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The influence of formal and informal mentoring approaches on leadership development: a study of women in technology in Kenya

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The Influence Of Formal And Informal Mentoring Approaches On Leadership Development: A Study Of Women In Technology in Kenya

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DECLARATION

This Dissertation is the product of my work and is not the result of anything done in collaboration. It has not been previously presented to any other institution. I agree that this dissertation may be available for reference at the discretion of the University.

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ABSTRACT

Leadership development is a challenging aspect of talent management within the information communication technology industry in Kenya. As part of the strategies to bridge career development gaps, mentoring is one approach used in organisations. This study adopted an exploratory method to review and establish the effectiveness of mentoring approaches either formal or informal when used as a talent management strategy for leadership development. In order to qualify the premise of the problem, the study focused on the Information and Communication Technology industry where initiatives on mentoring have been more widespread as a tool for equipping participants with leadership skills. Respondents were purposively selected and using n=30 assessed via questionnaire and face to face interviews and data analysed using a methodology to establish whether the research questions around mentoring could be answered in the Kenyan context: attribution of mentoring approach and characteristics to leadership development strategies, the design of mentoring approaches , entrenchment in talent management interventions. From the study, the mentoring approach used has no influence on the impartation of leadership styles due to statistic similarity of the sample studied. This study therefore concludes that mentoring approaches should be viewed beyond reviewing traditional markers for mentoring success e.g. gaining of hard competencies and shift focus to indicators of subjective success such as career success and work commitment.

Table of Contents

DECLARATION ..... **iii**
ABSTRACT ..... **iv**
Table of Contents ..... **v**
LIST OF ABBREVIATIONS ..... **vii**
LIST OF FIGURES ..... **viii**
LIST OF TABLES ..... **ix**
DEDICATION ..... **x**
CHAPTER 1: INTRODUCTION **1**
1.1 Background 1
1.1.1 Mentoring within the Kenyan context 4
1.2 Statement of the Problem 6
1.3 Research Objectives 6
1.4 Research Questions 7
1.5 Scope of the Study 7
1.6 Significance of the Study 8
CHAPTER TWO: LITERATURE REVIEW **11**
2 Introduction **11**
2.1 Mentoring approaches 12
2.1.1 Informal mentoring approaches 12
2.1.2 Formal mentoring approaches 13
2.2 Talent management, the foundation for mentoring relationships and mentoring outcomes 15
2.3 Leadership development and mentoring 18
2.4 Empirical review of women managers in IT – Global perspective 21
2.4.1 Career Growth Curve of women in ICT careers 23
2.5 Conceptual Framework 25
2.6 Summary of Literature Review 28
CHAPTER THREE: RESEARCH METHODOLOGY **29**
3 Introduction **29**
3.1 Research Design 29
3.2 Sampling 30
3.3 Data Collection Methods 32

3.4 Data Analysis 32
3.5 Research Quality 36
3.6 Validity and Reliability 36
3.7 Ethical Considerations 38
CHAPTER FOUR: FINDINGS AND RESULTS 39
4 Introduction 39
4.1 Response Rate 39
4.2 Demographic Characteristics 39
4.2.1 Age groups 40
Table 4.1 Age group frequency 40
4.2.2 Level of Education 40
4.2.3 Number of Years in Employment 41
4.2.4 Position in organization 42
4.2.5 Additional courses and technical skills 42
4.2.6 Formal and Informal Mentoring 42
Figure 4.3 Mentoring Approach 42
Figure 4.4 Differences in formal and informal mentoring approaches 43
4.2.7 Detailed results of Likert Scales used for the study 43
4.2.8 Detailed results of open ended questions 47
4.3 Inferential Analysis 53
CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS 59
5 Introduction 59
5.1 Discussion of each research objective 59
5.2 Conclusions 62
5.3 Recommendations of the study 63
5.3.1 Managerial and Policy Implications 63
5.4 Limitations and Future Research from the study 63
References 65
APPENDICES 74
Appendix I: Letter from Strathmore Business School 74
Appendix II: Ethics Review Approval 75
Appendix III: RESEARCH SURVEY INSTRUMENT 76

LIST OF ABBREVIATIONS

CAK – Communications Authority of Kenya

FAWE – Forum for African Women Educationists

HR – Human Resources

ICT – Information Communication Technology

ITU – International Telecommunications Union

STEM – Science, Technology, Engineering and Mathematics

WIT – Women in Technology

LIST OF FIGURES

Figure 2.1 Mentoring characteristics and leadership development 20
Figure 2.2 Conceptual Framework 27
Figure 4.2 Level of Education Frequency..... 41
Figure 4.3 Mentoring Approach 42
Figure 4.4 differences in formal and informal mentoring approaches..... 43
Figure 4.8 Themes emergent on nature of mentoring relationship..... 48
Figure 4.10 Histogram of meeting frequency..... 50

LIST OF TABLES

Table 4.1 Age group frequency 40
Table 4.2 Years in employment – frequency 41
Table 4.5 Mentoring Approaches 45
Table 4.6 Career Progression 46
Table 4.7 Leadership competencies 47
Table 4.9 Mentor assigning and development of mentoring relationship over time 49
Table 4.11 Key goals and objectives accomplished via mentoring 51
Table 4.12 Contribution of mentoring to leading others 51
Figure 4.13 Pie chart of leadership styles 52
Table 4.14 Group Statistics 54
Table 4.15 Independent Samples T-test 54
Table 4.16 Spearman's Rank Correlation 55
Table 4.17 Career Progression 57
Table 4.18 Career progression group statistics 58

DEDICATION

To my great grandmother, grandmother, my mother and my squad (you know your selves)

CHAPTER 1: INTRODUCTION

Over the last 20 years there has been a deliberate effort to engage diversity of resources within the science, technology, engineering and mathematics field to increase the participation of women in these fields, UNESCO (2013). This diversity calls for different ways to encourage uptake of subjects in secondary education that lead to these careers. In order to answer questions around how to engage and retain talent, the most important aspect of this study was to identify what talent management strategies are in use for leadership and career development and focus on one approach that has not been studied comprehensively for career development use in Kenya. The ways by which this talent is developed has led to the isolation of the role of mentoring as a talent management strategy and establishing mentoring approaches used whether informally or formally done and how they are harnessed to build leadership skills for the world of work.

1.1 Background

This research sought to link how mentorship approaches and leadership competencies assist with career development and try to understand the context under which leadership styles or competencies were developed and are used as structured mentorship programs within organisations.

Mentorship as a concept can be first defined within the context of initial mentions is found in Greek mythology, and the story is told of Odysseus who embarked on an eventful journey and his son Telemachus needed a teacher since his father was away on this search for 20 years. The teacher was sometimes the Greek god Mentor and sometimes the goddess Athena. (Hard, 2003) From this rudimentary description of mentoring, the last 20 years formal studies on what mentoring is , its

effectiveness and approaches has been buttressed by research and writing as outlined by the definitions from various researchers highlighted in the following page.

These concepts of mentoring approach, leadership and outcomes show the relational condition and nature of mentoring that are critical in understanding how mentoring gets structured. Kram (1983) does not precisely define mentoring but provides the definition of how relationships between mentor and protégé are formed and introduces what is referred to as dyads to understand mentoring relationships. Within this context, mentorship then is described as "a relationship between an older more experienced mentor and a younger, less experienced protégé for the purpose of helping and developing the protégé's career".

Eby (1997) discusses mentoring within the context of a development relationship that allows for advice, counselling and opportunities to be provided by the mentor to the protégé which lead to career progression. Within this relationship the support forthcoming can be what is delineated in this definition as either instrumental (career) or psychological support. This provided the basis to develop the relational hypothesis between mentoring approaches and leadership development. This idea first introduced here is also expanded upon in the literature review section that discusses leadership competencies and mentoring approaches. Ragins and Kram (2007) traced the adoption of mentoring and desfined it as" a developmental relationship that is embedded within a career context" and went on to define the behaviors and functions that are offered in mentoring relationships. The recurring theme that gets elaborated on with the definitions around relationship then allows this study to establish the basis for examining and isolate a particular type of mentoring that is done within a formal setup and evaluate how structuring a mentoring approach may or may not have influenced leadership development.

In order to develop the formal nature of mentoring within corporate environments several researchers laid the foundations to this discussion presented by this study. The work of Kram (1983) developed the role of relationships within mentoring, Scandura (1992) introduced the notion of mentoring and career mobility, Scandura and Pellegrini (2007) collaborated on developing a critique of mentoring theory and methodological approaches used for the workplace which reviewed the emergence of the state of mentoring theories and the limitations in research on the field.

Bozeman and Fenny (2007) shows formal study of mentoring started and demystified some of the conditions under which mentoring takes place within a formal organization and outline some of the criteria which develops mentoring further. In their approach, they argue that mentoring for career development by a boss should be distinguished from having a good relationship. A boss who mentors teaches new skills. This research will help identify those supervisors that worked in industry that mentored rather than just supervised and will help us unpack the kind of relationships the protégés and mentors had for mentoring efficacy. The study relied heavily on this line of argument influenced how the line of interrogation to tie up how the functional relationship between mentee and mentor influenced leadership styles and thus lend credence to why mentoring is seen as a major component for career development as defined by Bozeman and Fenny (2007).

This framework from Bozeman and Fenny (2007) will be discussed further in the literature review since it forms part of the theoretical framework for linking mentoring and leadership attributes that this research will be establishing. Day (2000) offers an interesting approach to leadership

development from a contextual perspective that will enable this research interlink mentoring approaches and leadership attributes. This expands the McLleland – Mcber competency model developed in 1963 for this study. Day (2000). Boyatzis (2008) defined competencies as a capability or ability and goes on to break down the process of studying the competencies. For the purposes of this research, these traits were referred to as leadership attributes for ease of reference and consolidation of characteristics developed and brought out by mentoring for leadership development. An attribute is an inherent characteristic which competencies have helped define to what makes up leadership and what then is imparted using leadership development training.

Leadership styles are the models of dominant patterns of leading people or organizations that are adopted by individuals to adjust to the challenge of managing people. They can be characterized as transformational or transactional (Aydin, Sarier and Uysal, 2013). Leadership development is defined as the capacity for an organization to utilize traits found in individuals in building social capital that ensure there is cooperation and collaboration within an organization to create value. (Day, 2000)

1.1.1 Mentoring within the Kenyan context

Mentoring in relation to career progression that has previously studied with Kenya mainly focus on extensive studies on women in academic careers and the impact of mentoring on school participation in secondary and university studies as illustrated by Raburu (2011), Ndunge (2015), Malelu (2015). This research aimed at moving the discussion forward about mentoring by focusing on formal mentoring as a standalone prong in talent management, the role of mentoring if any on leadership development. By understanding how mentoring programs function within corporate

environments and career progression then the career pipeline is completed within the Kenyan context, Barianga (1992), Soe and Yakura (2008).

Over the last 20 years there has been a deliberate effort to engage diversity of resources within the science, technology, engineering and mathematics field to increase the participation of women in these fields, UNESCO (2013).The acronym, STEM has been used within education circles to denote the fields of science (biology, chemistry and physics), technology, engineering and mathematics , Bybee (2010) and entered the education field in the 1990's via the National Science Foundation based in the United States .

Leadership development in this research has been modelled with similarity to the ""leaky pipeline" concept first identified with tenure track careers for women in neuro-surgery, Berryman, (1983). The 'pipeline model' did on an empirical analysis follows that timeline of a career through training and employment rather instead of highlighting the educational and career stages. It then provides a way to interject why mentoring approaches then are important in careers in ICT in Kenya when leadership development is isolated as a key outcome of a career trajectory. This concept is explored further in the literature review to understand why mentorship is critical for career development and leadership development as studied.

This study differentiated itself the need to establish and studied the follow on of what happened to those who completed these studies in STEM especially ICT and entered the information technology industry, how their career progression was impacted by mentorship while they developed desired leadership attributes. This research sought to establish whether there was any relevance of mentorship approaches used and formalized to leadership development with a focus on the information communication industry in Kenya.

1.2 Statement of the Problem

Mentoring as described from the previous sections continues to be advocated as a tool for equipping people to develop critical skills. In the Kenyan context as introduced in the previous section, a lot of research on mentoring within organisations has reviewed it from a general perspective and just a component of wholesale interventions that relate to human resources development, (Raburu,2011;Malelu 2015;Ndunge, 2015). Research on the influence of mentoring outside the context of use in learning institutions and specific outcomes related to different fields has only recently started emerging within the Kenyan context, Muchau (2013) studied mentoring within an entrepreneurial context – Small and Medium Enterprises and how it impacted business performance.

