Cape Peninsula
University of Technology

CRITICAL PROJECT LEADERSHIP COMPETENCIES AT A SELECTED INFORMATION COMMUNICATION TECHNOLOGY (ICT) ORGANIZATION IN THE CAPE METROPOLIS

BY

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DECLARATION

I, Sinazo Mbebe, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

S. Mbebe

Date: 23/01/2023

ABSTRACT

Throughout the years, project management has evolved tremendously as technological innovations transpired and project management framework evolved. Therefore, as the project management framework advanced project success became more difficult. For that reason, this study aims to evaluate leadership competencies that impact the success of Information Communication Technology (ICT) projects, in an attempt to develop and use the competencies that correlated to efficiency in project management practices. The study highlights the significance of leadership competencies that are essential for project managers (PMs) while managing projects effectively and efficiently. An intriguing observation has been noted from reviewed literature in the field of project management that research on the leadership of PMs is still limited even though calls have been made to conduct more research for more than one decade. Therefore, to discover the contemporary challenges of project management, it is crucial to understand and adopt leadership competencies to cope with modern challenges of project management which has an effect on the success or failure of projects. The project management team members who are directly involved and consequently impacted by the leadership qualities of PMs are the study's target population. This study is conducted in a particular ICT organization situated in the Cape Metropolis. A quantitative descriptive approach is used to generate evidence since this method is effective in providing in-depth knowledge of the topic. The data collected in this study is analysed with the specific reference to the research questions using the Statistical Package for the Social Sciences (SPSS) and Excel analysis tools. The findings indicated that while technical abilities are important, but they are not the only attributes that matters although practitioners with technical skills are certainly indispensable PMs still require other competencies. Therefore, the effectiveness of PMs technical expertise should be balanced with soft skills enabling them to manage project teams to project success. This study highlighted the need for additional research on this topic as ICT projects continues to evolve. Therefore, further research should broaden and complete the accounted information to uncover more conventional causes of ICT project failures.

Keywords: *Competencies, ICT industry, Leadership, Project Manager, Project Manager's leadership competencies, Project Success.*

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DEDICATION

This dissertation is dedicated to my late father Mxolisi Mbebe, who could have seen his seed blossoming. To my queen mother Oriana Mbebe and to my amazing siblings - Mkululi, Nolubabalo, Zongeziwe, Ntembeko, Zandile and Zininzi. I do not have enough words to thank you. I never would have gotten this far without your unending love, support and prayers. I appreciate you more than you can ever imagine. ~ *"May the LORD, the God of your fathers, increase you a thousand times and bless you as he has promised!" Deuteronomy 1:11.*

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ABBREVIATIONS/ACRONYMS

Acronym/Term/Abbreviation	Explanation/Definition
APM	Association for Project Management
BOK	Body of Knowledge
CPUT	Cape Peninsula University of Technology
CSF	Critical Success Factors
CPM	Critical Path Method
EQ	Emotional Intelligence or competence
ERP	Enterprise Resource Planning
ICT	Information and Communication Technology
ICTD	Information and Communication Technology for Development
IQ	Intellectual Intelligence or competence
IS	Information System
IT	Information Technology
LQD	Leadership Development Questionnaire
MQ	Managerial Intelligence or competence
PERT	Programme Evaluation and Review Technique
PM/PMs	Project Manager/ Project Managers
PMBOK	Project Management Book of Knowledge
PMI	Project Management Institute
RQ	Research Questions
SA	South Africa
TCPSP	Time Constrained Project Scheduling Problem
WBS	Work Breakdown Structure
ISO	International Operating Standards

GLOSSARY

Term	Explanation/Definition
Deliverables	The output of tasks within a project
et al.,	and others
etc.	and so, on

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<h1 style="text-align:center">CHAPTER ONE</h1>

<h2 style="text-align:center">INTRODUCTION AND BACKGROUND TO THE STUDY</h2>

1. INTRODUCTION TO THE STUDY

Project management is considered one of the most important practices for modern business success. Heagney (2011:25) specified project management as the application of knowledge, abilities, processes and project actions to achieve the requirements of the project. In addition, a project is utilized to provide unique services, goods or results. Snyder (2014:4) is of the view that a project is deemed successful when the anticipated results meet the programmes requirements and are attained by the deadline, sustainable and covered within the initial budget. Maltz, Shenhar, Dvir and Poli (2012:10-12), identified the concepts of project management performance in three dimensions such as time, budget and quality. As a result, projects in organizations are a critical function that necessitates the complete focus and commitment from all participants, since the success or failure of any business project affects organizations direction in the present and future business environment (Riaz, Tahir & Noor, 2013: 100-103). According to Demir and Kocabas (2010:1641-1645) project management is a method of managing projects competently and lucratively to accomplish project success.

Vaheed, Tahir and Burhanuddin (2015: 2706-2713) cited that the foundation of modern life is Information and Communication Technology (ICT) which supports health care, manufacturing, business and education and as a result organizations must successfully implement various ICT projects to facilitate business transformation in today's interconnected world. Marchewka and Standish Group Report as referenced by (Kamaliyah & Yazrina, 2014:1-2) noted that despite having several standards on project management approaches, most ICT projects have yet to demonstrate a satisfactory track record of project success. Mnkandla and Marnewick (2011:76-94), noted that PMs leadership capabilities are vital for project success. These authors further alluded that when a project fails to meet its key objectives and targets, project leaders and managers are held accountable. As a result, the failure or incapacity to use authorities conferred to them is frequently attributed to the leader's failure or incapacity to use resources given to them to make the project a success. According to Muller and Turner (2010:199-203) the overall success of a project is attributed to the project leader, who have the complete authority to command and oversee all project operations, as well as make crucial project

decisions. Therefore, this study aims to determine the leadership competencies that influence ICT project success, with the goal of developing and applying competencies that are linked to project management efficiency.

1.2. BACKGROUND OF THE STUDY

Palvia, Baqir and Nemati (2018: 170) elucidated that ICT has an impact on a variety of economic and societal activities, including GDP growth, employment, productivity, eradicating poverty, improving quality of life, education, and healthcare. Oksana (2016:3) stipulated that ICT has a significant impact on knowledge creation, information retrieval, extraction and processing, particularly in light of the continually evolving and expanding demands put forward by ongoing technological advancement in the 21st century. Yang, Chen and Wang (2012:182-191) are of the view that ICT has proven to be a dynamic, information-intensive, and constantly evolving lever. Therefore, ICT-related tools and systems such Project Management Systems (PMS) and Gantt charts are now available and are intended to improve projects and ultimately make the work of corporations easier, more effective and efficient. The Government Gazette (2018:8-9) ranked ICT and project management as the highest scarce skills according to the national list of occupations in demand within South Africa. Braude and Bernstein (2016:52) refer to this development and add that ICT-based systems and tools support project teams, satisfy customer needs and should be reliable, effective and maintainable for project success.

Fenech and De Raffaele (2013:1-2), alluded that ICT initiatives are supposed to function in a constantly evolving technological environment which substantially raises risk and uncertainty. In addition to the traditional management of resources such as people and equipment, ICT projects also strongly rely upon ongoing user interaction, suitable risk management techniques and the use of the best project management methodologies. Yang et al., (2012:182-191) further states that PMs should oversee all projects at various locations in real-time and collectively as well as evaluate an extensive amount of variable and ambiguous information and act quickly upon this knowledge. ICT initiatives are temporary endeavours and in common with other traditional projects, they employ resources, cost money and are anticipated to provide results over time. According to Masamha and Mnkandla (2017:38-40) projects are designed to address obstacles and find solutions to problems. Dube and Chimoga (2022:172-185) cited that ICT projects frequently bring new hardware, software, and new product development as a component of the project. ICT initiatives result in the design and installation of a new software

product. ICT initiatives can be either huge or small and might involve one person or thousands of individuals (Ahmadzai & Paracha, 2016:498-499). ICT project development has evolved in many businesses to guarantee that the general expectations of clients in business requirements are met. However, Kamaliyah and Yazrina, (2014:1-2) are of the view that due to the ICT project failure and its impact on the organization, researchers and practitioners are required to specifically look at the history of how the project is carried out to find an effective approach and comprehensive strategy to overcome this matter. Kamaliyah and Yazrina (2014:1-2), further cited that even though there are several industry standards for project management approaches, most ICT projects have not yet demonstrated a strong track record of project success. Therefore, (Brinkmann, 2013:567-583) highlighted leadership as a social influence mechanism that allows one person to enlist the assistance and support of others in the completion of a shared activity. As a result, (Kerzner, 2013:35-36) indicated that organizations are starting numerous complicated projects but do not have the qualified PMs needed to handle the intricacy of these initiatives. Therefore, this study aims to generate research on the impact of PM leadership competencies that have a substantial influence on the overall project outcomes in the ICT sector.

CONCEPTION AND DEFINITION OF TERMS

Leadership: The practice of directing, guiding and influencing the behaviour and work of individuals for the accomplishment of a specific goal (Iqbal, Anwar and Haider, 2015:6).

Skills Competency: The abilities that enable individuals to effectively engage and communicate with others. Effective communication, anger control, conflict resolution and teamwork are examples of these proficiencies (Msengana, 2012:6-9).

Competencies: The abilities required to mobilize, integrate and transfer knowledge, skills and resources to achieve or exceed specified performance in job assignments, resulting in increased economic and social value for the business and the individual (Takey & Carvalho, 2015:784-796).

Leadership competencies: Ahmed (2018:124-130) defined leadership competencies as managing self, others, projects, programmes and organizations to achieve specific objectives. Brinkmann (2013:567-583) described this phenomenon as a set of expertise representing effective leadership in an organization.

Competency: A combination of knowledge, expertise, skills, values, beliefs, core personal and behavioural attributes, all of which are required to effectively manage projects (Brinkmann, 2013:567-583).

Project management: A method for managing projects competently and lucratively in order to accomplish project success (Demir &Kocabas, 2010:1641-1645).

Project: A unique operation with the aim of adding value and expending resources. Projects have a start and end date with constraints and requirements that include scheduled performance, project scope, project cost, project quality and resources (Vaidyanathan, 2013:2).

Project manager (PM): The person in charge of initiating, planning, designing, executing, monitoring and controlling the start and completion of the project, Project Management Body of Knowledge (PMBOK, 2013:42).

Project success: The achievement of all project objectives timeously and on a budget in a cost-effective and efficient manner (Fenech & De Raffaele, 2013:1-2).

The project-based sector: The industry that works on multiple projects simultaneously, to deliver these projects within time and budget (Kerzner, 2013:23).

Project Team: Individuals who contribute expertise to the services needed to finish projects. The purpose of a project team basically is to complete duties given by the PM in such a way that fulfils project objectives and goals (PMBOK, 2013:5).

Industry: Tongur and Engwall (2014:525-535), refers industry as the phrase used to refer to a sector of the economy.

Knowledge: The information that PMs know about the project (PMBOK, 2013:16).

Performance: The practices that PMs are able to achieve while applying project administration knowledge and strategies (PMBOK, 2013:16).

