). Innovation at work: Individual, group, organizational, and socio-historical perspectives. *European Journal of Work and Organizational Psychology*, *5*(1), 3-11.

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS quarterly*, 177-195.

Williams, F., & Foti, R. J. (2011). Formally developing creative leadership as a driver of organizational innovation. *Advances in Developing Human Resources*, *13*(3), 279-296.

Wilson, R. W. (1992). *Compliance ideologies: Rethinking political culture*. Cambridge University Press.

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

Woodman, R. W., & Schoenfeldt, L. F. (1990). An interactionist model of creative behavior. *The Journal of Creative Behavior*.

Wu, Y. (2010). *Innovation and economic growth in China*. University of Western Australia, Business School, Economics.

Yates, L. (2004). *What does good education research look like?: Situating a field and its practices*. McGraw-Hill Education (UK).

Yirdaw, A. (2014). *The role of governance in quality of education in private higher education institutions: Ethiopia as a case study* (Unpublished Doctoral dissertation, Fielding Graduate University).

Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management perspectives*, *26*(4), 66-85.

Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*.

Zahra, S. A., & George, G. (2002). The net-enabled business innovation cycle and the evolution of dynamic capabilities. *Information systems research*, *13*(2), 147-150.

Zalami, A. (2005). Alignment of organisational cultures in the public and private sectors. *Presentation given at Excellence in Public Service, Amman, Jordan in September*.

Zaltman, G., Duncan, R., & Holbek, J. (1973). *Innovations and organizations*. Wiley.

Zeb, A., Akbar, F., Hussain, K., Safi, A., Rabnawaz, M., & Zeb, F. (2021). The competing value framework model of organizational culture, innovation and performance. *Business process management journal*.

Zheng, W., Yang, B., & McLean, G. N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business research*, *63*(7), 763-771.

Zhou, J., & George, J. M. (2003). Awakening employee creativity: The role of leader emotional intelligence. *The leadership quarterly*, *14*(4-5), 545-568.

Zhou, P., Bundorf, K., Le Chang, J., Huang, J. X., & Xue, D. (2011). Organizational culture and its relationship with hospital performance in public hospitals in China. *Health services research*, *46*(6pt2), 2139-2160.

Zubizarreta, M., Ganzarain, J., Cuadrado, J., & Lizarralde, R. (2020). Evaluating disruptive innovation project management capabilities. *Sustainability*, *13*(1), 1.

APPENDICES

APPENDIX A: QUESTIONNAIRE

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF MANAGEMENT

QUESTIONNAIRE

I am a PhD Student at Department of Management, School of Business, College of Humanities and Legal Sudies at the University of Cape Coast. I am carrying out a research on the topic "Organisational Culture and Innovation in Public Universities in Ghana: The Mediating Role of Leadership Emotional Intelligence".

I am soliciting your assistance to carefully fill the different questions presented in the questionnaire. The questionnaire is made up four sections; Biographic data of respondents, Organisational Culture, Leadership Emotional Intelligence and Innovation.

Please do not write your name. Every information you supply will be treated with utmost confidentially and used only for academic and research purposes. Thank you very much.

SECTION A: BIOGRAPHIC DATA OF RESPONDENTS.

Indicate the right option by ticking (√) in the space provided.

1. Sex: [ ] Male [ ] Female
2. Age Range (Years): [ ] 31-40 [ ] 41-50 [ ] 51 and above
3. Highest Educational Qualification: [ ] Masters [ ] PhD [ ] Professional
4. Length of Years of Service in the University: [ ] 1-5 [ ] 6-10 [ ] 11-15 [ ] 16 and above
5. Current Rank:_____

6. Position you are Occupying in the University, if any.

_____

SECTION B: Questions on Organisational Culture

Thinking about Organisational Culture in general, read the statements below carefully and rate how much you personally agree or disagree with each statement. Use a scale of 1-5 with where *5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree.*

Indicate by ticking (√) in the space what best describes your institution.

Clan Culture						
In this institution:		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
7.	Agreements are easily achieved even concerning hard problems/issues.					
8.	Competition between colleagues usually brings more harm than good.					
9.	We do projects/research together.					
10.	We are like one big family.					
11.	We celebrate someone's success.					
Adhocracy Culture						
12.	Employees of any division have equal perspectives.					
13.	We are very entrepreneurial.					
14.	Risks taken are encouraged.					
15.	New ideas must be applied immediately otherwise they become old and obsolete.					
16.	Most competent representative of group/dept., must make decisions even if formally he/she is not a leader of the group/dept.					
Hierarchy Culture						

17.	We have informal norms and rules which are to be followed by everyone.					
18.	Rules of the University must not be disobeyed even if employee thinks that he/she acts in favour of the University.					
19.	Instructions and regulations are needed to govern every process of work.					
20.	The University has structured and controlled rules.					
21.	One needs to control spending of resources strictly, or total disorder will happen.					
Market Culture						
22.	Staff/Students interests are never ignored in decision making of organisation.					
23.	We constantly improve our methods of work to gain advantages over rivals.					
24.	During conflict everybody tries to solve it quickly and mutually profitable.					
25.	It is very important to feel market changes and react contemporarily.					
26	We concentrate more on external issues.					