With the growth of the technology in the Kenyan market and its contribution to the Kenyan economy, KNBS (2013), critical questions on the success of interventions that have been done to encourage the entry of more women into technology within the workplace needed to be evaluated. This is especially true of interventions directly designed for the workplace and the interaction of these talent management programs within a Human Resources framework, Sosik and Yun (2012), Malelu (2015)

1.3 Research Objectives

The study seeks to:

i. To compare formal and informal mentoring approaches used for leadership development for women in technology by looking at impact on career progression into management which would be an outcome of leadership development programs

ii. To expand and differentiate between the mentoring relationships between mentor and mentee by analyzing respondent perceptions on leadership styles

iii. To assess whether the range of difference if identified in both approaches contribute to other mentoring outcomes or skills for women managers in the ICT industry in Kenya over and above leadership styles

1.4 Research Questions

i. How can we compare mentorship approaches used in developing women managers in ICT careers - both informal and formal approaches , how does the structure, characteristics of the mentoring approaches influence perceptions on leadership styles

ii. Once the differences are identified, does this contribute to mentorship effectiveness for leadership development exemplified by the outcomes that make up leadership styles and attributes for WIT programs when done formally done within organisations?

iii. What are the characteristics of mentor – mentee relationship, defined mentoring objectives, and how then does formal mentoring have better outcomes for women in technology to develop leadership styles and are there other attributes associated with leadership styles developed?

1.5 Scope of the Study

This study restricted itself to the Kenyan scenario and established if there were ripple effects from various mentoring initiatives done either in a select number of companies in industry in Kenya (Women in Technology initiative by Safaricom ,Africa Women in Technology, Liquid Telcom, Access Kenya and Seven Seas Technologies) , the impact of sector conferences (Africa Women in Technology conference) and associations(Women in STEM in Kenya) , institutions of higher learning that have with formal support for women students studying information technology

(Strathmore University Information Technology faculty, University of Nairobi faculty) and where available also formal organizations that mentor women in ICT in Kenya.

In order to critique the mentoring approaches, the outcomes of the programs; a cohort of un-mentored who did not have the benefit but have risen to leadership roles within the industry vis a vis women in technology who had formal mentoring was done and this then led to the interpretation of any co-relations between mentoring programs and their importance as part of the tools available for talent management and development.

1.6 Significance of the Study

Mentoring in previous studies in Kenya has been studied within the context of education where studies had evaluated efficacy of mentoring on learners in educational institutions or a framework for mentoring within academic institutions. A review of prior studies within the Kenyan context yielded minimal research on the impact of mentoring approaches on formal organizations but rather found studies of human resource practices where mentoring is done in tandem as part of induction (Kariuki, 2012) , also observed is mentoring is used to engage women in corporate governance (Kimani, 2012) . this then provided a limited localization of mentoring research in Kenya and the thesis then found frameworks in other studies done outside Kenya which then this study laid the foundation for future mentoring study to be done.

The research engaged with providing useful insights on how mentoring approaches either do or not influence leadership development in the career lifespan of women in technology by mapping career progression and the formal mentoring approach. The other assumption that this research had to overcome is that data on cohort movements in the labor market in Kenya are not readily available in the form of longitudinal studies in Kenya for this sector; this research then instead

presented a solution by taking a mini snapshot from a longitudinal view of career progression by reviewing the career moves and length of service for the respondents who were interviewed.

The respondents for this study were presumed to have decision making roles and can influence business strategy and this was supported by the questions used to elicit useful data for analysis done. Due to non-availability of this data, this data gap was resolved by carrying out an exploratory study on mentoring approaches when used for career progression and the development of leadership skills that are critical along career paths for the respondent group within the ICT industry in Kenya.

This stakeholders identified as a target audience for this study includes the Human Resource professionals within technology firms, universities who teach information technology, career coaches, government policy. Each of these stakeholders has a different takeaway from this study. For faculty in STEM education, the main learning is how to assist learners to develop and manage mentoring relationships, maybe by providing similar tools for students while they are on campus from freshman year to senior year to mirror career development. The Human Resource professionals working in the information service industry also pick up on how talent development to get more women shaping policy, developing ICT careers can address employment gap. It will provide guidance and recommendations for human resource managers, ICT companies, telco companies, the Kenya ICT board, mentorship programs, technology incubation laboratories, universities authorities, and their placement programs.

Further, it recommends how human resource departments working in the technology industry especially ICT companies and enterprises why they need to enhance and leverage structured and

formal mentorship programs as part of their talent management strategies for leadership development and career pipelines to assist bridge gender gaps in technology careers.

CHAPTER TWO: LITERATURE REVIEW

2 Introduction

The literature review laid out in this chapter expands the discourse around the intricacies of mentoring and provides a background to the approaches adopted, leadership efficacy and competencies that may or may not be influenced by mentoring. It also looks at the whys of mentoring for leadership development and set the justification for the study. As part of the discourse, the literature review will also set up further illustration by looking in brief at what informal mentoring is, how this is distinguished from formal mentoring which was the focus of the research. Looking at other scholar viewpoints also helped to discuss what leadership capabilities are, the interplay between mentoring frameworks and set the tone for the evaluation of the effectiveness of formal mentoring approaches in leadership development.

Focus is particularly keen and leans on previous studies done about the workplace and how mentoring works within this context ; what are the frameworks for workplace mentoring, what does design of mentoring interventions look like, how does it impact the individuals involved in the process and how organization outcomes are defined. Lastly, the literature review will look at how to incorporate a research model and framework that have been used for valuating mentoring effectiveness and consequently led to the development of a conceptual framework for this work.

The conceptual framework developed integrates gender schema theory by Bem, the McClelland-Mcber competency model and the concept of the “leaky pipeline” first advanced by Berryman (1983). Other frameworks to integrate in the research will include models developed for mentoring and leadership competencies, Raven (2001), Higgins and Kram (2007), Boyaztis (2008).

2.1 Mentoring approaches

Two dominant approaches emerge in defining mentoring approaches. Jacobi (1991), Inzer and Crawford (2005) trace the development of mentoring from early associations in Greek mythology to 1970's to early 1990's when the initial body of work formally studying mentoring was published. The relevance is in tracing the evolution of mentoring from informal to formal approaches. This lays the basis for a critique of formal mentoring approaches and objectives used presently as more researchers have present day mentoring practices as identified by other researchers. Mentoring approaches have been influenced education, psychology and management practice. Different approaches have been reviewed depending on the development of mentoring as a field.

Kram (1983) marked a beginning on the formal study of mentoring by delineating workplace mentoring from other forms and described in detail the structure, phases of mentoring and cross gendered mentoring. The "18 dyads of mentoring" are also introduced. The dyads describe the kind relationship established between mentor and mentee and help with development of the idea of formal mentoring as a part of a dyadic relationship with its own set of characteristics. This also allows this research to focus on the career development function of the mentoring relationship as introduced by Kram (1983),

2.1.1 Informal mentoring approaches

When reviewing informal mentoring – this description relies will rely on naturally occurring mentoring relationships could be at school or at the workplace. For purposes of this discourse we will limit the discussion to informal mentoring that occurs at the workplace, Dougherty, Turban and Haggard (2007) which is characterised by a mutually beneficial, informal relationship between

a senior manager and amore junior manager was naturally formed maybe over similar interests , background (e.g. alumni ties) and maintained voluntarily.

Informal mentoring is also characterised and developed as an outcome of the interaction between mentor and protégé and the needs and desires of the two parties which is different from the formal approach which is largely driven within an organisation framework, Baugh and Fagenson-Eland (2007). Scandura and Pellegrini (2007) highlight some of the challenges that may occur with mentoring including dysfunctional relationships and marginal mentoring.

2.1.2 Formal mentoring approaches

Formal mentoring is driven by organisation needs, Baugh and Fagesnson-Eland, E. A. (2007), and this presents a frame around which the characteristics and features of formal mentoring are teased out. In Ragins and Kram (2007) shows that due to research done over - 20 years, it is clearer to determine the functions of mentorship - career progression, psychosocial and role modelling. It also infers how these functions lead to different outcomes which is important as a variable for this research to determine the relationship between mentorship attributes and leadership attributes. Scandura and Pellegrini (2007) further breakdown this differentiating workplace mentoring that leads to outcomes of transformation , which are driven by longer term view and nature of relationship and mentoring.

To develop this discussion further, the definition provided by Bierema and Merriam (2002) within the context of an organization will lay the groundwork for identifying approaches used in formal mentoring. Formal mentoring may take various forms including mentoring relationships peer relationships, team mentoring or mentoring circles, and structured networks, Baugh and Fagesnson-Eland, E. A. (2007) ,McManus, S.E., and Russell, J. E. (2007).

This leads up to deciphering the various other ways of framing the attributes of formal mentoring .In order to evaluate the efficacy of mentoring, describing mentorship attributes will assist with qualifying the data collected from the study and also develop categories for analysis. Mentoring relationships can be classified in a myriad of ways including behavioral, perceptual, power, demographics and implications for mentee and mentor, (Hamlin and Sage, 2008). For this research, the focus will be on the different frameworks utilized for mentoring within organizations and connect these to the leadership attributes within the classifications. These classifications though not explicitly mentioned also show up in Ragins and Kram (2007), Kim (2007) , Hamlin and Sage (2008) .

Ragins and Cotton (1999) expound on the components of formal mentoring by outlining key characteristics of mentoring by describing the initiation of mentoring, structure of the relationship and the process involved in the relationship. Initiation of mentoring in a formal set up requires assigning a mentor and a protégé, the structure reviews the length, frequency, focus of the mentoring program and lastly process covers the motivations for mentoring. This follows the theme of how developmental relationships may range from one-time career sponsorship (i.e., recommending an individual for a developmental task or promotion) and look at how a committed, long-term, mutually beneficial dynamic may influence the outcomes from a mentoring relationship which is of interest especially when looking at leadership development.

This model can be classified as having both objective and subjective outcomes. (Dougherty and Dreher, 2007). Objectives outcomes include promotions and increased remuneration as a result of mentoring. Noe (1988) gives insights into informal models based around behavior modeling

which is naturalistic and how these still form the basis for mentoring relationships. Gibb (1999) argues the case for contextualizing formal mentorship within organizations as the structures and culture changes within, Inzer and Crawford (2005), outline formal mentoring based on its outcomes for the mentor, protégé and organization. Formal mentoring is described within the context of the organization, the way the relationship between these three factors.

In a critique of research on mentoring and career outcomes, Dougherty and Dreher (2007) evaluate the shortcomings by evaluating the conceptual and methodological issues. In their summary of evaluations of studies, one finds that there is a strong bias by researchers on the outcomes that lead to objective outcomes i.e. career progression (promotions) and increased remuneration.

By studying mentoring within its formal approach, the researcher will have overcome some of the challenges highlighted by Allen, Eby, O'Brien and Lentz (2008) in evaluating mentoring models for outcomes. Correlating formal mentoring and leadership development will also be expand the context of subjective success (Allen et al, 2008) that include career satisfaction, commitment , career expectations and job satisfaction.

2.2 Talent management, the foundation for mentoring relationships and mentoring outcomes

Talent management is a facet of human resource development that deals future business demands and how business interacts with human resources engaged from talent acquisition, strategic workforce planning, retention, talent development and motivating to maintain a competitive advantage. McDonnell (2011). Stahl, G. , Björkman, I., Farndale, E., Morris, S. S., Paauwe, J., Stiles, P and Wright, P. (2012) identify some of the principles underlying effective talent management as strategies used by organisations to attract , retain , develop , drive performance

and move employees across the organisation in their work life cycle. Stahl et al (2012) break down the talent management process into three key stages: i) recruitment, staffing and succession planning, ii) training and development, iii) retention management. The focus on leadership development helped to develop an end game for the role of mentoring approaches part of the interventions that feed into the cycle of talent management. .

The entire flow of the talent management process can be approached from various angles; strategic, international and organisational behaviour as expounded Thunnissen, Boselie, and Fruytier, (2013).Strategic situates talent management within an overall human resource strategy, international perspective deals with movement of talent across boundaries and how to manage this. Lastly an organizational behavior perspective involves looking at talent management within career development and management development, Thunnissen, M et al (2013). This leads to close scrutiny of the various models of talent management and understanding how this model would influence how mentoring is used in talent management within the context of career and management development. In a snapshot the importance of talent management cannot be underestimated on the length, quality and outcomes of careers within organisations and the role of it as part of critical human resource management for business.

In segregating a model to contextualize mentoring approaches and their influence in leadership development we need to understand what the motivations for career development are during the process, the outcomes for the individual and organisations especially when studied from the lens of organizational behavior. Different models offer up different perspectives on talent management and how it functions within the human resources space.

The predominant model from talent management that this study relied on for building the premise that mentoring approaches are important for career development in talent management is the AMO (ability, motivation and opportunity) model put forward by, Appelbaum, Bailey, Berg, and Kalleberg (2000). By using this model, the research can overlay the mentoring approach, motivations for career development/ progression and the outcomes for individuals and organisations. This model has been used to study various aspects of human resource management and organisation performance – including to explain the effectiveness of line managers in HRM implementation, Obeidat, , Mitchell and Bray (2016), validate how high performances work practices are linked to organisation performance. Bos-Nehles, Van Riemsdijk, and Kees Looise. (2013).