1.2.1 The function of a project manager in project management

Project managers are essential to the project as they are largely responsible for organizing and integrating the different tasks and processes that come together to form the completed project (Yang, 2011:258-267). Therefore, they should create a balance

between the various project knowledge domains in order to successfully complete the project (Barna, 2013:17–21). The PMBOK Guide (2013:1), describes project management as the use of knowledge gained over time such as soft and hard skills, tools and procedures to meet the project's defined objective. Furthermore, stipulates the five project stages which are all crucial to a project success, namely: initiation, planning, implementation, controlling and closing, with the most crucial factors being planning and implementation. According to Meredith & Mantel, (2012:14–19) the project knowledge domains include communication, human resources, risks, time, procurement, cost, scope and quality. Snyder (2014:4-5) stipulated that the length of time it takes to accomplish a project is important as the more complicated a project becomes, the more likely it is to fail. Therefore, PMs must ensure a balance between the various project knowledge domains to successfully complete the project (Barna, 2013:17–21). The PMs primary role is to integrate and coordinate the various tasks and operations that collectively make up the finished project. Schwalbe (2010:40) stated that the project leader's role is to collaborate with the project team members and the project sponsors in the attainment of the project goals, consequently an excellent leader ensures the project team is cohesive skilled and effective. According to Kerzner, (2013:76-82) the PM is in charge of organizing and integrating tasks that span various functional boundaries and consist of the following activities:

• Combining the steps required to create a project plan.

• Combining the tasks required to carry out the plan.

• Including the actions required to update the plan's parameters.

The PM must have excellent interpersonal and communication skills, become familiar with the operations of each line organization, and be knowledgeable with the technology being used to lead successful projects (Kerzner, 2013:76-85).

Muller and Turner (2010:199–203), are of the view that since PMs are accountable for project administration, they must have the authority to create policies, processes, regulations and guidelines. Bull (2010:10) contends that a PMs duties include overseeing the project, handling tasks, facilitating meetings and gathering data in addition to completing it on schedule, within budget, and in accordance with the project's scope. However, more crucially, they must inspire and motivate the people they work with to

actively participate in the process. Leadership, inspiration, persuasion, persuasion, communication, influencing, trust-building, conflict management, coaching and other interpersonal skills, are necessary for PMs to lead effectively (PMBOK, 2013: 344-345). Since project management is a key responsibility for leaders, the leadership role in projects should be treated seriously and all applicable leadership competencies should be used to ensure the project success (Yang, 2011:258–267).

1.2.2. Leadership competencies in project management

Muller and Turner (2010:21) stated that a PMs leadership competency is the capacity to coordinate and organize project teams resources to accomplish the project goals. Narh (2013:3-5) stipulated that leadership ability requires intelligence and consists of the following key parts: strategic perspective, judgment, critical analysis, vision and imagination. Leaders need the capacity to evaluate information from various sources through inquiry to gather truths to make an informed verdict and identify the 'pros' and 'cons', including the project's related opportunities and risks. According to Fayek and Omar, (2016:29–34), competences frequently aid in project success but are rarely employed as leading indicators to monitor project performance. Narh (2013:3) indicated that technical skills describe a PMs knowledge and understanding of many processes embedded in the effective execution of project management. Technical competence, however, refers to the ability to strategically and efficiently manage resources and risks that directly or indirectly affect the iron triangle. Technical proficiency assessments have traditionally been centred around quality, cost and time but now include risk modification.

Narh (2013:5) further cited that technical skills include the ability to comprehend, communicate and understand the process of executing a project and, although, there are differences in technical skills, but they are vitally important. Khamaksorn (2016:93) argues that a competent PM contributes to project success and that ICT PMs are responsible for executing products within project timelines, excellence and cost, and security requirements. PMs must have the knowledge and skills to lead projects successfully and professionally (Jian & Hwang, 2013:272-284). The elements of the competency wheel are divided into three related competency areas such as contextual, behavioural and technical competencies. Figure 1.1 below shows the integration of all the skill elements required for effective project management.

Figure 1.1: The competency wheel
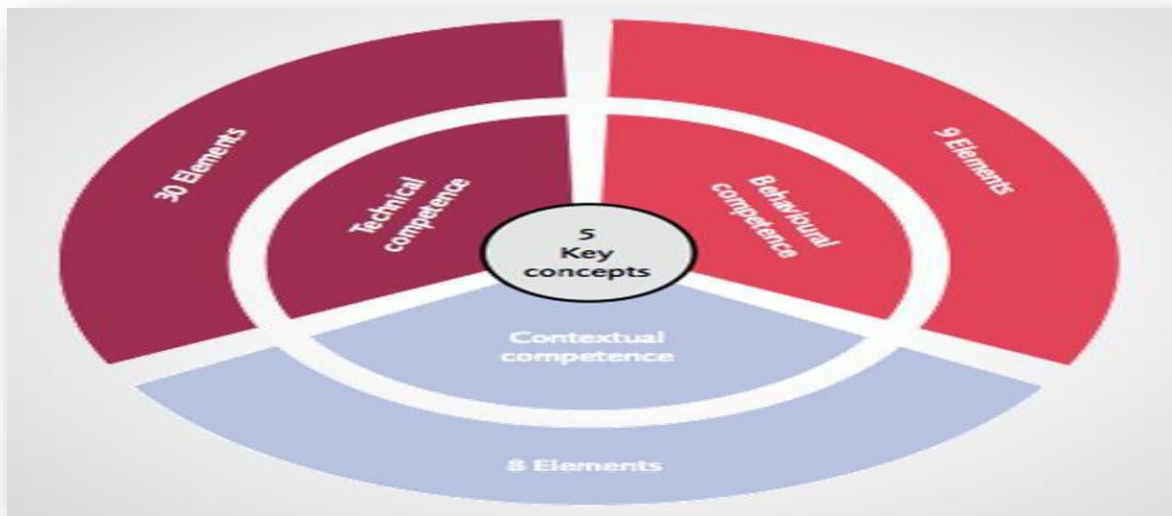
Source adapted from: Khamaksorn (2016:94)

According to Khamaksorn (2016: 94), the effective PM must have balanced knowledge and possess both managerial and practical skills. Leadership skills (intellectual, management and emotional abilities) are significantly linked to practical abilities (communication, sourcing resources, cost scope, risk, time and security management). The role of the PM has shifted from managing to directing and, therefore, a PM must have the necessary leadership skills and abilities (Ahmed & Azmi Bin, 2014:38-55). Leadership skills in the project management literature are categorized into three key groups – intellectual skills, management skills and emotional skills (Jiang, 2014:52-54). A PMs performance in managing projects depends mainly upon these three competencies (Muller & Turner, 2012:77-88).

1.2.3. Overview of ICT industry and ICT projects

ICT is defined in terms of its various characteristics, such as the combination of cloud computing, enterprise resource planning (ERP) and digital information systems (Setiawati & Rohayati, 2014:169–179). Pradhan, Mallik and Bagchi, (2018:91–103) asserted that ICT includes user devices such as computers, smartphones, telecommunication networks and IT infrastructure. Zuppo, (2012:13–22), further described ICT as a functioning hierarchy with classifications such as economic sectors, education, development and IT. The infrastructure for ICT includes fixed broadband, mobile phones, internet servers, and digital telephone networks. According to Vaheed, et

al., (2015:2706-2712) ICT projects can aid both public and commercial sectors to deliver a valuable output for any type of organization within a specific time and budget, while the competitive business climate can be improved and sustained by using ICT tools successfully. Ishida, (2015:79-88) alluded that within the current internet and mobile telephony era, organizations use ICT infrastructure to manage their ongoing projects to boost efficiency, profitability and economic growth. ICT infrastructure is a key driver of growth in nations that have recognized its significance (Bankole, Osei-Bryson and Brown, 2015:12-28). Organizations rely on ICT to deliver accurate, timely and relevant information in developing nations such as South Africa. Marnewick and Labuschagne (2012:78-79) mentioned that projects frequently involve the implementing, upgrading, modifying and/or replacing of ICT systems. ICT is essential for knowledge innovation, information reclamation, extraction and processing in the twenty-first century, especially given the continually evolving and expanding demands imposed by ongoing technological advancement (Oksana, 2016:3). Braude and Bernstein (2016:52) stated that ICT-based advancement tools and systems such as Gantt charts and PMs must be stable, effective, and maintainable in order to support project teams and meet clients' expectations. Braude and Bernstein (2016: 52-60) presented ICT models as follows:

- Core banking systems, e-government portals, city websites and passport systems for immigration are examples of portals or ICT systems.
- Related hardware (such as switches, routers and other components), as well as the Microsoft Exchange email system are examples of the implementation of the ICT network's architecture.
- ICT HR master plan for E-government, network design and consultancy study, as well as E-government roadmaps are examples of ICT consultancy and services.

1.2.4. Types of ICT projects

Project management has become a common practice across a variety of industries including the service industry, capacity building and community service initiatives and ICT projects all of which give PMs a complicated set of challenges that are very different from those encountered by non-ICT projects (Aga, Noorderhaven and Vallejo, 2016: 806).Fenech and De Raffaele (2013:1-2), highlighted that ICT is increasingly becoming the foundation of many elements of modern life and specified the seven different types of ICT projects illustrated in Figure 1.2 below.

Figure 1.2: ICT Project Types and Abbreviation

1. Customer specific new development project	CUST
2. Software product new development project	PROD
3. Software version enhancement project	VERS
4. ICT service development project	SERV
5. Package software configuration project	PACK
6. Data conversion project	CONV
7. Software integration development project	INTG

Adapted from Fenech and De Raffaele (2013:4-5)

ICT projects has the potential to significantly alter economies and society in a number of ways, including through lowering information and transaction costs, fostering innovation, and raising educational standards. The purpose of ICT projects is to make it easier to find information and analyse it critically so that people can learn more about the Internet and the ways in which they can access relevant data. Fenech and De Raffaele (2013:4-5) explained these ICT project types as follows:

- Customer-specific new development project: A venture to produce entirely original software tailored to the needs of the client.

- Software product: The individually packaged software or an integrated component of another product and it is always created with the intention of having multiple users.

- Software version enhancement project: A task to produce an updated version of an already existing piece of software and tailored to a specific consumer's current software.

- ICT service development project: this project develops a contract-based ongoing or transient ICT service that could be related to either software or hardware and include operations, maintenance, support or help desk services.

- Package software configuration project: A project that produces a user-configurable, parameterized and installed package of software.

- Data conversion project: a project that involves moving data from one ICT systems persistent data storage to another ICT systems persistent data storage. The software created as part of a data conversion operation is frequently. However, the conversion software components could be present on a single hardware platform or multiple accords.

- Software integration: a system that is known for developing software to provide interfaces and services for two or more information systems.

1.2.5. ICT Project Critical Success Factors

ICT projects differ from other projects in that they are more complex due to potential risks, such as teams with multiple members, difficulty in control management, lack of work discipline, and entirely inaccurate cost and time forecasts that prohibit their effectiveness (Montequin, Fernandez, Fernandez and Balsera2016:3-4). According to Masamha and Mnkandla, (2017:38-40) the following are the components for ICT project success: strong client involvement, an unwavering commitment from management, convincing business case, efficient project management techniques, competent teamwork and a collaborative environment. The report also confirms that no two projects are exactly alike with the difference being as distinctive as a fingerprint. As a result, in addition to fulfilling the remaining specific requirements of the project, certain fundamental variables must be used to obtain good results in project management. The important success criteria and frameworks identified by (Masamha and Mnkandla, 2017:38-40) are listed in Table 1.1. below.