SECTION C: Questions on Emotional Intelligence

Instructions

The following statements reflect the Emotional Intelligence of yourself as leader. Use a scale of 1-5 with where *5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree*. Indicate by ticking (√) in the space what best describes the extent to which you perceive each Leadership Emotional Intelligence item as a characteristic of yourself.

Questions on Leadership Emotional Intelligence

SELF AWARENESS						
Does you		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
27.	Have confidence in your abilities.					
28.	Accept your disability and failure.					
29.	Notice the impact of your behaviour on others.					
30.	Understand the emotional impact of others on your mood.					
31.	Know your own feelings.					
32.	Recognise the situations that arouse strong emotions in yourself.					
33.	Know how staff feelings affect your actions.					
34.	Reflect on underlying reasons for feelings.					
35.	Use defensive when receiving feedback.					
36.	Bring up ethical concerns and behave calmly in stressful situations.					
SOCIAL SKILLS						
37.	Communicate regularly with staff.					
38.	Build bonds with staff.					
39.	Bring about positive change.					
40.	Exhibit good leadership skills.					
41.	Possess conflict management skills.					
42.	Collaborate and cooperate well with staff.					
43.	Influence your staff by your actions.					
44.	Relate friendly with your staff.					

45.	Manage your anger with staff well.					
46.	Resolve conflicts and problems effectively.					
SELF MANAGEMENT						
47.	Reflect on underlying reasons for feelings and failures of others.					
48.	Relate well to people of diverse backgrounds.					
49.	Stay composed and positive, even in trying moments.					
50.	Know how peoples' feelings affect their actions.					
51.	Know or aware of your own feelings and pay attention to other peoples' moods or nonverbal signals.					
52.	Stay positive despite setbacks and try to persuade by appealing to peoples' self-interest.					
53.	Understand issues from someone else's perspective.					
54.	Acknowledge mistakes and presents yourself in an assured manner.					
55.	Understand the problems of others and do well to address unexpected demands					
56.	Get impatient or shows frustration.					

SECTION D: Questions on Organisational Innovation

Thinking about organisational innovation in general, read the statements below carefully and rate how much you personally agree or disagree with each statement. Use a scale of 1-5 with where:

where *5 = Strongly Agree, 4 = Agree, 3 = Neither Agree nor Disagree, 2 = Disagree, 1 = Strongly Disagree.* Indicate by ticking (√) in the space what best describes the extent to which you perceive innovation in your university.

RADICAL INNOVATION

Has your University introduced		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
57.	Meaningful/radical changes in principles and procedures in carrying out activities.					
58.	Changes in the scope of tasks and responsibilities of our employees .					
59.	New ways of coordinating activities in Colleges (Schools, Departments) and between them.					
60.	New forms of organisational structures, new departments/programmes/ positions					
61.	New ways of ensuring disciplines in various departments.					
Incremental Innovation						
62.	Strategies that supplement our existing University's way of providing services.					
63.	Strategies that progressively provide improved performance or enhance value of the existing services.					
64.	Services targeted to new students/staff that steadily improve their studies/work.					
65.	Service improvements that have gradually been higher as time goes on.					
66.	Services which step-by-step provide similar performance but at lower cost.					
Disruptive Innovation						
67.	A very different package for motivating employees.					

68.	A new technology replacing existing ones that support the previous technology which is becoming obsolete.					
69.	A strategy that requires distinctive types of expertise with skills needed in a direction that enhance the competitive position of the university.					
70.	Activities that need to influence the structure of the university and the behaviours of employees.					
71	Ways of doing things that have changed most of the traditional approaches.					
Architectural Innovation						
72.	A strategy that changes the way in which the Departments of the university are linked together with the core administrative set up untouched.					
73.	Strategy that demands rearrangement of the main departments into new patterns to achieve higher levels of institutional performance.					
74.	Technological strategy that is less risky compared to the existing ones.					
75	Practices that aim to meet social needs in a better way than the existing ones.					
76	Technological/administrative strategies that are more beneficial than existing ones.					

APPENDIX B: KREJCIE & MORGAN TABLE

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970