In this study, the model was applied thus to link it to talent management: ability was measured by reviewing the current roles of the respondents, their educational background, and career movement. Motivation measured by the reasons why formal mentoring was useful and opportunity by how mentoring programs were provided for within organisations that they worked for (formal and structured or not) as part of a talent management process.

The link between leadership development and mentoring as part of the talent management cycle has been tested by reviewing challenges has been identified in women who leave the information technology field, Corbett and Hill (2015) highlight reasons for leaving as lack of training and development opportunities and support for the professionals. In their study, they make recommendations on various levels, individual, organizations and at government levels.

At organization levels, HR teams have been challenged to cultivate management practices that promote healthy working environments, diversity and affirmative action policies, provide a sense of belonging as discussed when evaluating high performance organisations, Bos-Nehles et.al (2013). The evaluation of mentoring and its impact on management practices forms then a building block of HR management strategies that play a critical role in leadership development.

To further augment this model on the sphere of ability and motivation, Kagume (2010) identified the challenges faced by women in the STEM careers as also exacerbated by the lack of role models or younger women to aspire which leads to a deprivation of mentors, exclusion from informal informational networks that play a major role in advancement. In order to address this various forums to fill the need for informal networks for women in technology have emerged. However for this research we will be evaluating the effectiveness of a deliberate "assigned mentoring." Gibb, 1999).

2.3 Leadership development and mentoring

According to William (2000) mentoring promotes six things a person moving into a management or leadership role must learn: (a) politics of the organization, (b) norms, (c) standards, (d) values, (e) ideology, and (f) history of the organization. These in turn contribute to job satisfaction as an outcome. Gibb (1994) develops a framework for mentoring in organizations within two dimensions, competence – based approach and typology models. This earlier framework provides a basis for building the link between effectiveness of mentoring on leadership development. Sosik and Godshalk (2000) discuss this further by looking at mentoring functions mentioned earlier under mentoring approaches, leadership styles in the context of job related stress. The critical point of their paper is how mentoring should be a transformational process rather than transactional.

This leads to the development of the nature of leadership that should be embodied as an outcome of formal mentoring.

Kim (2007) also sets out the basis for which to link mentorship and leadership development. The paper identifies the role of formal mentoring in leadership development as to develop high-potential,fast-track managers and to prepare them for key management positions. There is one critical aspect identified that highlights why use a highly specific sample to study , it has been designed to increase the number of women and minorities in leadership positions, to facilitate the socialization of new managers, and to meet the development needs of senior executives. By moving the discussion from a general organisation perspective and narrowing down the role of mentoring within leadership development from a talent management perspective, Kim provides the necessary framework to research this subject further.

Mentoring for leadership development would be a useful perspective in what researchers indicate for transformational leadership. Transformational leadership defined by, Bass (2006) is leadership that allows followers to achieve extraordinary outcomes and in turn develop leadership capacity. This is done by responding to them, which allows them to be empowered and aligned to the organizational goals. From the discussion on mentoring approaches and transformational leadership. We can interlink this with the structure of the mentoring approach, relationship between mentor and mentee and outcomes delivered.

Figure 2.1 Mentoring characteristics and leadership development

Derived from Bozeman and Fenny (2007) and Day (2000)

Mentoring characteristics	**Leadership Development**
Dyads	Social
Informal (requiring unequal knowledge)	Relational (commitments , trust , mutual respect)
Requires recognition by both parties for role enactment	Interpersonal
Multiple (must serve the needs of two parties)	Social Awareness (empathy, social awareness, political awareness)
Work related (for self-interest of participants)	Social Skills (building bonds , conflict management , team orientation , change catalyst)

Derived from Bozeman and Fenny (2007) and Day (2000)

2.4 Empirical review of women managers in IT – Global perspective

In the American Association of University Women (AAUW) study done in 2015, the researchers found that despite similarities between girls and boys in math and science in achievement in high school in the United States, boys are more likely to choose an academic or career track that related closely to the fields of engineering and computing. The disparity continued up to graduate level and the gaps worsen at entry to the workplace. They also identified a higher exit rate out of the STEM professions by female employees, UNESCO (2010).

"Leaky pipeline" was introduced way to explain career progression for women in STEM fields by Berryman (1983). It is a metaphor that describes the underrepresentation of women in STEM fields and explores the progression of the drop out as the progression advances. The theory also posits that there is a huge number of starters in the field but as the progression advances then the talent leaks. The theory of the "leaky pipeline" has been referenced by other researchers studying women in STEM globally including Barr, Elena and Wanat (2008) who did research on the leaky pipeline and its impact on the uptake of pre medical courses in university.

The research problem reviews the factors that impact retention which are based around the "leaky pipeline' that happens within STEM fields. It is described that among women pursuing tenure track for careers in neurosurgery which established that although 45% of students that entered neurosurgery programs in the decade of the 1980's, only 38% of the doctorates were awarded to women and held only 18% of tenure track jobs , European Commission (2013), Castaño and Webster (2011).

Kagume (2010) identified interventions that may mitigate these issues including system based approaches that to impact education policy. This study identified that one key aspect that needs to be addressed is the appointment of women to influential committees and positions so that junior faculty, graduate students and researchers can have mentors and role models to encourage them early in their Science career. This ties in to the lack of mentoring identified as a challenge for bridging the gap between STEM education and its application to the workplace.

The broad benefits of mentoring have been outlined in Germain (2011) which reviewed the attachment theory of how mentorship works. The benefits studied focus on the aspect related an interpersonal factors which in technical careers are linked to career commitment, Ragins and Kram (2003) These facets may modify interventions for social isolation at work which leads to interactions with a more qualified manager / person who may help the mentee develop key leadership competencies.

Solutions recommended for bridging this gap, identified within the Kenyan context also concur with Kagume (2010), FAWE (2011) for STEM training adoption include changes to academic program admission policies, providing scholarships and prescience courses for female students, lastly encourage linkages between tertiary institutions and secondary schools so that there is earlier cognitive and awareness for girls around STEM subjects and careers.

It is this last proposition that led up to the identification of this study to try to establish and expand on how mentoring approaches impact women in technology during pre and post leadership development initiatives that relied on both a formal and informal mentoring approach. For instance, more advanced formal approaches e.g. structured support mentoring networks exist for WIT the United States include the Anita Borg Institute for Women in Technology, Association

for Women in Technology which also runs mentorship programs, Corbett and Hill (2015). Some examples in Kenya include Akirachix which plays a role in mentoring for technology entrepreneurship, women in technology student forums for instance Kenyatta University Female Students in Science Association, in the corporate sector an example includes Women in Technology an initiative of Safaricom - which is one of the largest companies in the telecommunication sector. CAK (2014). For this study, this was not a focus area but it is especially important to mention these advances to build ground for further investigation.

2.4.1 Career Growth Curve of women in ICT careers

In order to understand the career development, the researcher identified the "leaky pipeline" theory (Berryman, 1983) as appropriate theory that assists to map how various external factors in career development impact career development and to place mentorship as a determinant of retention for women who have ascended to managerial/ leadership roles in the ICT industry.

There have been various challenges identified as barriers to entrance of women in the ICT sector. In European commission report (2013), has mentioned internal barriers, socio-psychological factors pulling back women from the sector and its top positions which was characterized as a lack of self-confidence, lack of bargaining skills, risk-aversion and negative attitudes towards competition.

These factors are not related to the technical expertise, but are related to factors that contribute to career success and the interpersonal dynamic at work. This interpersonal dimension is what may be attributed to qualities that make good leaders at the workplace and these factors have been identified by various researchers.

Omamo, Abagi, and Sifuna, (2009) outlined the career track for women in ICT careers in Kenya. In their exploratory study, the path seemed to be diverse in educational and training backgrounds. All the women they surveyed had completed secondary and as reflected by FAWE (2011) for tertiary education all had studied at public universities which have a wider range of STEM based education courses.

The subject choice as shown by Migosi , Muola and Musau (2013) greatly influenced tertiary education since all had studied a combination of physics, chemistry, biology and mathematics. Migosi et al indicated that their sample was drawn from a wide range of ICT professionals both in the formal and entrepreneurship sectors. A gender schema theoretical framework as proposed by Bem (1981) has been used to underpin the theoretical framework on why mentoring interventions are important within the context of a male dominated industry, Castaño and Webster (2011).

Gender schemas are useful to understand how girls perceive and understand themselves in relation to their male counterparts in terms of technology. In addition to this, the conceptual framework is also enriched by the reviewing the interaction between gender schema framework and the perceptions of women in technology in this study will be challenged by having an intervening variable in career development via mentoring. Traditional gender schema on roles leads to undesirable work patterns, Lemons and Parzinger, (2007) and why gender schema can help us understand the behaviors and attitudes that affect role expectations. This model also explains why there is to some extent there is implicit bias in science careers, Corbett and Hill 2015), it also results in stereotype threats which are activated when fewer women work in an organization and the need to have interventions via formal or informal means to reduce the incidences of this.

The impact of mentoring may moderate some of the negative outcomes of the gender schemas inherent in an organization that deter networking and development of perceived leadership influence, Way (2015). This conceptual theory advanced by Enhrich, Hansford and Tennet, (2010) when they evaluated the theoretical frameworks underpinning mentoring from a multidisciplinary approach.

2.5 Conceptual Framework

The variables for the conceptual framework are divided between independent variables for which the talent management strategy for an organization is assumed to be constant as defined within HR practice. The independent variables mainly styles frameworks and gender schemas in place for the individuals.

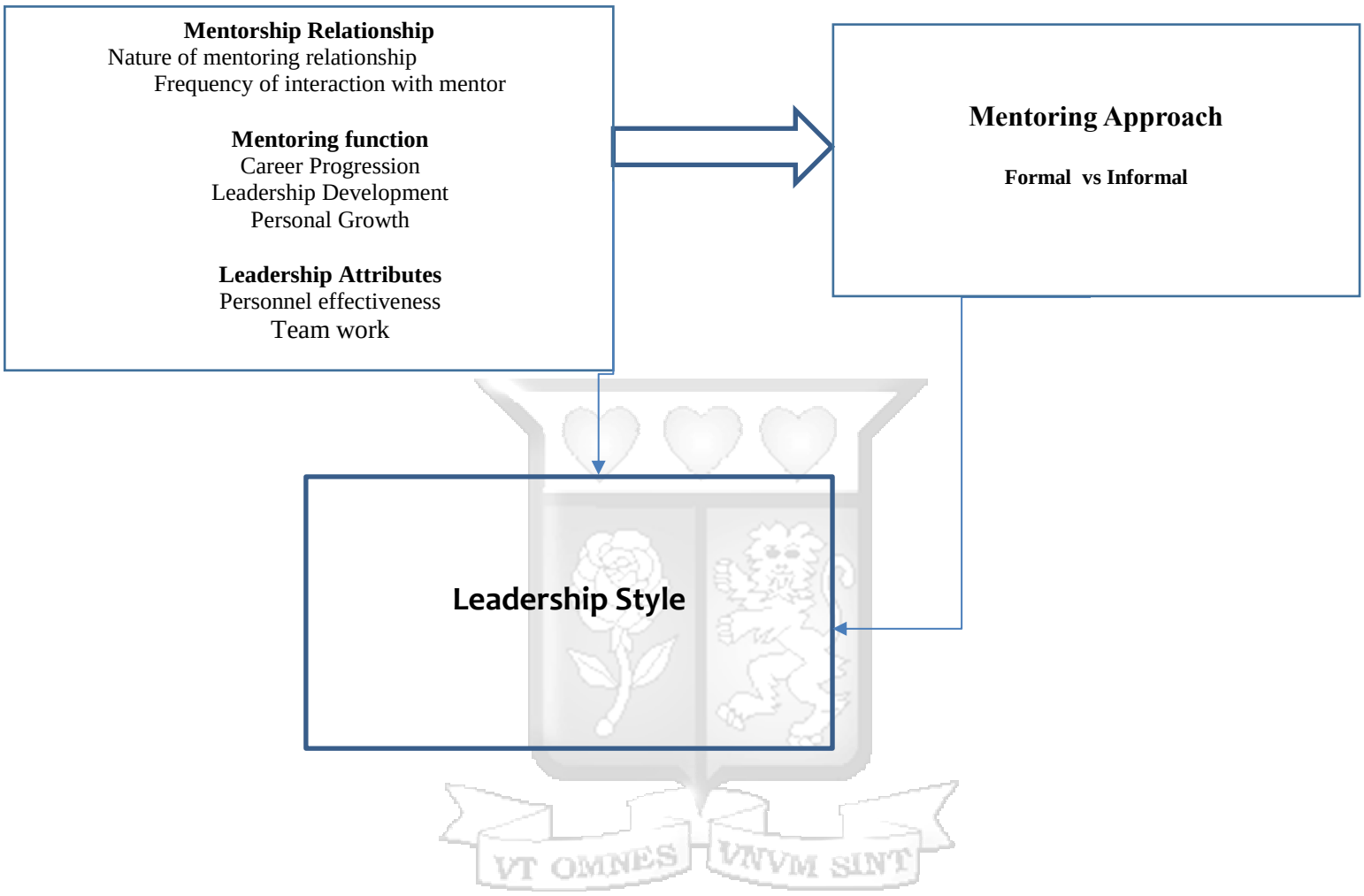
The dependent variable are related to the mentoring relationship established factors such as nature of mentor, frequency of the mentoring sessions , purpose of mentoring if stated eg i.e. career development or skills development. These variable may be influenced by a myriad of factors that may not have been considered influential to the exploratory nature of study nonetheless may be expressed within the mentoring relationship dynamics that make the mentoring relationship. (Way, 2015), individual factors (occupational personality), interpersonal factors (mentoring, role models, and social networks), social factors (work-family life balance, bias and discrimination) and occupational factors (organizational culture, occupational culture of IT, occupational commitment and finally organization factors (organizational culture and climate). In using these factors to investigate the description of how mentoring relationships fall into , to identify career success, then the research model will be designed to consider the interplay between interpersonal, occupational and organization factors during mentoring for leadership development.