Table 1.1: Project Critical Success Factors

• End-user satisfaction with the project's product or service
• Suppliers' satisfaction
• Project team's satisfaction
• Other stakeholders' satisfaction
• Meeting project's overall performance (functionality, budget, and timing)
• Meeting user requirements
• Meeting the project's purpose
• Client satisfaction with the project results
• Reoccurring business with the client
• Meeting the respondent's self-defined success factor

Source adapted from Turner, Muller and Dulewicz (2010:196-216)

Montequin, Cousillas, Alvarez and Villanueva(2016:18–31) argue that nowadays, determining the success or failure of a project has become a more complex issue than before, success is not only perceived differently from one person to another but also the typology and sector of the project may influence our perception of success. Therefore, it is difficult to agree on a common definition of success. Neverauskas, Bakinaite and

Meiliene (2013:829-833) argue that a lot of different project success factors are found in the literature which tends to confuse PMs They concluded that the success of a project is a function of both the project management success and the product success. Essentially, a project may produce a poor product with successful project management.

1.2.6. Root causes of project failures

Ahmadzai and Paracha (2016:315-328) discovered that projects frequently fail because employees are not given the required training by the organization and thus are unaware of the best ways to use the programs. Additionally, this study demonstrated that underdeveloped countries had a substantially higher failure rate for ICT initiatives than industrialized nations. Furthermore, Masamha and Mnkandla (2017:38-40) revealed that about 75% of projects routinely went over budget and schedule due to inadequate project management methods and additionally, that user interaction is the key to a successful ICT project. Ahmadzai and Paracha (2016:315) examined why achieving goals and project success is usually not easy and indicated that various types of problems arise during the implementation phase, including inadequate definition of project goals and objectives, lack of coordination, inadequate management and training, disregard for political, cultural and social factors and a lack of leadership and support from top management. Masamha and Mnkandla (2017:38-40) similarly list the main causes of project failure as a lack of knowledge and skills in project management and project planning, inadequate ICT background for PMs, poor communication, unexpected risks and political and cultural issues.

1.3. PROBLEM STATEMENT

According to Fenech and De Raffaele, (2013:1-2) the ICT industry has suffered from a high rate of ICT project failures throughout the years. Unfortunately, despite the steady pace of technical changes, improvements in project management frameworks and a large number of well-researched studies, ICT projects continue to fail at an alarming rate. According to the Prosperus Report by Sonnekus and Labuschagne (2004) as cited by Marnewick and Labuschagne (2012:78-79), indicating that ICT projects in South Africa are challenged and falling at a rate of 57%. Hassan and Ismail (2019:8-11) cited that non-technical factor such as management, leadership, cultural and organization issues are essential in the success of the ICT projects. Furthermore, this study alluded that ICT projects are frequently overseen by technical or scientific professionals who lack leadership skills necessary to efficiently manage project team and projects. Sunindijo

(2015:3) stated that PMs require a set of abilities to successfully manage and complete projects on time, within budget and excellence. As indicated in the literature that there is a dearth of research that has examined this attitude, hence the focus of this study will be on the competencies required of ICT project leaders to manage and execute projects successfully. The value of project management will be more thrilling, challenging and critical in the forthcoming years, while the position of PMs will also be much more diverse. Hence, future research has been suggested in a similar field to eradicate project failures.

AIM OF THE RESEARCH

The purpose of this research is to examine the influence of project manager's leadership competencies on project success.

1.4.   THE PURPOSE OF THE RESEARCH

This descriptive study intended to ascertain whether using specific leadership competencies and traits within an organization increases the success rate of projects within the ICT industry. The significant variables that are linked with the problem were utilized in this research to establish whether critical competencies are necessary for project success.

RESEARCH OBJECTIVES

The study objectives are framed below:

o To determine the leadership competencies required of a project manager to effectively manage ICT projects.
o To determine the leadership competencies that project managers employ in the ICT industry to reduce project failures.
o To determine whether project manager's knowledge, work experience, education level and skills characteristics have an effect on ICT project success.
o To determine the appropriate leadership styles that project managers should adopt in order to effectively manage ICT projects and improve project outcomes.

RESEARCH QUESTIONS

Do project manager's leadership competencies have an impact on project success?

Sub-questions

o What are the leadership competencies required by a project manager in the ICT industry to complete projects successfully?

o What are the leadership competencies that project managers employ in the ICT industry to reduce project failures?

o Does the project manager's education level, knowledge and skills characteristics and work experience have an impact on the success of ICT project?

o What leadership styles should project managers adopt to effectively manage ICT projects and improve project outcomes?

Table 1.2: Research Questions, Approaches and Objectives

Research main question		Do project manager's leadership competencies have an impact on project success?	
Research sub-questions (RSQ)		**Research approach**	**Objectives**
RSQ 1	To determine the leadership competencies required of a project manager to effectively manage ICT projects.	Questionnaires	What are the leadership competencies required of a project manager to effectively manage ICT projects?
RSQ 2	To determine the leadership competencies that project managers employ in the ICT industry to reduce project failures.	Questionnaires	What are the leadership competencies that project managers employ in the ICT industry to reduce project failures?
RSQ 3	To determine whether project manager's education level knowledge/skills characteristics and work experience have an effect on ICT project success.	Questionnaires	Does the project manager's education level knowledge/skills characteristics and work experience have an impact on the success of ICT project?
RSQ 4	To determine the appropriate leadership styles that project managers should adopt in order to effectively manage ICT projects and improve project outcomes.	Questionnaires	What leadership styles should project managers adopt in order to effectively manage ICT projects and improve project outcomes?

Source: Researcher's own construct

1.5. SIGNIFICANCE OF THE STUDY

This study will certainly enhance to the existing body of knowledge (BoK) of the ICT project management industry and the competencies of ICT PMs by offering insight into

the leadership competencies that influences ICT project success since there is limited research investigating this topic as alluded to from the literature review. This study will also enable the ICT sector to better understand the leadership skills required for successful ICT projects, with the aim of reducing unprecedented project failure rates. The findings of this study can be used to enhance PMs performance as well as their managerial approaches when executing and delivering successful projects in the ICT industry and other project-based industries. This study will also aid fellow academics who are interested in broadening the geographical coverage of leadership competencies and their value in the same or different industries.

1.6.   RESEARCH METHODOLOGY

According to Kabir (2016:202-209) research methodology is a description of how approaches are employed to carry out the research design. This study will use the quantitative research technique to maximize the benefits of this approach. The research design, methods, philosophy and strategy will be discussed in-depth in chapter five. The inductive technique will be employed to allow the researcher to obtain detailed information concerning the influence of the PMs leadership competencies on ICT project success. The ontological position of this study is subjectivism as the researcher will be part of the study viewing the world from her perception. The researcher will use an interpretivist epistemological stance, construing data acquired from surveys to establish the truth about the claims. The research strategy will be exploratory and conducted as a case study.

1.6.1. Research method

Research methods can be described as processes and practices which incorporate broad logical and defined principles that state specific methods and procedures which may be used to investigate, deduce, analyse, interpret or rationalise different ideas and problems within the scope of a particular discipline (Saunders, Lewis and Thornhill, 2009: 320-331). This study is aligned with an interpretive research paradigm as a theoretical worldview stance underpinning the research. This approach includes the fundamental sets of philosophy that guide a researcher to select the appropriate research method for conducting the study (Saunders et al., 2009:320-331). The researcher sought to study reality subjectively, evaluating the effect of the PMs leadership competencies on project success. The chosen research strategy is the case study approach. The quantitative and qualitative methods are the two most frequently used approaches in research. The

positivist technique, also known as the quantitative method, is typically employed in the natural sciences and associated subjects, whereas, the anti-positivist approach, also recognized as the qualitative method, is mostly utilized in the social sciences to measure attitudes and perceptions.

1.6.2. Research design

Deori (2012:202) cited that research design is the outline and overall plan for conducting the research study. According to De Vos et al., (2011:397-422) research design is the decision made by the researcher during the study's planning process and that the chosen procedures can influence the quality of the research outcomes. Quantitative descriptive designs will be used to generate evidence in this study as this combination is more effective in collating research data. Information gathered from available literature together with structured questionnaires and observations will be used by the researcher as the data collection methods.

1.6.3. Target population of the research

Jowah (2011:94-95) posited that population refers to the whole set of the unit that should be investigated and analysed for interference or a result to be reached. Therefore, for this study the target population is the ICT project management team members who are closely involved and, hence, influenced by the PMs leadership abilities. This group comprises of PM, project administrators and project team members involved in the completion of projects in different ICT departments. Consequently, the participants for this study are males and females over the age of 18 years with considerable experience in the ICT sector. Accordingly, participants under the age of 18 with no experience in the field are ineligible to partake in the study. As a result, practitioners at various levels will be capable of communicating what they consider to be the most important leadership skills for ensuring successful ICT projects. The research is conducted within an ICT project-based industry situated in Cape Town in the Western Cape province of South Africa.

1.6.4. Sampling methods

Sampling is the process used to select the subset of the population that will participate in the study and a sample is a subset of that population (Jowah, 2011:94-100). The goal of purposeful sampling is to select samples that will provide the most significant and comprehensive data on the research topic (Yin, 2011:88). The probability sampling

method involves selecting random samples of population components, with each component having an equal and independent likelihood of being selected for the sample (Kandola et al., 2014:15-18). The sample frame for this study comprises people within the population who are specifically involved in project management. Throughout the research a simple random sampling will be applied to each member of the ICT project team in order to minimize any sampling-related bias. These respondents will be randomly selected using the purposive and probability sampling method.

1.6.5. Sample size

The sample size is an important aspect of any empirical study in which the goal is to infer information about a population from a sample. The sample size is accepted as recommended by (Bougie and Sekaran 2019:103-113), who asserted that a significant value of a sample must be between 30 and 500 depending on the type of population used. The sample size will be subjectively established at a minimum of one hundred (110) respondents due to ease of accessibility and sector type, as well as the level and criteria of the certification.

1.6.6. Data collection method

The research is conducted using quantitative data processing method and the quantification of data and measuring of perceptions will involve the use of the Likert scale. In this study, both primary and secondary data collection sources are used to attain the research objectives. The primary source is structured questionnaires as it permits research contributors comprehensively to discuss and share their views and experiences. Therefore, while administering the questionnaire to the respondents, the researcher will explain questions that are not clearly understood and that will certainly increase the return rate of the completed questionnaires. A questionnaire consists of a set of questions used to collect or acquire information from a certain target demographic to explore and understand a phenomenon (Jowah, 2011:149). The structured questionnaire is divided into categories such as Section A: biographical information, Section B: participants perceptions measured upon the Likert scale, and Section C: open-ended questions. The secondary data for the study will be gathered from previously published literature such as books, journals, articles and dissertations that are directly related to the research subject.

1.6.7. Data analysis

The data collected will be analysed with the particular reference to the research questions using the Excel analytical instrument and Statistical Package for the Social Sciences (SPSS) to evaluate research data through histograms, pie charts, tables and other illustrative primary sources for the study. Therefore, the interlink between the variables will be used to interpret the results.