The main hypothesis studied using this conceptual framework are:

H_0 – Formal and informal approaches of mentoring and the nature of mentoring relationships have no influence on impartation of leadership styles as the means of the two samples due to statistic similarity.

H_0 – Formal and informal approaches of mentoring and the nature of mentoring relationships have influence of leadership styles as the means of the two samples are not statistically similar.

Figure 2.2 Conceptual Framework



2.6 Summary of Literature Review

From the literature review, we establish the importance of mentoring and center it within the discussion of how mentoring and subjective outcomes like leadership development are interlinked. Formal mentoring lends itself to study due to the defined structure of relationship as identified in various literature sources.

One fundamental aspect that the literature seems not to highlight is how to determine is how successful formal mentoring approaches are characterized. By focusing on the differences between formal and informal mentoring approaches, then then this work became a foundation for bridging point for discussion around successful interventions and modelling of a mentoring approaches and interventions within human resource practice and part of the directed talent management toolkit available for leadership development.

Previous studies have tended to focus on entry, gender disparity in technology education and the challenges that are faced by women in STEM careers. The literature review summarizes the global status of women in STEM, identifies the need for ICT in a global and local set up. It also pinpoints the challenges facing women in STEM careers both locally and globally. It narrows down to the specific industry - ICT industry on a global and local scale and compares the challenges faced in both scenarios.

This leads up to the identification of a gap within Kenyan scholarship of critiques for how mentoring and especially formal mentoring impact the participants in such initiatives and these are the questions that this study proposes to start the conversation on

CHAPTER THREE: RESEARCH METHODOLOGY

3 Introduction

This chapter shows the approaches that were used in sourcing and assessing data apropos of the aforementioned research questions in order to make inferences on the relationship between the dependent and independent variables presented in the conceptual framework in the previous chapter. This chapter is divided into the following sections – research approach and design, population and sampling, data collection, data analysis and presentation, research quality, and ethical considerations.

3.1 Research Design

This is was an exploratory study. This approach was chosen in light of the assumption that it was necessary to isolate the two different mentoring approaches - formal and informal from broader scopes of talent management interventions such as training and socialization, describe them and their characteristics within the scope of the study. It was done in order to explore the phenomenon's actual impact Vis a Vis its intended impact (Bozeman & Feeney, 2007); in this case, the intended impact of both approaches is to lead to a description of leadership styles from actual beneficiaries.

A mixed research design was employed - both quantitative and qualitative data was collected. Quantitative data was collected using questionnaires featuring Likert scales whereas qualitative data was collected through open ended questions answered during face to face interviews. Questionnaires were used since they present an avenue for collection of data that is easily coded and analyzed through standard statistical tools. Face to face interviews were included owing to the small number of the target population; women in the information technology field in Kenya who

are significantly fewer than their male counterparts. Questionnaires were issued to technology experts fitting the set criteria – women managers in the information technology field.

3.2 Sampling

The target population for the study was women working in the ICT industry of Kenya. Respondents were therefore to be sourced from ICT organizations and learning institutions offering various ICT related courses. These respondents were to be reached directly through contacting the respective institutions and through networking, and through support entities such as Women in Technology Initiative by Safaricom, The African Women in Technology Conference, Women in STEM, and Akirachix – an organization offering mentorship for women in ICT. The sample included 30 questionnaire respondents and three respondents from HR department of the ICT industry and higher learning sector in Kenya.

Marshal, Cordon, Paddor & Fontenot (2013) highlight that researchers rarely provide explanations for chosen samples and this may serve to undermine the authority of results and postulations made; this study justifies the selected sample size by focusing on Safaricom – Kenya's largest ICT employer. Although the company's employee records show a 50-50 balance with regard to male-female numbers, only 15% of IT professionals are female (CISCO – Women in Technology, 2014, August). The small number chosen for the study was therefore used to make inferences on the population in the sector.

To establish the number of women in ICT in Kenya out of the total employees in the sector, data from the KNBS on formal wged employees in Kenya acted as a guide. This aggregates data for all the sectors in Kenya and for this study provides a guide on the companies identified with mentoring programs provided for in the human resources strategy as a means for talent management.

Computation of the sample size was determined by formal wage employment report from KNBS for the technology sector which at the time of the study, last reported the number of waged employees for the industry (data processing, hosting and related activities) at 4, 655, KNBS (2012) This number was then extrapolated against the percentage of women in formal employment in Kenya in the latest report which gave percentages for men: women ratio at 66:34 in formal employment. (KNBS, 2018).

The calculation below is an estimate of the total number of women in formal employment within the technology industry. A sample for women managers could then be extrapolated using percentages given for women in management level in Kenyan organisations using a conservative rate of 10% for the number of women managers in the industry.

Total Population size for waged employment in technology: 4655*0.34= 1583

Ideal population to be studied: 1583*0.1 = 158

The sample was set to be determined using a 95% confidence level, .5 standard deviation, and a margin of error (confidence interval) of +/- 5%, which gave an ideal number of 112, however due to challenges of access to organisations during the questionnaire test phase, stipulation on length of time served as a manager; a further conservative estimate shrunk the intended sample to an estimated 30 respondents for which the questionnaires were administered and data gathered.

3.3 Data Collection Methods

The tool employed in the collection of data is the questionnaire attached in the appendix. The questionnaires were distributed to the target organizations following the identification of qualified respondents through establishment of direct contact with the organizations and networking. A research assistant was engaged to enhance reachability within the target population and to expedite the collection process.

The primary data was collected from an array of ICT centered organizations with a particular focus on Women in Tech initiative by Safaricom, Wananchi Group, Airtel, Liquid Telcom, Access Kenya, Seven Seas Technologies and Orange Kenya. Networking was also done through such organizations as Women in Technology Initiatives, The African Women in Technology Conference, Women in STEM, and Akirachix – an organization offering formal mentorship for women in ICT. The data was collected through both electronic and physical questionnaires and featured two cohorts - Female ICT experts that have received formal mentoring and those that had a more informal mentoring approach.

Interviews were then scheduled with Human Resource representatives from companies involved in the filling out of questionnaires. The top two companies with the most number of questionnaires were chosen as representatives and in-depth open-ended questions issued to provide contrast to the inferences made after statistical analysis of the information collected through questionnaires. A total of five companies were represented in the interview process.

3.4 Data Analysis

Analysis of data was conducted through both descriptive and inferential methods. Descriptive analysis was done to provide summarized data and highlight emergent trends or observations in

the data set. The descriptive statistics were categorized according to the demographic information collected through questionnaires. Summaries of interview data are also highlighted.

Two statistical inferential analysis methods were used – Students t-test for Independent Samples and Spearman's Rank Correlation analysis; these are discussed under the respective objectives they are intended to serve. The statistical software SPSS was used for data analysis.

A correlation analysis based on Spearman's Rank Correlation coefficient was then conducted to assess the association between various aspects of the two mentorship approached and the rated questions on leadership. Inferences obtained from the two statistical tests were then compared with the qualitative data from the open ended interview questions to assess consistency, or lack thereof, between perceived impact of mentoring approaches and the actual statistically verifiable impact with respect to leadership styles.

Both descriptive and inferential statistical analyses were performed on the collected data. In order to extract and interpret the complexity of information rich data from the open ended questions the data was categorized and emergent categories identified. These responses were transcribed and content analysis used to reduce the data, (Schereir,2012). In Krippendorff (1989), the means of content analysis is the inference of data into "replicable and valid inferences of data from their context." Decoding the information provided was critical to content analysis.

The first step included coding "i.e. assigning materials to the categories of the coding frame Shcheirer, (2012), Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014) and ensure that the categories chosen were clear and aligned to the variables. Once the coding system was deployed to categorize information then the frequency count of key words

given as responses was done to determine the occurrence of each category. The recurring themes were then established Elo et al (2014) (Creswell, 2008).Interpretation of this information was then done. It was dependent on the number of responses to the questionnaires and the extent to which the different categories of responses on the variables were established. Functional analysis which is useful in explaining recurrent behavior in social sciences was useful to develop the relationship between the variables.

Descriptive statistics served to provide a succinct representation of trends and summaries observed from the qualitative data whereas for the qualitative data, appropriate coding was conducted to surmise emergent opinions. The inferential statistics analysis approach was two-fold – Students t-test for Independent Samples and Spearman's Rank Correlation. Student's t-test for independent samples applied to assess whether the mean from data on mentoring approaches – formal vs informal could give a statistical variance. This allowed the researcher to infer any significant differences in the cohort studied for formal mentoring Vis a Vis that observed from the group that did not receive formal mentorship.

Objective 1: To compare formal and informal mentoring approaches used for leadership development for women in technology by looking at impact on career progression into management which would be an outcome of leadership development programs

Student's t-test for Independent Samples were conducted to assess whether the means obtained from the two samples were different. The test conducted was at $\alpha=0.05$. The significance assessed for a two-tailed distribution provided that the analysis was on two independent samples. The null and alternative hypotheses are highlighted below:

The resulting significance value for a two-tailed t-test was used to determine the hypothesis to be rejected and appropriate inference made on the significance of mentoring as observed from the collected data.

Objective 2: To expand and differentiate between the mentoring relationships between mentor and mentee by analyzing respondent perceptions on leadership competencies

Spearman's Rank Correlation analysis was used to assess the relationship between the aspects of mentorship programs and leadership competencies. This correlation approach was chosen owing to the ordinal nature of the data collected through questionnaires; Spearman's Rank Correlation is a non-parametric approach suitable for analysis of ordinal data (Zar, 1998) and also that factored in the small sample size. The test was conducted under $\alpha=0.05$ and significance of the test assessed under a two-tailed distribution.

Objective 3: To assess whether the range of difference if identified in both approaches contribute to other mentoring outcomes or skills for women managers in the ICT industry in Kenya over and above leadership styles

Objectives one and two provide information of the impact or lack thereof, of mentorship programs and the extent of correlation or lack thereof, of aspects of the programs and the gained leadership styles. The interviews were coded through and a content for key word and word density searches done to establish whether there were any other outcomes over and above the gaining of leadership styles and other skills that may contribute to perceived leadership styles. The information gained from the interviews was then compared and contrasted with that obtained from objective one and two.

3.5 Research Quality

The main check put in place to ensure quality of the research initiative was the selection of appropriate analysis approaches. Spearman's Rank Correlation analysis was chosen over Pearson's Correlation analysis as the latter is less fitting given the ordinal nature of the data collected. Rigorous efforts were also put in place to ensure that the assumptions of each test were met before selecting the inferential analysis tools highlighted under objectives one and two. A preliminary analysis of the appropriateness of the data collection tool was also conducted through electronic distribution of the questionnaire and interview questions the various respondents. Initial insights from the HR group was be used to adjust the data collection tools which was a sample of 3 which was a bit insignificant to collate pilot data from hence used to adjust the questions asked in the questionnaire for clarity for the main study.

3.6 Validity and Reliability

Johnson (1997) observes that interpretive validity refers to the clarity of understanding of the thoughts, views, experiences of and perceptions of respondents by the researcher. To ensure interpretive validity and coherence of responses, the collection tools – questionnaires and interview prompts – were assessed through a pilot study whereby the researcher engaged practitioners in the field in a critiquing exercise to assess the appropriateness and clarity of questions used to assess the various dimensions presented in the questionnaire. The questions were deemed appropriate and clear.