1.7. ETHICAL CONSIDERATION

Resnik (2015:1-2) defines ethics as standards of behaviour that make a distinction between appropriate and inappropriate practices. According to Ledwaba (2012:27), ethical considerations are essential in the field of research not only for the researcher's integrity but also for the protection of the participants. The researcher maintained their right to privacy and confidentiality throughout the research process by following all necessary and advised ethical guidelines and standards. In accordance with the Cape Peninsula University of Technology's (CPUT) ethical regulatory concerns, the researcher completed the following tasks prior to the start of the study:

- Prior to the start of the research project, CPUT issued the researcher an Ethics clearance certificate (ethics clearance certificate number: FBMSREC066).
- The researcher always assured the anonymity of respondents to ensure that they were contented to share information knowing that such information will not bring disgrace to either themselves or their organisation.
- Respect for the respondents was maintained as they were not forced to participate in the research but could do so voluntarily.
- For purposes of transparency and honesty, the respondents were informed of the intentions and parameters during the initial stage of the research process as well as how the information provided would be used.

1.8. CLASSIFICATION OF CHAPTERS

The research will be divided into seven chapters, each of which will have a title that will be a component of the overall research. In accordance with the problem statement, the chapters will provide information as guided by the research aims and research questions as follows:

Chapter 1: Introduction to the study

The research topic, research background, and problem statement are introduced in this chapter. In addition, this chapter clearly illustrates the significance of the study, along with the research aims, objectives, and questions, and the research methodology is briefly discussed.

Chapter 2: Leadership styles, theories of leadership and leader behaviour models in project management

This chapter classifies leadership theories and styles which are significant in project management success.

Chapter 3: Success factors of project management and project failures

This chapter covers the reviewed literature on project success elements and reasons for project management failures, with an emphasis on the ICT industry. The extrapolated study findings will also be discussed, as well as how these relate to the research themes.

Chapter 4: Conceptual model: leadership competencies in project management

This chapter identifies the key project management competencies from the reviewed literature and the chapter highlights the leadership competencies required for project success and the theoretical framework is defined and assessed.

Chapter 5: Research Methodology

The sample size, study area, data collection processes and data analysis procedures are all covered in this chapter.

Chapter 6: Data Analysis and Interpretation of results

The findings of the research gathered from surveys, questionnaires and interviews will be analysed and presented in this chapter.

Chapter 7: Conclusion and Recommendation

This chapter gives a summation of all research chapters, with the key findings of the study. Furthermore conclusion, recommendation and limitations will therefore be formulated based on the objectives of the research.

1.9. CONCLUSION

This introductory chapter delineated the research introduction, background to the study, problem statement and the significance of the study. The research aims, research objectives and research questions are outlined in this section. Furthermore, this chapter served as a synopsis of the research methodology adopted in this study. Therefore, this chapter encompasses the research design and methodology which is used to conduct the research such as the research design, theoretical aspect of research methodology, research strategy, study population, sampling methods, methods of data collection and ethical consideration. Fundamentally, this chapter presented the plan and an overview of how the research will be conducted. The researcher will delve deeper into the available literature on the subject matter in the following chapters.

CHAPTER TWO

MODELS OF LEADERSHIP BEHAVIOUR AND LEADERSHIP STYLES IN PROJECT MANAGEMENT

2.   INTRODUCTION

This chapter commences by defining and outlining leadership in terms of its theoretical background, which demonstrates the history of leadership theories and how they have changed through time. Sohmen (2013:1-18) stipulated that even though efficient project management has several components, leadership regardless of its numerous definitions is thought to be the most crucial for establishing good project management and boosting project success. According to Whetten and Cameron (2011:534-538), selecting and developing project team's leadership is required for successful implementation. Furthermore, this chapter introduces and defines the fundamental leadership philosophies and the accompanying abilities that are most crucial for project management. The purpose of this chapter is to demonstrate the critical link between project management and leadership and to present the literature that supports the factors directly relevant to the success of the project.

2.1.   CONCEPTION AND DEFINITION OF LEADERSHIP

According to Allison and Goethals (2013:1-21), leadership is a sophisticated social process that is based on the shared beliefs, knowledge and abilities of leaders and their followers. Reuel (2020:147-161) claims that a true leader is confident in setting up a structure that empowers people to freely contribute to the entire project and tap into processes that enable them to perform beyond the expectations of their skills. Haider(2015:6),defines leadership as the process by which an executive can direct, guide and influence the actions and work of others to achieve particular objectives in a given environment. As a result, it takes a leader to create a future vision, inspire the organization's people to want to realize that vision and boost performance. Therefore, the four elements of leadership processes are: leaders, groups, goals, and situational variables (Tabassi, Ramli and Bakar, 2012:258-267). PMs utilize a variety of methods to demonstrate leadership that allows them to respond quickly to changing circumstances(Galvin, Gibbs, Sullivan and Williams, 2014: 35-60). Project leadership is defined as inspiring, directing, and guiding people to achieve organizational goals (Nixon,

Harrington and Parker 2012: 50-53). The planning and coordination of project activities are additional aspects of project management. According to Surji, (2015:154-155) the elements listed in Table 2.1 are those that have an impact on the letters that comprise the term leadership.

Table 2.1: Leadership Factors

Item	Description
L	To communicate effectively, leaders must listen. Great leaders are also excellent listeners, so they speak less and listen more.
E	Great leaders exhibit intense enthusiasm for their accomplishments.
A	Leaders with lofty aspirations and a strong drive to attain their goals
D	Able to make difficult choices and take responsibility.
E	Give them more responsibility and the assistance they require.
R	Capable of accepting accountability for deeds
S	Supports the development and maintenance of strong interpersonal connections. A manager who shows employees consideration, compassion, and friendliness is more likely to gain their affection and loyalty.
H	An honest and humble leader seeks to lift everyone and gives people a sense of importance and value.
I	Motivate, encourage, and inspire others with integrity by being honest and upfront.
P	Effective leaders are Masters of Strategic Planning.

Source: Surji (2015:154-155)

According to Surji (2015:154-155), based upon the above factors, leadership defines the ability to listen (L) with enthusiasm (E), to have a mind that strives to determine action (D), empowers and encourage others in a responsible (R), supportive (S) and humble (H) manner to inspire them to achieve set goals in the (P) planned way. According to Nixon et., (2012:50-53) a fundamental aspect of the leadership process in industries is describing how people work together as a team. Leadership, therefore, is meant to be a mechanism for influencing the capabilities of teams' objectives and performance. Hence, it seems important to assess the aspects of leadership in the management of projects and project teams. In this context, leadership as a leadership skill is seen as a factor influencing individual and team performance in the workplace (Yang, Huang and Wu,

2011:12). According to Nixon et al., (2012:204-216) project leadership encompasses three broad categories such as styles, behaviour and characteristics.

2.1.1. Project Leadership Qualities

Turner, Muller and Dulewicz (2010:198-216), conclude that project leadership traits are vital in managing and completing projects successfully. Additionally, project leadership traits are vital qualities a PM needs to succeed in any project. Table 2.2 below summarises these qualities as follows:

Table 2.2: Project Leadership Traits

Project Leadership Traits	Description
Ability to Listen	Project leader who listens well increases the chance to succeed in the project. Understanding all points of view.
Trustworthiness	The capacity of the project leader for inspiring people through trust.
Passion and Motivation	Doing the best effort to accomplish the objective proposed.
Confidence	The project leader must show ambition, it will lead to the confidence of the rest of the team
Approachability& Friendliness	The most effective type of leader is an approachable one. The project team should be confident about communicating with the project manager without any restriction.
Calmness	Project leader trait to remain calm under pressure when the situation does not go according to plan.
Ability to Delegate	The project leader must have the ability to delegate tasks.
Clarity	The ability of a project leader to articulate all the Ideas Clear.
Charisma	Project leader trait, regarding self-confidence at the moment to communicate ideas.
Human Understanding	The project leader should understand the team, values, and needs in all terms.
Adaptability and Flexibility	The project leader must be adaptable to change, especially with the unanticipated.
Wide Outlook	A good leadership trait is to be open mind, thinking out of the box.
Sense of Humour	Helping to get a ride in moments of high pressure.
Modesty	The ability to be modest in all aspects.
Fairness/Equity	The project leader must behave fair and with equity.

Hard Work	The project leader must work hard to succeed in the project.
Patience	A good leader needs to show their team, they have the chance to do Things good, and with enough time.
Celebration	A good project leader must celebrate and motivate the team group.

Adapted from Turner, Muller and Dulewicz (2010:196-216)

Turner and Muller (2012: 77-88) pointed out the characteristics that leaders frequently exhibit such as courage, internal locus of control, passion, emotional intelligence, flexibility and adaptability. Furthermore, an effective leader concentrates on a goal and develops a practical vision and a path for achieving it using intelligence, knowledge and enthusiasm. The attributes of an efficient manager are quite significant in the context of project management, but other characteristics are also very crucial. Turner, Muller and Dulewicz (2010:196-216) stated the basic tenets of the trait school established that the most effective leaders have certain characteristics. They essentially concluded that, contrary to the core tenets of other schools of thought, leaders are born, not made. The values and beliefs, personality, need for approval or achievement, orientation toward power, and mental, physical and emotional characteristics of a leader are the focus of leadership traits. The attributes and abilities of an efficient project manager should be used according to the projects stage. In Table 2.3 below Laufer (2012:3–4) emphasizes that there is a compelling argument for both management and leadership in project management:

TABLE 2.3: Characteristics of Management and Leadership in projects

Management	Leadership
Practices requiring routine activities: ▪ Planning, monitoring, and anticipating. ▪ Using face-to-face communication as the primary communication mode ▪ Being action-oriented and focusing on results	**Practices requiring non-routine interventions:** ▪ Challenging the status quo ▪ Negotiating to obtain the right people at the right time. ▪ Shaping the right culture ▪ Navigating the 'turbulent waters'
Technical skills: Scheduling Planning resource allocation	**Socio-cultural skills:** Effective problem-solving Teamwork

Creating baseline budgets	Negotiating win-win situations
Preparing status reports	Managing expectations
Putting in place effective processes	Managing stakeholders

Adapted from Laufer 2012:236; Msengana, 2012:21

According to Laufer (2012:3-4) technical difficulties can be managed by keeping the status quo even though they may call for high levels of flexibility, solid teamwork and responsiveness. Table 2.3 above illustrates the stark differences between a manager and a leader. Additionally, this table illustrates how the manager concentrates on the operational procedure while the leader concentrates on instilling the vision within the team. Schwalbe (2014:24) describes leadership as the skill that is essential for any project leader.

2.2.   TYPES OF LEADERSHIP STYLES IN PROJECT MANAGEMENT

The PMs leadership style, demeanour and opinions are crucial because they have an effect on how well the project team members work and the project's success (Surji, 2015:154-155). According to Mohammed (2014:1-10) the situational leadership model, transactional leadership, democratic leadership, transformative leadership, autocratic leadership, laissez-faire leadership and bureaucratic leadership are some examples of the different types of leadership styles. In addition, the PMs leadership style, character and attitude are crucial because of the daily activities that have an impact on the productivity of the project team members and the project's success.