With regard to reliability, Cronbach's alpha was used to estimate the reliability of the three Likert scales employed in the study. The resulting scores for each scale are shown in table 4.1 below. According to Creswell (2008), a Cronbach score of 0.6 or higher is sufficient in justifying the reliability of a scale; all the scales, on this account, were therefore deemed reliable with the

exception of the first scale "Career Progression". The low rating in this case was attributed to the small data set.

Table 3.1 Cronbach's Alpha

Career Progression	0.35
Leadership Competencies	0.69
Mentoring Approaches	0.60

Source: Survey data (2018)

3.7 Ethical Considerations

Given that the research topic is sensitive, measures were put in place to ensure the anonymity of respondents. These measures included random issuance and collection of questionnaires, particularly through online platforms, and the segregation of responses from ICT and HR practitioners within the industry. Respondents were informed of their right to decline from participating in the study and to omit whatever questions they find intrusive. All physical questionnaires were stored safely following input of data to the analysis database so as to further ensure privacy of responses.

CHAPTER FOUR: FINDINGS AND RESULTS

4 Introduction

This chapter provides an analysis of data collected to address the objectives of the study – to establish the relationship between formal mentoring approaches and leadership development among women in IT in Kenya. Data was collected through the use of questionnaires and interviews.

The data collected was to help establish if the research questions identified could be answered:

4.1 Response Rate

The specified sample size for the study was 30 respondents participating in providing answers through structured and unstructured questionnaires for which all respondents gave answers, and face to face interviews also for which all respondents answered. Once the questionnaires were received, they were checked for completeness. The resulting sample comprised of 30 IT professionals

A total of three interviews were collected from the Human Resources Managers where some of the respondents worked to establish the existence of a formal mentoring program. This got a 3 /5 response rate from HR practitioners. Given Baruch and Holtom's (2008) specification of a 52.7% response rate as sufficient for analysis, the data was deemed adequate for the drawing of insights following descriptive, inferential and qualitative analysis.

4.2 Demographic Characteristics

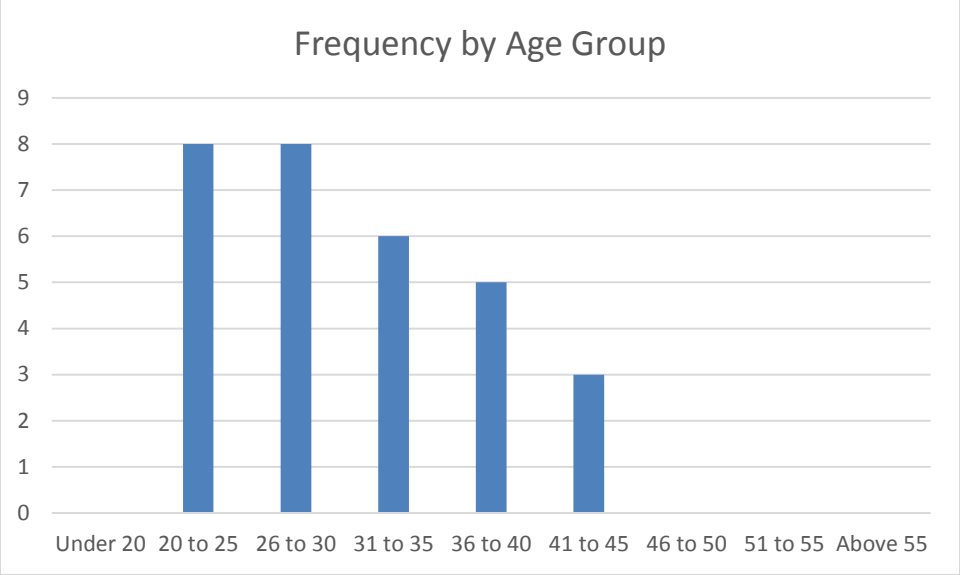
This study set out to investigate formal mentoring approaches and the contribution to the development of leadership characteristics among women in ICT field in Kenya. The demographic

descriptions below comment on the age group and ranges, length of career, nature of roles and is presented in histograms, descriptive language and tables.

4.2.1 Age groups

Two groups presented – 20 to 25 and 26 to 30 each had eight respondents. There were no respondents below age 20 and over 45. This is depicted in figure 4.1.

Table 4.1 Age group frequency

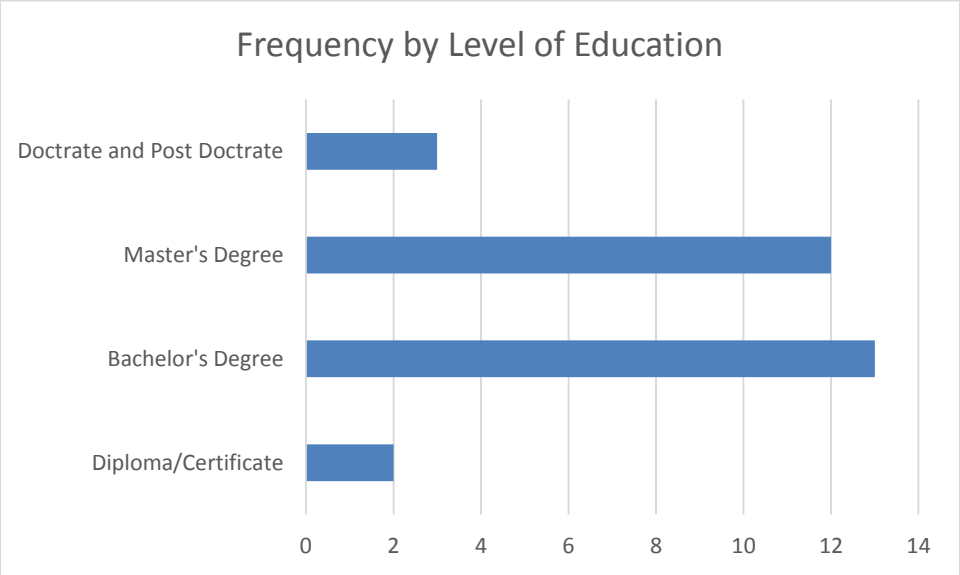


Source: Survey data (2018)

4.2.2 Level of Education

Most of the respondents had attained (at least) their bachelor's degree (28) with the breakdown being those with Bachelor's degree (13) as their highest qualification. Those holding Master's degrees were the second-highest in frequency (12). Figure 4.2 shows the frequency for each level of education.

Figure 4.2 Level of Education Frequency

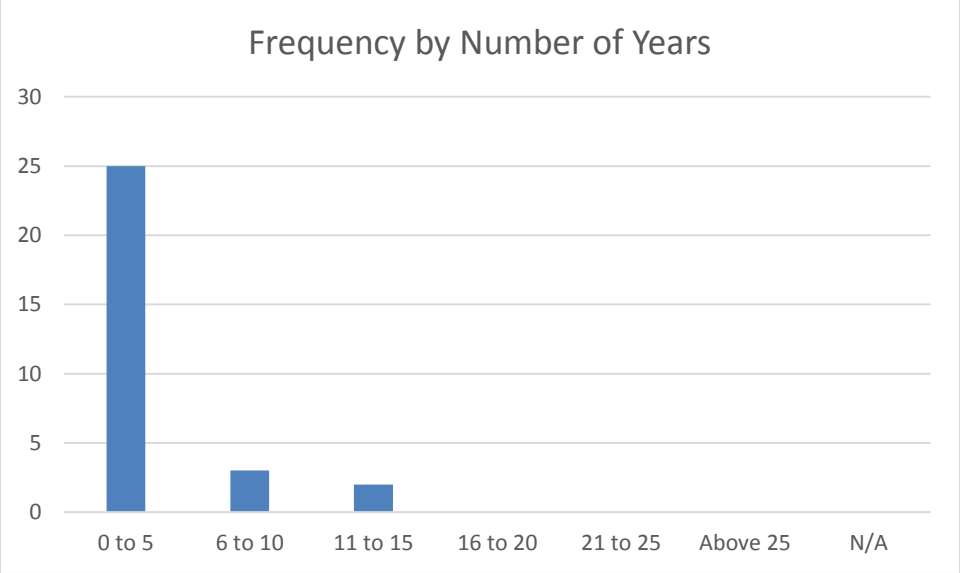


Source: Survey data (2018)

4.2.3 Number of Years in Employment

25 of the respondents had been employed for up to five years. Only one person had been employed for more than 10 years. This is shown in figure 4.4.

Table 4.2 Years in employment – frequency



4.2.4 Position in organization

Seven of the respondents held programming and development positions within their organizations whereas two were system analysts. Six had designated manager roles in various capacities and one was the founder of an organization and one was involved in academia.

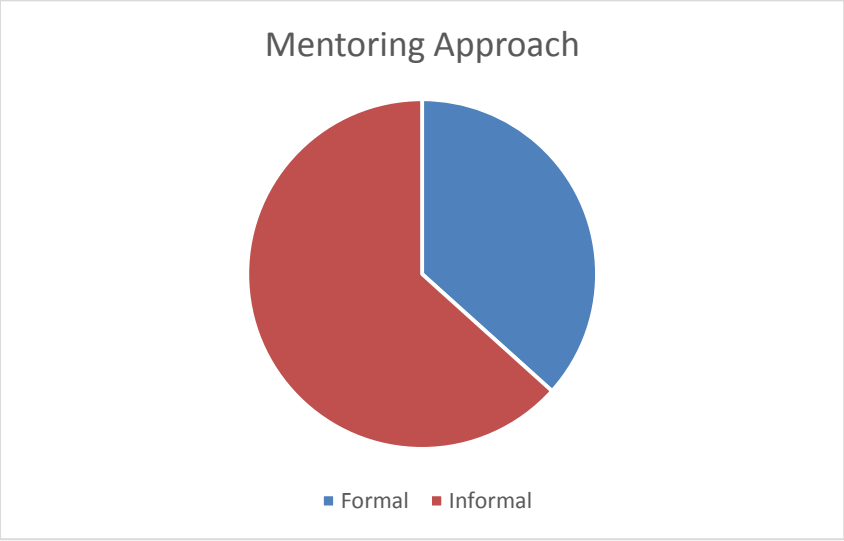
4.2.5 Additional courses and technical skills

The most frequently occurring additional qualifications were in networking and database management; specifically, CISCO Networking, VMWare certification and Oracle certification. The lowest cited additional qualification was a computer package certificate.

4.2.6 Formal and Informal Mentoring

All respondents indicated that they were involved in mentoring programs. Of the 30 respondents, 11 were involved in formal mentorship whereas 19 were not. The proportions are indicated in figure 4.3 below.

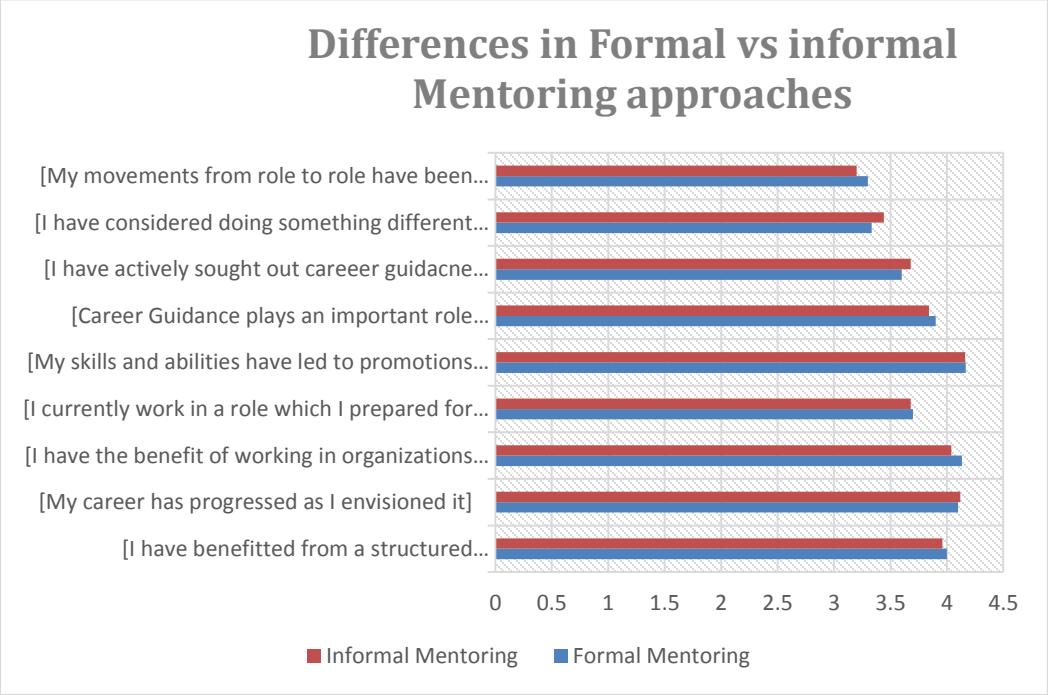
Figure 4.3 Mentoring Approach



Source: Survey data (2018)

The figure below expands out the data from this by highlighting key responses on how the two approaches impact on outcomes related to career development from the 11 who indicated a formal approach vs 19 who indicated an informal approach.