2.2.1. Situational leadership model

Delegating, participating, selling and telling are the four leadership philosophies that situational leadership emphasizes, the Hersey Blanchard situational leadership model of leadership argues that effective managers modify their leadership philosophies as each situation may demand for a different approach. Furthermore, (Jiang, 2014: 51-55) contends that the ability to adapt is a crucial quality in a leader and effective leadership is characterized favourably by the capacity of the leader to comprehend the circumstances and guide the group in accordance with their needs. Jowah (2013:40) cited that Blanchard and Hersey (1977) developed the Situational Leadership Theory, which contends that no one leadership style is ever the best option. The principle of situational leadership is shown in Figure 2.1 below:

Figure 2.1: The model of situational leadership
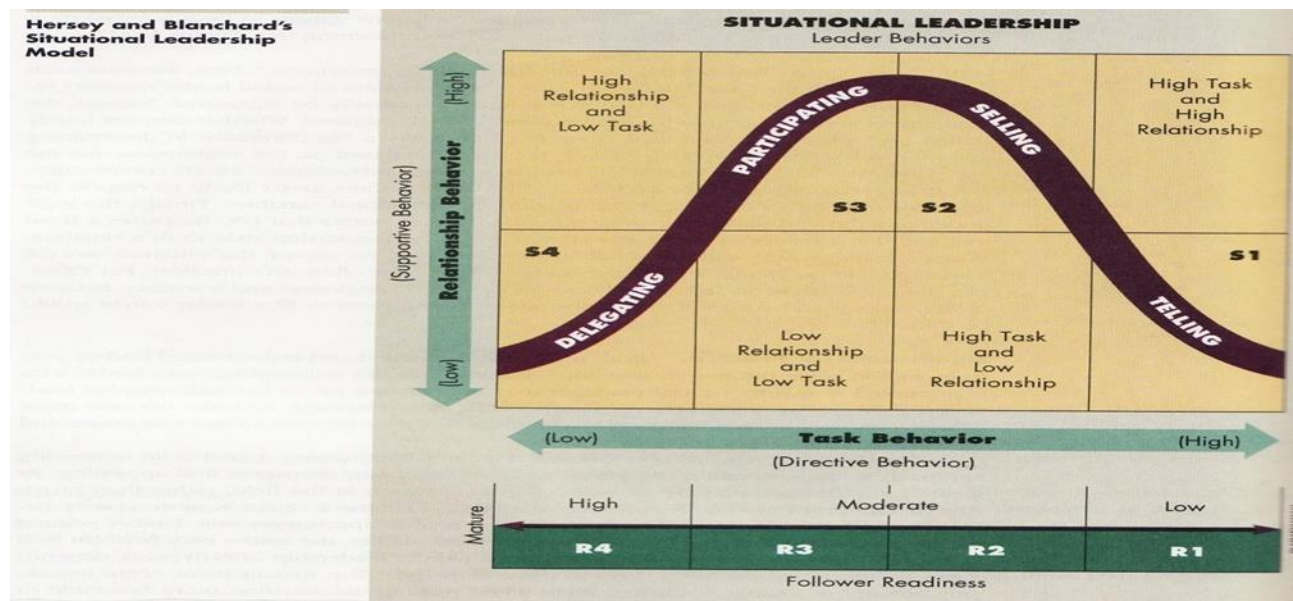
Source: Jowah (2013:40-41-42)

The effectiveness of the style is thought to depend on the circumstances, the conditions and the tasks to be performed. Jowah (2013:41-42) proposes that the suitability of the leadership style cannot be determined without considering the followership. This entails the type of followers, the power that the followers have, the implicit theory of both the followers and the leader, and the ability for the two to show congruence concerning the task and the expectations of both the leader and the follower. Followers who operate under the leadership of transformational leaders are more likely to reach a high level of performance in such technology (Seidman and McCauley, 2010:1-3). The major differences are related to semantics: where Hersey used the word Readiness (R), Blanchard preferred to use Development (D) and where Hersey used Telling, Selling and Participating, Blanchard used the words directing, Coaching and supporting respectively Jowah (2013:41-43)

2.2.2. Autocratic Leadership Style

Nwibere (2013:166) asserts that the autocratic leadership style is essential and appropriate when managers determine the goals that must be achieved while exerting effective control over all operations. Autocratic or authoritarian leaders publicly demonstrate their power and authority over the organization by coercing their subordinates. This style of leadership entails leaders simply acting in accordance with their own judgment without seeking the advice of others, based upon the assumption that

followers' opinions are frequently impractical. The distinctions between democratic and autocratic leadership are shown in Figure 2.2 below.

Figure 2.2: Distinction between democratic and autocratic leadership
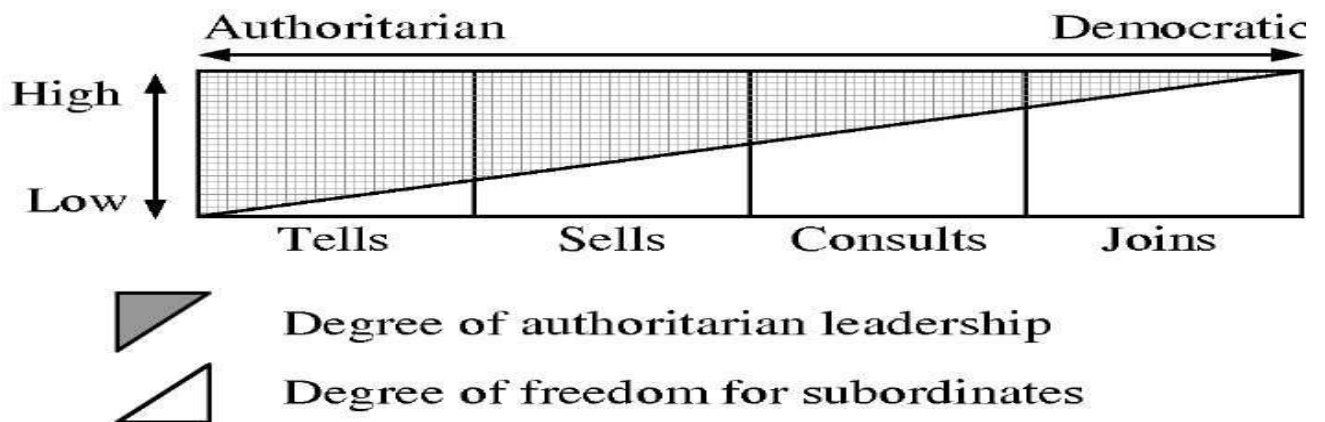
Source: Terzi (2011:528)

Nwibere (2013:166) attests to the fact that authoritarian leaders have significant control over people and make decisions. The decision-making authority in the organization is concentrated among a select group of individuals, and these individuals utilize their position of authority to command workers, most of the time this action leaves the workers feeling dissatisfied because their input in the decision-making process are not valued. This kind of leadership is typically regarded as the traditional method because the leader still has a significant amount of power over decisions (Muhammad 2015:87-92). Therefore, when centralized control is mixed with autocratic leadership, both positive and negative effects on team morale and performance may occur. Muhammad (2015:87-92) claims that authoritarian leaders rely on threats and punishment to motivate their workforce. Therefore, leaders lack trust in their workforce and do not accept suggestions or ideas and counsel from team the members. Autocratic leaders have the advantages of having good control, enforcing discipline, requiring little consideration, and acting promptly (Muhammad 2015:87-92). Lack of trust between the leader and the workforce, together with lack of confidence in the workforce, lack of choice and the consistent approach to everything are all drawbacks of an autocratic leadership style (Muhammad 2015:87-92). Additionally, limiting team members ability to influence collective decisions may have a negative impact on their performance.

2.2.3. Democratic Leadership

Smith and Lewis, (2011:297-231) defines democratic leadership as a leadership style whereby leader's share responsibilities, encourage involvement, rely on subordinates' knowledge to accomplish the work and value their potential to influence outcomes. Therefore, unlike the autocratic style of leadership, this style permits leaders to consult with others before making decisions, thus, demonstrating that they consider and value and others' opinions by allowing employees to freely offer their, information, ideas and expertise. This process encourages them to work harder and more effectively for the organization. Consequently, with a very high moral standard, this leadership style creates a work climate that helps people feel confident and at ease. Employees will be devoted to attaining the organization's goals and objectives because they believe that their opinions matter (Lichtenstein, 2012:1-18). Nwibere (2013:166) outlines a noticeable difference between an autocratic and a laissez-faire leadership style in Table 2.4 below:

Table 2.4: Distinction between autocratic and laissez-faire leadership style

Autocratic leaders demand confidence and extensive experience from those who report to them.
Democratic leaders participate in the decision-making process in a laissez-faire manner, which delegates authority to specialists.

Source: Nwibere (2013:166)

This table demonstrate that democratic leadership makes project teams feel valued because their opinions count in decision-making. They engage in debates formed by leaders and provide sufficient feedback for making decisions stronger and empowering. The manager hopes to advance the idea of letting everyone express themselves through this process, thus, ensuring fulfilment and contentment among the staff (Nwibere 2013:166). According to Lord and Hall (2012: 591) this leadership empowers, directs, and promotes accountability and effective communication among organizational members which increases project team performance because each employee feels empowered to carry out their tasks with assurance of direction according to the information, they have available to them. Employees will be more motivated to complete tasks if they know exactly what needs to be done and how to execute the tasks. Simple misunderstandings and communication breakdowns can result in project delays or

failure. Therefore, according (Lord and Hall, 2012: 591) this type of leadership is effective as it is likely to result in project success.

2.2.4. Transactional leadership

This leadership style is one in which team members agree to follow the direction of leaders when performing tasks. It rewards team members for their efforts and contributions when the job is completed efficiently but reserves the right to punish employees who fail to meet the standards set (Kalaluhi, 2013:139). The transactional style of leadership focuses more on the tasks that need to be completed in a relatively short period of time and leaders set clear goals and employees agree to the terms of that activity. The rewards can include promotion, salary increases, bonuses and job satisfaction. Kalaluhi (2013:139) identified the three components of transactional leadership such as contingent reward, exceptionally active management, and exceptionally passive management. Table 2.5 below demonstrates the three components of transactional leadership.

Table 2.5: The three components of transactional leadership

Conditional reward involves the leader clarifying the goals and rewarding the employee when the goals are met.
A leader who practices management by exception is one who actively observes deviations from the norm, mistakes, and errors and takes appropriate corrective action.
Executives who have passive management by exception wait for problems to arise before solving them.

Source: Kalaluhi (2013:139)

Transactional leadership focuses on leader-follower interactions, followers acting in accordance with leaders wishes and instructions and leaders stimulating their efforts (Kalaluhi, 2013:139). The baseline is reward, which can be positive such as praise and recognition if subordinates agree with a leader's set intent and direction and achieve specified goals, or it can be negative punitive measures if followers do not keep agreements. According to transactional leadership theory, a leader and his followers engage in transactional or intellectual interactions (April and Govender, 2022: 90-103).Therefore, it has been proposed that transactional leadership relationships works best when tasks are assigned, employees are praised or criticized and rewarded or punished. (Geier, 2016: 234-247) defines transactional leadership as the exchange of

relationships between leaders and followers. The leader builds rapport and trust the followers, completes the assignment on schedule with the help of the followers and rewards them at the end of the task. Although less effective than transformational leadership style, transactional leaders teach and inspire followers to be more productive than expected a process that helps followers empathize with the organization's vision and mission(Sudhakar, 2012:537-558).Transactional leaders set specific goals for their subordinates that align with the punishment or reward system intended to promote or encourage compliance (Geier, 2016: 234-247).