Figure 4.4 Differences in formal and informal mentoring approaches



Source: Survey data (2018)

4.2.7 Detailed results of Likert Scales used for the study

A detailed discussion on figure 5.5 on mentoring approach components is done via the presented tables 4.5, 4.6 and 4.7, each establish a link between the research objectives highlighted in chapter one; for instance the link between career progression and mentoring to address the research question especially on whether the range of differences identified in both approaches contribute to leadership styles of mentees and other mentoring outcomes or skills for women managers in the ICT industry in Kenya

The Likert Scale provides the quantitative aspects of the study which are then expanded upon by the open ended questions to give the qualitative data and expand on particular aspects of the research questions outlined. A total of 29 statements on the 5-point Likert scale was used to analyse the self-assessment on leadership competencies and leadership approaches. The first Likert scale breakdowns the benefit of mentoring on career progression to establish whether formal and informal mentoring as a whole have similarities then differentiate in the other Likert scales to expand on the difference in impact to leadership competencies and overall structure for respondents to indicate for perceived structure and benefits of mentoring.

The detailed findings from these statements on the scale are analyzed in the pages that follow with links to various aspects of the research questions addressed and tied together with the analysis of the open ended questions which are qualitative.

Table 4.5 Mentoring Approaches

Variable\Statistic	Frequency					Descriptive Statistics		
	0	**2**	**3**	**4**	**5**	**Median**	**Mean**	**Standard Deviation**
[I have good mentors]	1	0	0	11	18	5	4.47	0.973
[My mentor was informal]	1	3	2	18	6	4	3.83	0.986
[The companies I have worked for had a formal mentorship program]	6	10	4	8	2	2	2.67	1.269
[We discussed technical aspects of the job during our sessions]	0	2	3	18	7	4	4.00	0.788
[My mentor coached me on work life balance]	1	1	5	8	15	4.5	4.13	1.167
[Mentoring was useful to map my goals both personal and, in my career]	0	2	0	21	7	4	4.10	0.712
[I mentor others in my team and outside the workplace]	0	0	5	13	12	4	4.23	0.728
[Mentoring should be a mix between informal and formal meetings]	1	1	0	17	11	4	4.17	1.020
[Mentoring has had a big impact on my career so far]	0	0	2	14	14	4	4.40	0.621
[I would like to coach and mentor others within the IT industry]	0	0	0	17	13	4	4.43	0.504
TOTAL FREQUENCY	**8**	**16**	**19**	**116**	**81**	**28.5**	**29.47**	**5.540**
PERCENT AND MEDIAN	**10%**		**8%**	**82%**		**4.07**	**4.21**	**0.791**

Source: Survey data (2018)

In order to establish the relative weight of the first research question, the second section of the questionnaire answers the first research question on the comparison between formal and informal mentoring approaches used for leadership development for women in technology by looking at impact From table 4.5 above, 82% of the respondents were in agreement on the nature and structure of the mentoring On the other hand, only 8% of the respondents were in neutral while 10% of the respondents were in disagreement. The mentoring approach median value is at 4.07 while the mean for the total score is 4.21 which leans towards agreement. Standard deviation, a measure of

dispersion in responses, showed a variation among the attributes on the 5 point Likert scale data points towards approximately below 1.0 (0.791).

Table 4.6 Career Progression

Variable\Statistic	Frequency					Descriptive Statistics		
	0	**2**	**3**	**4**	**5**	**Median**	**Mean**	**Standard Deviation**
[I have benefitted from a structured development program in my career]	1	1	3	17	8	4	4	0.910
My career has progressed as I envisioned it	0	0	5	17	8	4	4.1	0.662
[I have the benefit of working in organizations with strong leadership Development programs]	0	1	6	11	12	4	4.1	0.86
[I currently work in a role which I prepared for in the early years of my work life]	1	4	3	17	5	4	3.7	1.022
[My skills and abilities have led to promotions to my career role]	0	1	3	16	10	4	4.1	0.747
[Career Guidance plays an important role when choosing future careers at the university]	1	4	1	14	10	4	4	3.9
[I have actively sought out career guidance when considering my next move]	1	8	1	12	8	4	3.6	1.248
[I have considered doing something different from what I currently do]	4	4	3	16	3	4	3.3	1.241
[My movements from role to role have been fast]	1	4	7	16	1	4	3.3	1.088
TOTAL FREQUENCY	8	28	27	106	54	28	26.2	
PERCENT AND MEDIAN	**16%**		**12%**	**72%**		**4**	**3.7**	**1.44**

Source: Survey data (2018)

The second section looks at career progression as an outcome of mentoring approach which is on one of the mentoring functions, Ragins and Kram (2007) In table 4.7, the data shows that 16% of the respondents were in disagreement. A 12% were neutral on mentoring approaches and career progression while 72% were in agreement, a mean of 3.7 which is towards agree but heavily on disagree is also noted. The median value is 4 with a standard deviation of 1.44 which is above 1.0 for this Likert scale and this is a larger variation from the previous data set on mentoring approaches.

Table 4.7 Leadership competencies

Variable\Statistic	Frequency					Descriptive Statistics			
	0	**2**	**3**	**4**	**5**	**Mode Frequency**	**Median**	**Mean**	**Standard Deviation**
[I collaborate well with others to achieve set objectives]	1	0	0	13	16	16	5	4.4	0.968
[I am considered an expert in my area of expertise]	0	0	6	17	7	17	4	4.03	0.669
[My team members have grown in their roles while working with me]	1	0	0	16	13	16	4	4.3	0.952
[Followers are a good indicator that I am a good leader]	1	2	2	10	15	15	4.5	4.17	1.177
[Others have commended me on my leadership skills]	0	0	1	19	10	19	4	4.3	0.535
[I help others find meaning in their work]	0	1	1	17	11	17	4	4.27	0.691
[When conflict arises, I consider the best interests of all concerned]	1	0	1	15	13	15	4	4.27	0.98
[When I delegate a task, I allow my team members the freedom to give solutions]	0	0	0	30	0	15	4	4.27	0.98
[Failure reflects badly on the effectiveness of a good leader]	2	2	4	4	13	13	4	3.47	1.332
[My people understand the need to work well together in a unified manner]	0	0	2	12	16	16	5	4.46	0.629
TOTAL FREQUENCY	**5**	**5**	**11**	**123**	**91**	**110**	**29.5**	**29.2**	
PERCENT AND MEDIAN	**4%**		**5%**	**91%**		**15.7**	**4.21**	**4.17**	**0.903**

Source: Survey data (2018)

Leadership competencies were measured in the third section and 91% of the respondents agreed, 5% were neutral while 4% disagreed. The mean was at 4.17 with a median value of 4.21. 0.903 for the standard deviation is below 1.

4.2.8 Detailed results of open ended questions

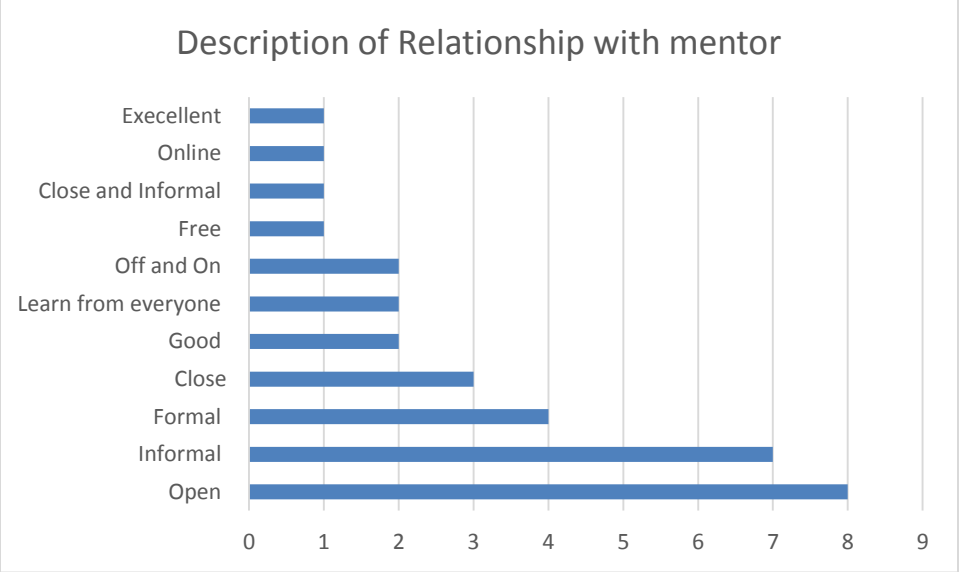
The sentiments of the respondents was also captured on open ended questions for which the following questions represented by the table below are analyzed to identify themes that indicated, nature of mentoring relationship, frequency of meetings , objectives met during the mentoring process ,contribution of mentoring approach to leadership style and the important aspects of the

leadership style influenced by mentoring. The answers were categorized and emergent themes for each of the questions identified. This is presented below with a variety of tables, graphs and histograms that show the emergent themes.

4.2.8.1 Nature of mentoring relationship

Question 1 on the open ended form required respondents to briefly describe their relationship with their mentor, the responses were categorized to 11 categories based on the predominant descriptions as illustrated in figure 4.8 that further details out and expands the formal and informal approach to mentoring indicated in figure 4.5.

Figure 4.8 Themes emergent on nature of mentoring relationship



4.2.8.2 Assigning of mentor and development of mentoring relationship over course of mentoring process

This question asked mentees to describe how they were you assigned mentors, whether they chose them. Where the response was yes, they described how they went about choosing a mentor. If no, describe how the relationship developed over the period of the mentoring process.

Table 4.9 Mentor assigning and development of mentoring relationship over time

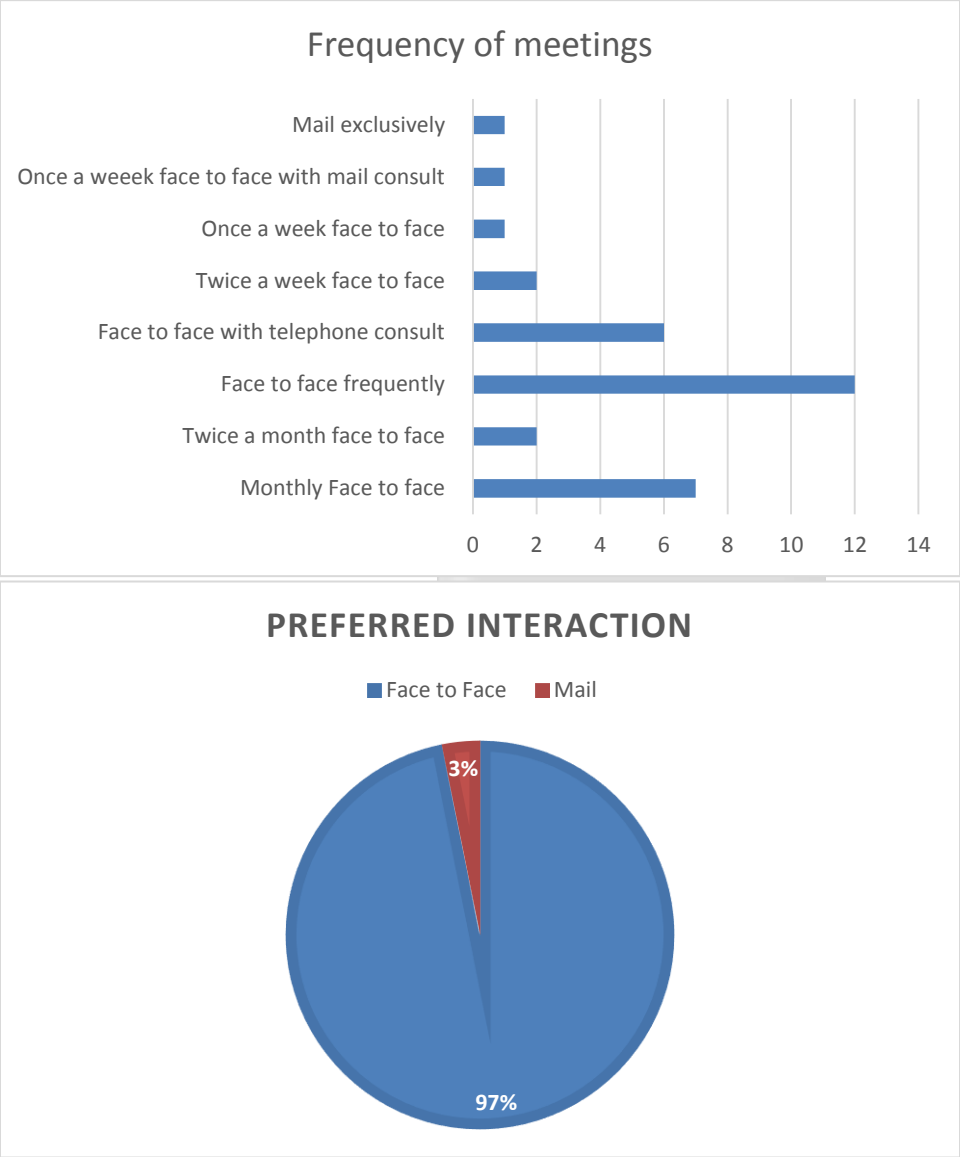
Interview Question	Response	No of Responses	Key Themes identified with the responses
How were you assigned your mentor? Did you choose your mentor? If yes, describe how you went about the process of choosing a mentor. If no, describe how the relationship developed over the period of the mentoring process.	No	12	• Established contact with the mentor • Met in the line of work • Worked together and in the course of working together a mentoring relationship was established • Mentor initiated the process by giving advice
	Yes	8	• Assigned by the organisation • Applied for the mentoring program
	Chose my Mentor	6	• Observed mentor at work • Established a friendship
	Informal	1	Not indicated
	Chosen by Mentor	1	Not indicated