2.2.5. Transformational leadership and its origin.

Transformative leaders encourage their team members to achieve a high standard, cultivate a strong sense of loyalty and confidence in them, and inspire them to work hard to accomplish their goals. Table 2.6 below lists the three crucial processes necessary for transformational leadership, as highlighted by (Ahmad and Adi2013:172):

Table 2.6: Steps to become a transformational leader.

☐ Leaders have to create an inspiring vision of the future.
☐ Leaders have to motivate people to buy into and deliver the vision.
☐ Leaders must manage the delivery of the vision.

Source: Ahmad and Adi (2013:172)

Jowah (2013:47), mentioned that transformational leaders innovate, mentor and empower followers, they also fully promote their development. The main objective of transformational leaders, who rule from a distance, is a clear and observable shift in the actions and results of their followers. Through a clearly expressed vision, transformational leadership empowers its followers by demonstrating to them the meaning of their life and their indispensable nature. Figure 2.3 below presents a representation of the transformational theory.

Figure 2.3: Model of transformational theory

| LEADER'S BEHAVIOUR |
| visionary, framing, impression management |

| TRANSFORMATIONAL LEADERSHIP |

| BEHAVIOUR OF THE FOLLOWERS |
| identification with prototype, heightened emotional levels, hunt for empowerment, quest for achievement and satisfaction |

| CONSEQUENCE |
| greater follower satisfaction, improved productivity, easier to influence and change things |

| CIRCUMSTANCES AND CONDITIONS |
| culture and religion of followers, education level of followers, maturity of followers, degree of congruence of the prototypes, nothing to loose followers |

Source: Jowah (2013:47-48)

Judge and Roberts (2015:383) stated that transformational leadership places a greater emphasis on the leader's involvement in the project at hand and the project team in question. Individualized consideration includes coaching each team member, cerebral stimulation to enable team members to solve problems intellectually. Inspirational motivation illustrates the leader's values and goals to followers so that the team is inspired by the leader's contributions and his/her idealized influence that instils a sense of importance, pride and mission to further integrate themselves into the project (Robbins and Judge, 2015: 383-385). Transformational leaders place high demands upon their team members and inspire great loyalty and confidence that motivates them to achieve their work goals. Ahmad and Adi (2013:172) outline the three important stages that allow an individual to become a transformative leader in figure 2.4 below:

Figure 2.4: Full range of leadership model
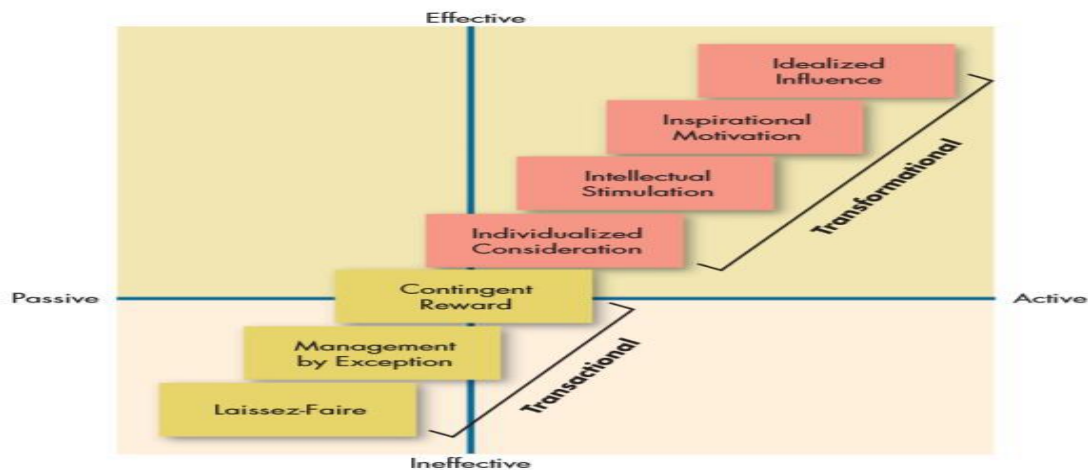
Source: Robbins and Judge (2015:384)

Transactional and transformational leadership are the two larger subcategories of leadership in the leading model of leadership styles. Transactional leaders are determined to give their followers clear goals and task requirements whereas transformative leaders aim to inspire their followers to view long-standing issues in a fresh way and successfully persuade them to work even harder for the sake of the group. Transformational leadership has a greater impact on the group and necessitates a greater level of participation from the leader (Robbins and Judge,2015:383). A comparison of the two strategies is shown in the complete range of leadership model (Figure 2.4 above). Transformational leaders support the development of their staff members' self-confidence and personal growth by assisting them to realize their full potential. They spread this positivity through their workforce while achieving the organization's objectives and vision in the process. Compared to other leadership philosophies, transformational leaders are renowned for producing more significant results (Geier, 2016:234-247). They have a positive connotation and their actions become more pronounced as a result of the followers increased drive and emotional connection (April and Govender, 2022: 90-103).Transformational leadership is a process whereby the leader and followers get to know one another better and achieve higher levels of motivation, respect and morale (Athalye, 2010:2). These authors further stated that leaders' transformational qualities can be judged by the way they affect their subordinates. Therefore, such leaders give their followers confidence and a sense of security while stirring respect, loyalty and inspiration. A charismatic leader inspires

followers through intellectual encouragement, transforms them through charisma and gives each follower individual attention (Geier, 2016:234-247)

2.2.6. Laissez-faire leadership theory

Robbins and Judge (2015:382-383) are of the view that laissez-faire style of leadership also known as management by exception refers to an approach in which the leader avoids engaging in the ongoing project and making decisions. Leadership responsibilities are delegated to others whenever possible and most of the work is undertaken by the team. Management by exception means that the leader only influences the team when the work done by the followers does not meet the standards set by the manager. This style of leadership can be exercised passively or actively in search of these deviations (Robbins and Judge, 2015:382-383). Contingent reward leadership is a classic reward system for managerial work. Table 2.7 below demonstrates the characteristics of laissez-faire leadership.

Table 2.7: The characteristic of laissez-faire leadership

Very little guidance from leaders
Complete freedom for followers to make decision
Leaders provide the tools and resources needed
Group members are expected to solve problems on their own

Source: adapted from (Robbins and Judge, 2015:382-383)

Verma, Rangnekar and Barua, (2012:347) are of the option that successful and efficient leadership requires several qualities and, for a leader to be fully effective when managing or directing staff, specific attributes must be added to each leadership style. These additional qualities include being imaginative, an effective communicator, building networks with others, dealing with and collaborating with others within the organization. Therefore, autocratic, democratic, transformational, or laissez-faire leadership philosophies are insufficient for project leaders to lead or manage an organization effectively. Leaders who practice laissez-faire management allow employees more time and freedom to make their own decisions. These workers are educated, skilled and experienced and possess excellent work ethics (Muhammad 2015: 87-92). This leadership philosophy involves delegating responsibility and delaying making decisions

to give their followers more power over decision-making processes and only offering help when it is requested or required (Jowah, 2016:10-17).

2.3.   THEORIES OF LEADERSHIP

According to Yang et al., (2011:258-267) the goal of project management leadership theory has been to demonstrate a link between effective leadership and project performance since the field's foundation. Amanchukwu, Stanley and Ololube, (2015:8) outline the qualities of a leader and a manager in Figure 2.5 below:

Figure 2.5: Qualities of the leader and the manager

Source: Naylor, (1999, p. 524)
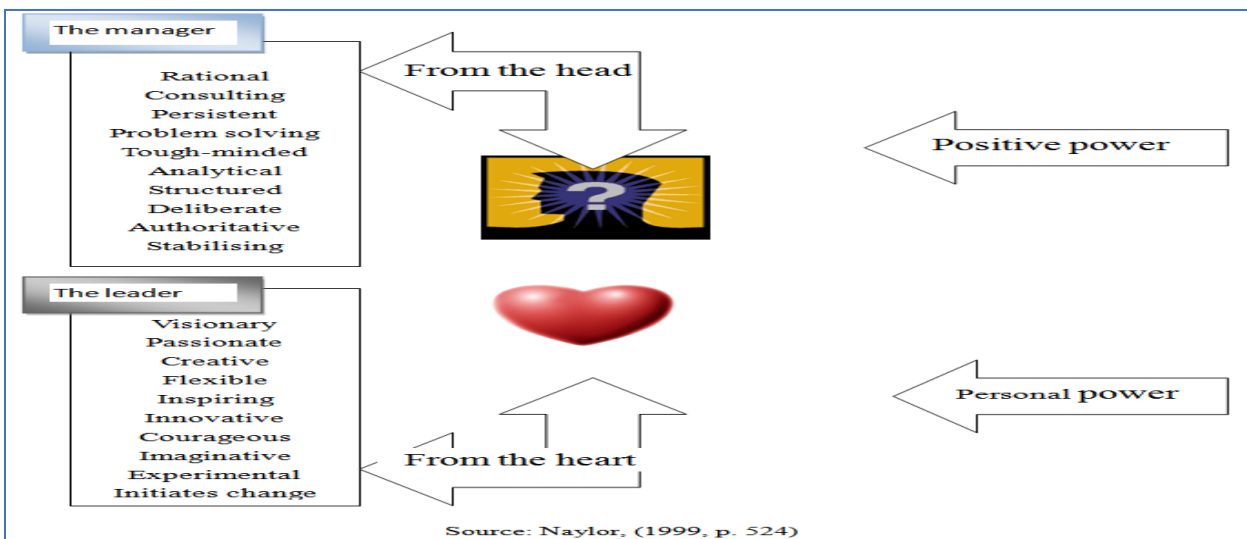
Source: Amanchukwu et al., (2015:8)

Amanchukwu et al., (2015:8)referenced a well-established major leadership theory that stirred scholarly interest in leadership in the early 20th century, whereas the early theories focused on the traits that set leaders apart from followers and later ideas looked at other aspects such as situational factors and ability levels. However, even though new hypotheses are constantly being developed, most of them fit into one of the distinct categories. The list of leadership theories itemised by (Amanchukwu et al., 2015:8)are summarized below.

Trait theory: According to this theory, some people are born with certain qualities or traits that make them better leaders. Trait theories frequently point to personality or behavioural features that leaders share. However, some queries have occurred regarding whether certain traits are essential components of leaders and leadership. Therefore, due to contradictions in the relationship between leadership traits and

leadership effectiveness, academics gradually changed their paradigms to uncover new causes for successful leadership.

Situational Theory: According to this theory, leaders should select the appropriate course of action based on the current situation's circumstances. However, different types of decision-making may require different leadership philosophies. Authoritarian leadership for instance may be most appropriate when the group's leader is believed to be the most informed and experienced member. A democratic approach may be more effective in other situations in which all group members are experts and expect to be treated as such.