Source: Survey data (2018)

4.2.8.3 Assigning of mentor and development of mentoring relationship over course of mentoring process

Face to face meetings were preferred by the majority of respondents at 91% of the time, there are splits and merges in the style and frequency of interactions which then can either be face to face combined with a telephone consult or mail as shown by figure 4.10. Frequency of the meetings ranged from once a week to once a month as illustrated in the histogram below, there was one respondent with a purely online interaction which was described as “if I had a problem, I would screenshot, or just write a mail detailing what I needed to him to help him out with”

Figure 4.10 Histogram of meeting frequency



Source: Survey data (2018)

4.2.8.4 Outcomes of formal and informal mentoring approaches

The outcomes highlighted in objective 2 were grouped as work effectiveness, leadership, career growth, time management and other unspecified new skills by the respondents.

Table 4.11 Key goals and objectives accomplished via mentoring

What key goals and objectives did you accomplish through the mentorship?	
Work Effectiveness (delegation , teamwork, attention to detail , planning , working under minimal supervision , influencing others)	16
Career Growth	11
Time Management	6
Work life balance	5
other skills (how to apply for scholarships, life skills , financial skills)	5
Leadership	**4**
Unspecified (new skills)	4
Technical Skills	2

Source: Survey data (2018)

4.2.8.5 Contribution of mentoring to leading others

The most important contribution of mentoring to lead other as identified by the respondents is how to lead others at 9 respondents and includes skills for delegation, team work and listening. Both communication and self-belief tie in with 5 respondents. Lastly self-confidence has 3 respondents.

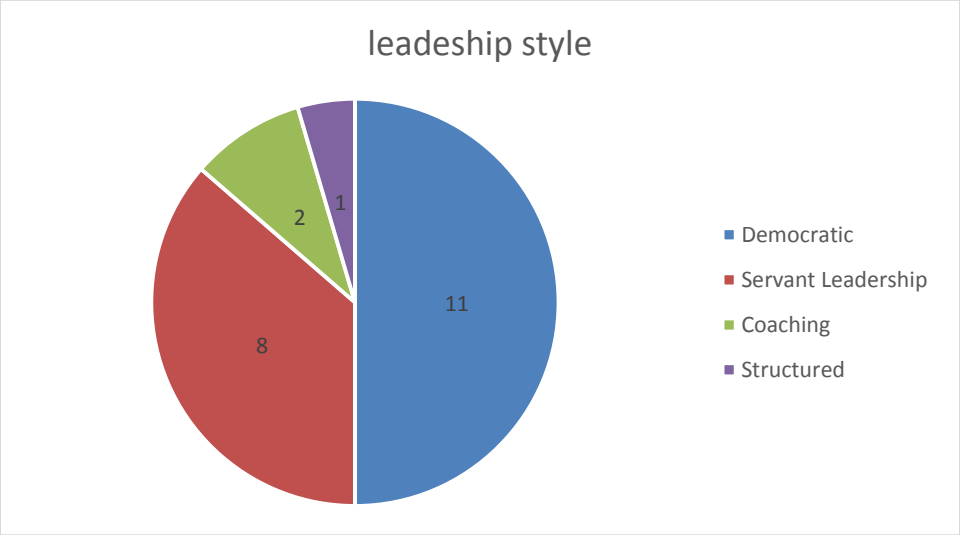
Table 4.12 Contribution of mentoring to leading others

Do you believe your mentorship has contributed to your ability to lead others? How did you the mentoring help with that?	**Frequency of theme identified**
Self confidence	3
Improved Communication (with others , clients)	5
Self-belief to lead (peer mentor, example to juniors)	5
Leading others (delegation , teamwork , listening	9

4.2.8.6 Self-assessed leadership style and impact of mentor on leadership style

Respondents gave the dominant leadership styles as democratic, servant leadership, democratic, coaching and structured styles. Democratic also categorized wit accommodating leadership got 11 responses which made up 50% of the responses, servant leadership with 36%, coaching at 9% and with the least respondents structured at 5%

Figure 4.13 Pie chart of leadership styles



Source: Survey data (2018)

The highest scoring category identified was what was identified as goal seeking orientation that was comprised of determination, focus, attention to detail, discipline, work effectiveness, passion for work tracking progress which had 16 responses. This was followed on by time management with 11 responses. Team work and working with a diversity of skills and people had 4 responses each.

Table 4.14 Important attributes about leadership style that have been influenced by mentor

What are the important things about your leadership style that have been influenced by your mentor?	Themes Identified and frequency
Goal seeking orientation (determination , focus , attention to detail , discipline, research, effectiveness ,passion for work tracking progress)	16
Time Management	8
Being free / Open minded	6
Teamwork	4
Working with diversity of skill and people	4
Delegation	3
Knowledge	2

Source: Survey data (2018)

4.3 Inferential Analysis

To compare formal and informal mentoring approaches used for leadership development for women in technology by looking at impact on career progression into management which would be an outcome of leadership development programs

To compare the mentoring approaches, the data set from respondents was divided into two groups – those with formal and those with informal mentoring experience. For each respondent in either group, an average representative figure depicting responses for each question on competence was computed; the resulting figure was interval in type and was taken to be the representative figure for each individual. The representative figures for individuals in the two data sets were then

assessed for statistical difference using the independent t-test. The null hypothesis for the test is stated below:

There is no statistical difference between means from the two data sets.

T-test analysis output data is depicted in table 4.15 and 4.16.

Table 4.14 Group Statistics

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Mean	Formal	11	3.78	0.375	0.11
Progression Formal	Informal	19	3.887	0.432	0.10

Source: Survey data (2018)

Table 4.15 Independent Samples T-test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean	**Equal variances assumed**	1.202	0.282	-0.604	28	0.551	-0.09	0.16
Progression Formal	**Equal variances not assumed**			-0.628	23.547	0.536	-0.09	0.15

Source: Survey data (2018)

The mean response for the category that received formal mentoring, as pertains to leadership competencies, was 3.78 compared to 3.87 for the group that did not received formal mentoring. The standard deviation for the two groups were 0.38 and 0.43 respectively. Levene's Test for Equality of Variance was included in the analysis to assess the homogeneity of variance assumption; according to the prerequisites for the t-test, the variance for the two samples should

be similar. The f-value of 1.202 was extracted with a significance value of .282 which was greater than 0.05 hence the samples were taken from the same population (Gastwirth, Gel & Miao, 2009). The homogeneity of samples assumption therefore holds. The t-value for the data was 0.551 with the assumption of equal variance with a standard error of 0.16. The standard error is therefore greater than 0.05 hence the null hypothesis could not be rejected.

To expand and differentiate between the mentoring relationships between mentor and mentee by analyzing respondent perceptions on leadership competencies

A Spearman's rank correlation test was carried out to assess the relationship between the average responses on mentoring approaches and average responses on leadership competencies. It was observed, as depicted in table 4.4., that the relationship between mentoring approaches and leadership quantities was weak but significant at α=0.05 (Bishara & Hittner, 2012).

Table 4.16 Spearman's Rank Correlation

Correlations				
			Mean Mentoring Approach	Mean Leadership
Spearman's rho	Mean Mentoring Approach	Correlation Coefficient	1.000	.391*
		Sig. (2-tailed)	.	.033
		N	30	30
	Mean Leadership Styles	Correlation Coefficient	.391*	1.000
		Sig. (2-tailed)	.033	.
		N	30	30
*. Correlation is significant at the 0.05 level (2-tailed).				

Source: Survey data (2018)

To assess whether the range of difference if identified in both approaches contribute to other mentoring outcomes or skills for women managers in the ICT industry in Kenya over and above leadership styles

Data from the responses collected from women practitioners in IT overwhelmingly indicated that both formal and informal mentoring approaches contributed significantly to the gaining of leadership competencies; of the 30 respondents, 29 indicated that mentorship contributed to the gaining of competencies. One viewed mentorship as a subjective learning process that also involved knowing what not to do by observing the mistakes of the mentor. Three were of the view that mentorship on leadership strongly contributed to the gaining of competencies.

Among the most important gains achieved by the respondents were discipline, organization, confidence, listening skills, technical skills, empathy and integrity; these were the most emergent themes from the responses. The dominant leadership style stated by respondents was democratic stated by eleven respondents.

Other notable leadership styles included servant and coaching leadership styles. It was generally observed that the mentoring was strongly associated with the gaining of competencies, an observation that was not apparent in the statistical output which indicated a weak correlation between the two dimensions.

The mean response for the category that received formal mentoring, as pertains to career progression was 3.8 compared to 3.79 for the group that did not received formal mentoring. The standard deviation for the two groups were 0.336 and 0.323 respectively.

Levene's Test for Equality of Variance was included in the analysis to assess the homogeneity of variance assumption; according to the prerequisites for the t-test, the variance for the two samples should be similar. The f-value of 1.20 was extracted with a significance value of .733 which was greater than 0.05 hence the homogeneity of samples assumption holds; the samples were taken from the same population (Gastwirth, Gel & Miao, 2009).. The t-value for the data was 0.81 with the assumption of equal variance with a standard error of 0.16. The standard error is therefore greater than 0.05 hence the null hypothesis could not be rejected.

Table 4.17 Career Progression

Group Statistics					
	Mentoring	N	Mean	Std. Deviation	Std. Error Mean
Formal Mentoring	Formal	9	3.80	0.336	0.112
	Informal	9	3.79	0.323	0.108

Source: Survey data (2018)

Career progression contributes to establish if leadership development links back to outcomes expected from mentoring approaches adopted. By asking respondents to evaluate their careers as a whole answers, the question on whether the range of difference if identified in both approaches contribute to leadership styles of mentees and other mentoring outcomes or skills for women managers in the ICT industry in Kenya then is validated. This section links also to mentoring effectiveness of approaches adopted.

Table 4.18 Career progression group statistics

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mentoring	Equal variances assumed	.120	.733	.081	16	.936	.0126	.1554	-.317	.342
	Equal variances not assumed			.081	15.975	.936	.0126	.1554	-.317	.342

Source: Survey data (2018)

It was generally observed that the mentoring was strongly associated with the gaining of several leadership styles as illustrated by figure 4.13, an observation that was not apparent in the statistical output which indicated a weak correlation between the two dimensions

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5 Introduction

This main purpose of this chapter was to discuss in greater detail the research findings and results and gives insight to the data gathered on formal mentoring approaches and leadership development. It was to out and expound on the findings and results, conclusions, recommendations and limitations as per the specific objectives of the study.

5.1 Discussion of each research objective

To compare formal and informal mentoring approaches used for leadership development for women in technology by looking at impact on career progression into management which would be an outcome of leadership development programs

The hypothesis under investigation in addressing this objective was formal and informal approaches of mentoring and the nature of mentoring relationships have no influence on impartation of leadership styles as the means of the two samples due to statistic similarity.

The null hypothesis was formal and informal approaches of mentoring and the nature of mentoring relationships have influence of leadership styles as the means of the two samples are not statistically similar.

Mentoring approaches have no impact on impartation of leadership competencies as the means of the two samples are statistically similar; and mentorship approaches have an impact on impartation of leadership competencies as the means of the two samples are not statistically similar. The t-value for the data was 0.478 with the assumption of equal variance. The t-value had an accompanying standard error of 0.14. The standard error was therefore greater than 0.05 hence the

null hypothesis could not be rejected. It therefore emerged that formal and informal mentorship approaches could not be statistically inferred to result in the gaining of leadership styles.

Kim (2007) observes that formal mentorship approaches are of particular importance to organizations as they serve to fast-track managers and to prepare them for key management responsibilities through the impartation of competencies. Bass (2006) further posits that mentorship approaches are essential in achieving extraordinary outcomes with regard to development of leadership capacity.