Great Man Theory: According to this theory great leaders are not created but are born with the ability to lead. These ideas frequently present leaders as heroic, mythical, and destined to assume leadership roles as circumstances demand. The term 'great man' was utilized because at the time leadership, particularly within military institutions was seen as primarily a male trait.

Transactional/Management Theory: According to Amanchukwu et al., (2015:8) transactional theories also referred to as management theories, emphasize the interactions between leaders and followers, as well as the functions of organizational and group performance. Additionally, theories attribute leadership to a system of rewards and penalties. The idea is that the leader's responsibility provides frameworks that are crystal clear regarding what is expected of followers and the consequences (rewards and punishments) associated with fulfilling or failing to meet expectations (Lamb, 2013:5-8). Amanchukwu et al., (2015:8) is furthermore claim that workers who succeed are rewarded and those who fail are criticized or punished. The authors further stipulate that the managerial or transactional theory which continues to be a very prevalent element of many leadership models and organizational structures are frequently compared to the idea and practice of management.

Participative Theory: According to this theory, the best leadership practices consider what others have to say. Therefore, group members who feel important and are dedicated to the decision-making process, are encouraged to participate and contribute by participative leaders. According to Amanchukwu et al., (2015:8) a manager who practices participative leadership seeks to involve others in the decision-making process.

This approach increases commitment and collaboration amongst employees which results in higher-quality decisions being made and a more successful business.

Contingency Theories: According to this theory, leadership theories concentrate on specific environmental factors that may help to identify the leadership style that is most appropriate within a certain workplace setting. The contingency theory believes that leaders' effectiveness depends upon how well their traits and management style match the requirements of the scenario (Amanchukwu et al., 2015:8). The success of projects depends upon several factors, including a leaders' style, the traits of their followers and the circumstances. Situations in any pertinent environment must be considered while constructing an organization or one of its components, thus, is referred to as a 'contingency factor'.

Behavioural Theory: The foundation of behavioural theories of leadership is the idea that exceptional leaders are created, not born (Amanchukwu et al., 2015:8). This leadership philosophy focuses on the behaviours of leaders rather than their mental or intellectual states. The author further noted that, the behavioural approach holds that individuals can develop their leadership skills via observation and practice and that a thorough comparison of autocratic and democratic leadership styles has sparked interest in the conduct of leaders.

Transformational Theory: This theory also known as a 'relational theory', focus upon the connections formed between leaders and followers. This theory is regarded as the process whereby leaders engage with others and create a connection that results in increased motivation and morality in both followers and leaders (Amanchukwu et al., 2015:8). The author further stated that relationship theories are often compared to charismatic leadership theories in which leaders with certain qualities, such as confidence, gregariousness, and clearly stated values, are seen as best able to motivate followers. These leaders are concerned not only with the output of the group but also with everyone reaching their full potential. Amanchukwu et al., (2015:8) maintain that transformational leaders frequently have high ethical and moral standards and relationships and inspire and encourage followers by assisting them to appreciate the moral significance of the job at hand.

Skills Theory: According to this theory, acquired knowledge and skills have a significant role in the execution of good leadership. Although innate attributes and the ability to lead

effectively are acknowledged by the skills theory, it contends that acquired knowledge, taught skills and a developed style are the primary drivers of effective leadership performance and a strong belief in skills theory frequently necessitates considerable time and money being expended upon leadership development (Amanchukwu et al., 2015:8).

2.4. LEADERSHIP BEHAVIOURS

Manyuchi and Sukdeo (2021:412-416) stated that while other leaders concentrate on giving socio-emotional support in terms of the interpersonal relationships between themselves and their subordinates, certain leaders are primarily known for coordinating accomplishments for their subordinates in terms of task accomplishment. There are other leaders who exhibit high-task and high-relationship behaviour. Therefore, others have the propensity to provide their employees with few tasks or links to follow. Blanchard (2018:19-47) deed the leadership behaviours and leadership excellence with several forms of leader conduct. in Figure 2.6 below:

Figure 2.6: Leadership behaviours and Leadership Excellence

Leadership Behaviours	Directing/Supporting Relationship	Workers Maturity
Directing (stage 1)	High directing/low supporting	Immature: Low competence and commitment; leadership focus on 1. Telling the worker where, when, and how to do assigned work 2. Key requirements of structure, decision-making control, and supervision 3. Primarily one-way communication.
Supporting (stage 2)	High directing/high supporting	Immature: Growing competence; weak commitment; leadership focus on 1. Building confidence and willingness to do assigned work 2. Retaining decision making 3. Promoting two-way communication and discussion
Coaching (stage 3)	High supporting/ low directing	Mature: Competent; variable commitment; leadership focus on 1. Building confidence and motivation; promoting involvement 2. Allowing day-to-day decision making 3. Active listening and two-way communications and discussion
Delegating (stage 4)	Low supporting/low directing	Mature: Strong competent; strong commitment; leadership focus on 1. Promoting autonomy, decision making and employment 2. Collaborating on goal setting 3. Delegating responsibility

Source: Blanchard (2018:18-45)

Blanchard (2018:19-45) indicated the four stages involved in the attainment of leadership excellence as directing, assisting, delegating and coaching. The Blanchard model outlined above identifies some dimensions of leadership that have not previously been extensively covered in management literature. These leadership skills include managing, encouraging, mentoring, and delegating, all of which are suitable for a wide range of individuals and depend largely upon the comprehension or maturity of the followers. BlanchBlanchard's:19-46) model predicts senior management in four phases below:

Phase One: Suggesting that subordinates may be new to the type of business environment, or they may be too young. This phase favours a structured system of clearly defined controls and performance measures.

Phase Two: A high level of management support is still needed, but is ideal for weak, immature subordinates lacking in many skills. The goal, therefore, is to build employee trust and facilitate communication, so subordinates have a clear idea of what is happening.

Phase Three: It is characterized by very favourable but markedly low control, as subordinates show signs of maturity and higher levels of competence. Subordinates know what to do and how to do it, but they may need to be motivated to perform to the expected standards.

Phase Four: This stage is characterized by little support and direction; subordinates are confident in what they are doing and even maybe competent and able to make decisions on operational matters and can assist management with oversight and control.

Therefore, Blanchard's model predicts the behaviour of leaders based on the type of follower and their level of competence and maturity within the operational environment. As a result, different methods will be required for different levels of employment in the workplace. The leader must understand the subordinates to know how to motivate them through their personal behaviour. Leadership behaviour, thus, constitutes the basis on which the style of leadership is based. Additionally, a close examination of these behaviours also suggests that the top level of this model corresponds to transactional leadership and the bottom level essentially belongs to transformative leadership.

2.5.   LEADERSHIP IN PROJECT MANAGEMENT

Ebrahem (2016:14) mentioned the different sources of conflict that may happen through the project life cycle. However, leadership should guarantee proper project activity planning and a sufficient information flow and PMs need to support their team's specific objectives while also accommodating and managing changes. Successively to the main sources of conflict from the perspective of project management, other sources of conflict may arise throughout the project life cycle. According to Patterson (2010:67-70) the effective leadership is necessary to meet the expectations and needs of stakeholders, ensure project success and increase team growth. This author further noted that leadership should ensure correct planning of the project activities and adequate flow of information, while effective project leadership should focus on enhancing organizational performance, client satisfaction and successful implementation of projects plans. Hence, the project requires effective leadership to meet expectations and needs of stakeholders, ensure project success and enhance team development. Therefore, improving company performance, customer satisfaction and the successful implementation of project plans should be the main goals of effective project leadership.

2.6.   CONCLUSION

This chapter covered theories of leadership styles such as situational leadership, trait-based and behavioural leadership theories that have a substantial impact on project success. Furthermore, different approaches and theories pertaining to project management were discussed with many different types of leadership, including the situational leadership model, transactional leadership, democratic leadership, transformational leadership, autocratic leadership, laissez-faire leadership, and bureaucratic leadership. Additionally, the concept of leadership is explained with reference to various relevant theories. This chapter established that the success of the project depends upon the ability of the leaders to use appropriate leadership styles that will guide and orient the project team in line with the project vision as each leadership style stirrers a positive impact on employee performance. Ebrahem (2016:14) stipulated that to encourage people in the organization to achieve a favourable outcome, leaders should combine the right leadership styles with a first-rate reward system as an efficient project management unquestionably depends upon strong leadership.

CHAPTER THREE

SUCCESS FACTORS OF PROJECT MANAGEMENT AND PROJECT FAILURES

3. NTRODUCTION

Humaidi (2012:2) is of the view that knowledge is crucial and should be accessible to all parties involved in the project. Furthermore, the author noted that it is necessary to share expertise to inspire team members to give their best effort to the project. A vital part of knowledge management process is used in project development and should be displayed by the leader, whose role has a major impact upon the process. Therefore, identifying project management variables, indispensable success elements, causes of project failure and important knowledge areas needed to successfully manage and complete projects, together with ways for assessing the effectiveness of project success is significant. According to PMBOK (2013:3-5) general project management encompasses facets of organizing, operating, carrying out project activities, supervising ongoing activities with knowledge of several auxiliary sectors, principles, strategic planning, logistics, and human resource management. Fenech and De Raffaele (2013:1-2) stated that lack of knowledge and expertise might result in problematic project development. Therefore, it is the project leader's duty to guarantee that the project team can fulfil its tasks effectively. This chapter will delve further into the various project management processes since these group practices act as a reference for leaders when applying project management knowledge and skills to projects.

3.1. THE BACKGROUND OF PROJECT MANAGEMENT

According to PMBOK (2013:5-13) the initial framework for project management relied exclusively on tools and methods including resource smoothing, the Programme Evaluation and Review Technique (PERT), the Work Breakdown Structure (WBS) and the Critical Path Method (CPM). Hence, to address the emerging problems of project management, new management strategies are to be devised because organizations increasingly depend upon successfully implementing projects for their survival. The Association for Project Management (APM) recognized that the Project Management Body of Knowledge (PMBOK), which was established by the Project Management Institute(PMI), did not adequately address all the needs of project professionals, thus,

they sought to expand their body of knowledge (Sumner and Powell, 2013:1). The APM association applies a different methodology and places a greater emphasis on behavioural aspects while also considering the context of project management, general management, commercial and technological factors.