This study contravenes these findings as both groups – formal and informal – were deemed to be of the same population with regard to gained competencies.

To expand and differentiate between the mentoring relationships between mentor and mentee by analyzing respondent perceptions on leadership competencies

Spearman's Rank Correlations Test was employed to assess the relationship between leadership attributes and leadership styles. Results indicated a Spearman's Rank Correlation coefficient of 0.391. The correlation was significant at $\alpha = 0.05$. According to Bishara and Hittner (2012), spearman's rank correlation is suited for non-normally distributed data with scores of coefficients above 0.4 observed as being valid to inferring minimal correlation. The correlation coefficient of 0.391 was therefore deemed lower than the threshold 0.4 value. It was therefore inferred that there was a low correlation between mentorship approaches and leadership competencies gained. This finding contravenes the general body of literature indicating a correlation between the two constructs (Kim, 2007; Bass and Roggio 2006; Corbett and Hill, 2015). In particular, Corbett and Hill (2015) advocate for the increase of professional support in way of mentorship (among others) as a way to enhance the gaining of competencies hence productivity; this view is challenged by

the findings of this study which indicate that no statistically inferred difference is imparted by mentorship programs.

The finding therefore lends weight to findings by Allen et al (2008) who suggest that success of mentorship approaches should be viewed beyond traditional indicators of success – such as gaining of hard competencies – to include aspects of subjective success such as career satisfaction and work commitment.

To assess whether the range of difference if identified in both approaches contribute to other mentoring outcomes or skills for women managers in the ICT industry in Kenya over and above leadership styles

sAs with the assessment of gained leadership competencies, data on career progression indicated no statistically inferred difference between responses from those enrolled in formal mentoring initiatives and those that were not. Furthermore, Figure 4.5 depicting the mean response for each question assessing career progression indicated that the answers for the two categories were comparatively similar. It therefore emerged, from the summative and inferential statistics, that there was not a difference imparted by formal mentoring approaches. In general, however, as depicted in the open-ended questions, mentorship – both formal and informal – was viewed as being essential to the gaining of competencies.

The importance of mentorship as reported by both groups – formal and informal – was cited in that it resulted in the gaining of such attributes such as work effectiveness , time management , how to manage work life balance, listening skills, technical skills; these were univocally stated by both categories of respondents. Servant leadership was also viewed as a direct result of mentorship.

Among the cited structured mentorship programs were Women in Technology, and a graduate trainee program specifically for women – a program intended to fast-track career progression. These mentorship programs were implemented on a company-wide basis and mentors and mentees were required, by the companies, to meet on a face-to-face basis with the least quoted frequency of once quarterly. The data highlights the difference in formal mentoring relationships that are assigned by the organisation and those that may be self-initiated that make up a large component of the informal mentoring approach as illustrated in table 4.9.

Stahl et al (2012) posit that the talent management process involves three categories - recruitment, staffing and succession planning, training and development; retention management. This study sought to present the role of mentorship as a facet of the talent management process. Mixed findings were however resulting with statistical analysis indicting a lack of impact whereas qualitative responses derived from interviews and open-ended question indicating the inverse.

These mixed finding therefore point to the need to assess other factors that serve as tail winds to career progression. In particular, Way, (2015) proposes categorization and investigation of the effect of factors under the umbrella groupings – individual factors, interpersonal factors, social factors, and occupational factors. It may be possible that factors other than interpersonal factors – from which mentorship derives –some of these were established in this study therefore mitigating the effect of mentorship approaches on the gaining of career competencies.

5.2 Conclusions

The study demonstrates there is clear value in providing a more formal mentoring approach where outcomes are specified and can be quantified within organisations. This section highlights

recommendations, the challenges faced in research and other areas that can be expanded on for future research.

5.3 Recommendations of the study

From this study, there is a need for the Human Resources teams to put in more strategic thought into talent management strategies for Women in technology by adopting formal mentoring approaches that are quantifiable and support goal oriented behavior.

5.3.1 Managerial and Policy Implications

From this research it is clearer that organisations need to pay attention to how mentoring is done and leveraged as a competitive strategy in talent retention. The formalisation of mentoring approaches, will also lead to HR metrics that can measure the investment made in terms of time outcomes, career progression. This study also may give strategy on how to manage succession planning while using formal mentoring as one of the initiatives, once talent is identified and have a clear structure around staff readiness to take on leadership roles.

5.4 Limitations and Future Research from the study

In the course of this work, several limitations were encountered. Since the study was exploratory in nature, it aimed at establishing that there is merit in doing a deep dive of initiatives used for staff retention. However, the sample size studied reflected on the nature of and state of the information technology industry in Kenya and as highlighted in the literature review the participation of women in Kenya in STEM fields.

The data instruments used for the research were adequate to gather the data. For future and further research, the items on the self-assessment could increase and more demographic data that maps

earning potential included to map pay movement that would be attributed to the adoption of formal initiatives for mentoring.

Reliance on self -reported data cannot be independently verified and that is why there was an effort made to interview a cross section of practitioners in different organisations rather than reliance on one organisation. In order to also do data mitigation, Safaricom as the leading company has a more sophisticated approach to mentoring in ICT in Kenya and thus the other organisations strategies could be benchmarked against this data.

In addition, the research bias for this study only apply within a gendered framework and thus the findings cannot be generalized to the general population of staffers in ICT in Kenya and further studies on issues that may affect career movement and how structured mentoring initiatives are within organisations in Kenyan IT firms may need to be done.

In conclusion, there is a need to do more longitudinal studies following cohorts of employees from entry level after university and growth over various industries. This will allow for more readily available data on employment trends, industry shifts, management interventions to be noted and to get a more wholesale view of impact of HR practice within Kenya. There is also a need to develop more theoretical models for organisation based outcomes from talent management strategies within the African context to study how management practices adopted from global standards and practice of Human Resources evolve, what are the variables that shift with

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APPENDICES

Appendix I: Letter from Strathmore Business School

Strathmore Business School

Thursday, 15th February 2018

To whom it may concern,

Dear Sir/ Madam,

RE: FACILITATION OF RESEARCH – WANGARI KIBANYA

This is to introduce Wangari Kibanya, who is a Master of Business Administration student at Strathmore Business School, admission number MBA/88011/15. As part of our MBA Program, Wangari is expected to do applied research and to undertake a project. This is in partial fulfilment of the requirements of the MBA course. To this effect, she would like to request for appropriate data from your organization.

Wangari is undertaking a research paper on: **"Formal Mentoring Approaches – Structured Networks And Their Influence On Leadership Development: An Analysis Of Women In Technology In Kenya"**. The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and we shall be willing to provide any further information if required.

Yours sincerely,

For

Muriithi Njogu,
Director – MBA Programs.

Strathmore UNIVERSITY
Ole Sangale Road, Madaraka Estate
P.O. Box 59857 00200 Nairobi, Kenya
Cell: +254 703 034 414/6/7
Email: info@sbs.ac.ke or visit www.sbs.strathmore.edu
Twitter: @ SBS Kenya

Appendix II: Ethics Review Approval

Strathmore UNIVERSITY

2nd February 2018 SU-IRB 0075/16

Wangari Kibunya
P.O Box 8439-00200
Nairobi,
Kenya.

Email: [redacted]

Dear Wangari Kibunya,

REF Student ID: MBA/88011/15: Protocol ID: SU-IRB 0075/16
Formal mentoring approaches – structured networks and their influence on leadership development: an analysis of Women in Technology in Kenya

We acknowledge receipt of your application documents to the Strathmore University Institutional Review Board (SU-IRB) which includes:

1. Study Proposal dated 15th January 2018
2. Participant Information and Consent form dated 15th January 2018
3. Research survey instrument dated 15th January 2018

The committee has reviewed your application, and your study "Formal mentoring approaches – structured networks and their influence on leadership development: an analysis of Women in Technology in Kenya" has been granted **approval**.

This approval is valid for one year beginning **2nd February 2018** until **1st February 2019**.

In case the study extends beyond one year, you are required to seek an extension of the ESRC approval prior to its expiry. You are required to submit any proposed changes to this proposal to SU-IRB for review and approval prior to implementation of any change.

SU-IRB should be notified when your study is complete. You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with SU-IRB, original signed consent forms, and study data.

Thank you

Sincerely,

Amina Salim
Regulatory Affairs Fellow

APPROVED

[redacted]

Appendix III: RESEARCH SURVEY INSTRUMENT

SELF-ASSESSMENT

Instructions:

This self-assessment questionnaire is a simple tool for you to evaluate the benefits of mentoring in your career. It is confidential, quick and short online assessment. The questionnaire has 2 parts. Part A consists of biographical information and Part B has 30 questions broken into 3 sections - career progression, leadership competencies and mentorship approaches. Please use the following key to rate the items in each section. The questionnaire will take approximately 15 minutes to fill and we require that you fill it in as accurately as you can.

Section A: <u>Biographical Information</u>

Name _____Age _____**Current** Designation_____

Level of Education

_____

No of years in current role Years as a Manager or in a leadership role

_____

Total No of Years worked in Information technology

_____

Please list all the roles you have held since you first started your career and the number of years in each role

_____

_____

_____

_____

_____

_____

List any additional Courses in Technical Field:

_____

_____

_____

_____

_____

_____

Section B: <u>Career Progression, Leadership and Mentoring</u>

Key: 5 – Strongly Agree, 4 – Agree, 3 - No comment, 2 – Disagree and 1 – Strongly Disagree

Part I: Career Progression

	Item	Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	I have benefitted from a structured development program in my career					
2	My career has progressed how I envisioned it					
3	I had the benefit of working in organizations with strong leadership development programs					
4	I currently work in a role which I prepared for in the early years of my work life					
5	My skills and abilities have led to promotions to my current role					
6	Career guidance plays an important role when choosing future careers at the university					
7	I have actively sought out career guidance when considering my next move					
8	I have considered doing something different from what I currently do					
9	My movements have been fast from role to role					

Additional comments

_____

_____

_____

_____

_____

Part II: Leadership Competencies

	Item	Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	I collaborate well with others to achieve set objectives					
2	I am considered an expert in my area of expertise					
3	My team members have grown in their roles while working with me					
4	Followers are a good indicator that I am a good leader					
5	Others have commended me on my leadership skills					
6	I help others find meaning in their work					
7	When conflict arises I consider the best interests of all concerned					
8	When I delegate a task , I allow trust my team members the freedom to give solutions					
9	Failure reflects badly on the effectiveness of a good leader					

10	My people understand the need to work together well in a unified manner					

Additional comments

_____

_____

_____

_____

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Part II: Mentoring Approaches

	Item	Strongly Agree	Agree	No comment	Disagree	Strongly Disagree
1	I have had good mentors					
2	My mentor was informal					
3	The companies I have worked for had a formal mentorship program					
4	We discussed technical aspects of the job during our sessions					
5	My mentor coached me on work life balance					
6	Mentoring was useful to map my goals both personal and in my career					
7	I mentor others in my team and outside the workplace					
8	Mentoring should be a mix between informal and formal meetings					
9	Mentoring has had a big impact on my career so far					
10	I would like to coach and mentor others within the IT industry					

Additional comments

VT OMNES
VNVM SINT

Detailed Open Questions about mentoring and leadership

1. How you describe how your relationship with your mentor?

_____

_____

_____

_____

2. How were you assigned your mentor, did you choose your mentor? If yes describe how you went about the process for choosing a mentor. If No, describe how your relationship developed over the period of the mentoring process.

_____

_____

_____

_____

3. How often did you meet when you were being mentored? Was it a set time, did you sit face to face or do telephone consult and which method did you prefer to use when doing the mentoring sessions?

_____

_____

_____

4. What key goals and objectives did you accomplish through the mentorship?

5. Do you believe your mentorship has contributed to your ability to lead others? How did the mentoring help with that?

6. How would you describe your leadership style?

7. What are the important things about your leadership style that have been influenced by your mentor?

Detailed Open Questions about mentoring and leadership for HR Managers

1. How many women do you have currently in the management track in your technical team?

_____

_____

_____

_____

2. Do you have a formal mentoring program across the organisation? Are there other talent management methods you are using to develop leadership skills for the team?

_____

_____

_____

_____

3. How is it structured?

_____

_____

_____

_____

4. Do you have a structured approach to growing entry level women in the technical team to managerial level?

_____

_____

5. What is the structure of the mentorship program (to elaborate follow on questions may include how often do they meet is it scheduled , does it count as part of training and development ?

6. What characteristics do you look for in mentors for this program?

7. What key goals, objectives and outcomes are measures of success for the organisation through the mentorship program?

_____

_____

_____

_____

8. Do you believe the structured mentorship has contributed in leadership abilities for program participants? How did the mentoring help with that?

_____

_____

_____

_____

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