3.1.1. Process and project life cycle of project management

Heagney (2011:25), described project management as the application of knowledge, skills and processes of project activities to meet the needs of a project. Therefore, leadership is required for these applications to improve the success of project deliverables and, this trait can be achieved through a range of leadership philosophies and tactics. Snyder (2014:4-5), is further of the view that project management is the process of utilizing knowledge, abilities, tools and technology in concert with project activities to meet project requirements. Kerzner (2013:76-83) identified four components of good project management leadership methodologies, such as effective communication, cooperation, teamwork together with trust, as being crucial to the application of project management. Effective communication, therefore, is advantageous to the project team, to internal clients and the greater business world. Project management entails the application of principles, procedures, tools and laws to achieve project objectives. Effective co-operation is required within the larger organization to align to the project's objectives, effective teamwork is obtained within the internal project team, and the element of trust is exercised throughout the life cycle of a project. According to PMBOK (2013:42) the five phases of project life cycle which are initiation, planning, execution, monitoring and controlling, and closure, these processes are shown and described in table and figure 3.1 below:

Figure 3.1: Project life cycle of a single-phase project
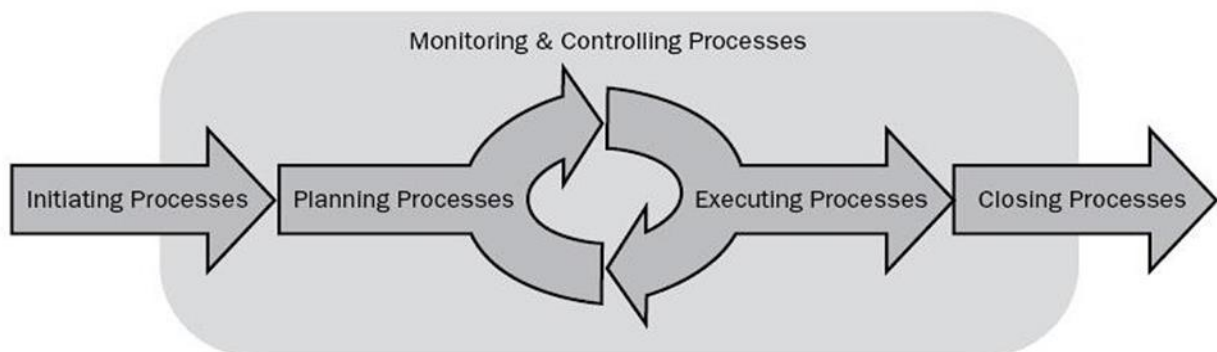
Source: adapted from PMBOK (2013:42)

According to PMBOK (2013:5) PMs need to be able to carry out responsibilities across the project's life cycle while displaying performance competencies. Therefore, the five phases listed below were developed using the PMBOK Guide:

• **Initiation of a project:** the creation of a project, which includes the definition of the project's main and secondary objectives, the schedule and the timetable for the expected achievement of the objectives.

• **Planning of a project:** planning specific goals and developing measures to achieve goals in terms of scope, time, cost, quality necessary changes and risks.

• **Project Execution:** executing the work outlined in the project management plan to achieve the project objectives as defined in the project scope statement.

• **Supervision and control of a project:** coordinating people and resources according to the project's objectives.

• **Completion of a project:** completing tasks and executing handover procedures.

Table 3.1: Process groups of project life cycle

Process	Definition
Initiation	In this step of the process, the project's objectives, deliverables, and constraints are defined. Paperwork, stakeholder register, and a project charter are created.
Planning	This process develops plans such as the communication plan, project plan, risk management plan, work breakdown structure plan, drafts plans and schedules and checks registers for risk mitigation for projects.
Executing	Project team management, quality assurance work, and procurement are only a few of the processes carried out during this phase. Tasks outlined in the WBS are carried out.
Monitoring and controlling	The monitoring and regulating of expenses, quality, budget, time, communication, risks, and procurements fall under these procedures.
Closing	Project is purposefully ended since all requirements have been satisfied, all procedures are closed, team members are released to work on other projects, and final reporting is completed with client/customer approval.

Source: Own construct, adapted from PMBOK guide (2013:5-481)

The project, therefore, comprises phases running from start to finish, implicitly all stages must be completed with the awareness that one leads to the other. This knowledge can be critical because knowledge areas imply that projects are made for people and created and executed by individuals. To accomplish a project, utilization of the ten areas of knowledge is essential. Therefore, to ascertain the impact of leadership on projects this research study uses the general phase structure in project lifecycles. The generic of a project various phases is illustrated in Figure 3.2 below:

Figure 3.2: A generic project life cycle
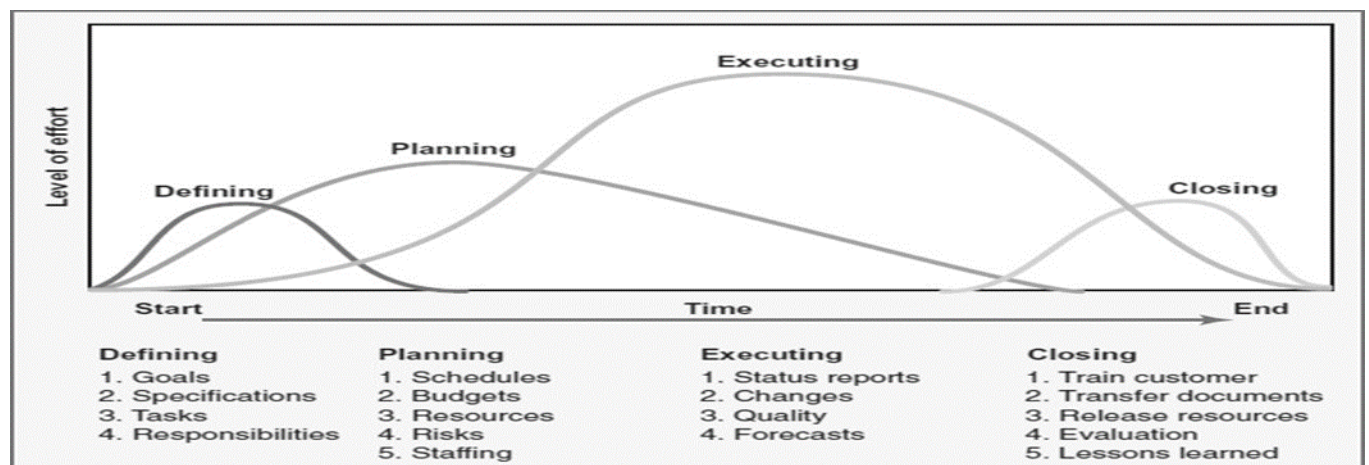
Source: adapted from (Larson and Gray, 2011:5-7)

A project's life cycle has four generic phases, namely: initiating, planning, executing, and closing (Larson and Gray, 2011:5-7). These phases are typically broken into more precise segments depending upon the project, although they can be compressed into fewer phases of the project scope.

3.1.2. Project management knowledge areas

The effectiveness of PMs is managing finances, schedule, quality, and act as the main liaison with the success of a project (Zakaria et al., 2015:89). Besides the technical skills that PMs are required to have in their role as leaders in projects, they must also know and understand project management knowledge areas set out in the PMBOK guide. According to the PMBOK (2013: 5 - 481) knowledge area represents a complete set of concepts, terms and activities that make up a professional field, project management field, or specialization. The 10 Knowledge areas in PMBOK guide cover project management processes. Processes are a set of activities and actions undertaken to obtain a specified objective (PMBOK, 2013: 5 - 481). Project managers use these processes as a detailed roadmap for directing each project to the right path. Therefore,

when these processes are used effectively, they assist in the removal of confusions and uncertainties among PMs and stakeholders of projects. The process groups represent the stages in the project management knowledge areas and a short depiction of these knowledge areas is given in table 3.2 below:

Table 3.2: Ten Project Management knowledge areas

Knowledge Areas	Definitions
Integration management	Comprises of processes expected to facilitate and coordinate the processes of other knowledge areas within the process group.
Scope management	Comprises of processes expected to recognise and characterize what is incorporated and excluded in the scope of the project and to control changes to the scope of the project.
Time management	Comprises of processes required to make a guarantee that projects or project activities are finished within the predetermined time.
Cost management	Comprises of processes needed to ensure that the projects finish within the budget allocated them.
Quality management	This knowledge area comprises of processes expected to guarantee that the project accomplishes the quality prerequisites set out to be achieved
Human resource Management	This knowledge area comprises processes required to amass, organise and manage the project team.
Communication management	This knowledge area comprises processes needed to ensure that the fitting correspondence infrastructure is accessible for the complete communication of project information between all the project stakeholders.
Risk management	Comprises of processes that are concerned with conducting risk management planning, identification, analysis, responses, and monitoring and controlling in a project.
Procurement Management	This knowledge area comprises processes required to guarantee the procurement of services, products and/or information from sources other than the project team to conduct a project.
Stakeholder management	These are processes expected to recognize who the project stakeholders are, what the impact they have on the project, and how to keep them satisfied.

Source: adapted from PMBOK (2013: 5 - 481)

PMBOK (2013:5-481) detailed project knowledge areas as a set of activities and actions undertaken to obtain a specified objective. The following knowledge areas one contains processes that must be performed in a coordinated manner for a project to be a success;

integration management, scope management, time management, cost management, quality management, human resource management, communication management, risk management, procurement management and stakeholder management (PMBOK, 2013: 5 - 481). Jowah (2013: 1-344) posits that project integration management is there to ensure that various activities of a project are coordinated to achieve project objectives.

3.1.3. Variables influencing project management success.

PMI Project Management Institute (2013:38-39) asserted that projects are non-permanent tasks carried out to provide a particular objective or service and, in this sense 'temporary' refers to the notion that a project has a lifespan. There are a variety of reasons why a project could come to an end, including when the client, sponsor, client and champion ends the project (PMBOK, 2012:2). The PMI rates the success of a project using the triple constraints of a project (time, cost and scope), while the APM association uses a different approach to measure the success of a project, it focuses more on the behavioural aspects and includes the context of project management, general management, commercial and technological factors (Jowah, 2013:139:344).

3.1.4. Projects Classification

The primary characteristics of a project include a clearly stated goal, a specified lifetime with start and end dates, the involvement of numerous departments and specialists who, typically, are performing tasks for the first time, and specific requirements in terms of cost, time and performance (Larson et al., 2011:2-3). According to Bodicha (2015:101) various organizations describe projects in accordance with their conception and knowledge. Kerzner (2013:57), is of the view that if a group of tasks is selected and accepted as a project, the next stage is to specify the different types of project units, which are broken down into four classifications, namely:

- **Individual projects:** short-duration projects/quick-turnaround tasks normally assigned to a single individual who may be acting simultaneously as a PM and a functional manager.
- **Staff projects:** projects that can be accomplished by one organizational unit, this process works best if only one functional unit is involved.
- **Special projects:** often require certain primary functions and authority to be assigned temporarily to individuals or units. This process works best for short-duration projects. Long-term projects can lead to severe conflicts under this arrangement.

- **Matrix or aggregate projects:** these require input from a large number of functional units and usually control vast resources.

3.1.5. Elements of Project Success

Sundqvist et al., (2014:278-287) asserts that the achievement of a project objectives within the allocated time, budget and scope, as well as the efficient use of available resources, results in a project success. According to Duncan (2013:4) PMs should aim to efficiently plan, manage and produce high-quality results frequently in accordance with the requirements of the client. Project success is crucial for organizations since it is directly related to innovation and the long-term business success of the same organization (Wald et al., 2015:24). Kerzner (2013:5) states that a project is considered successful if the completion time is within the specified timeline, budget and performance level, with a minimal amount of scope adjustments, and with outcomes that the customer or users approves and can use. According to Duncan (2013:4) all PMs should strive to effectively plan, manage and provide high-quality solutions, frequently in compliance with the client's expectations. Serrador (2013:28-39) asserts that a project's success is based upon the quality of the work generated. This component of the triple bottom line is particularly important since it relates to the few variables that would have been used, as well as the viewpoint of the customer or end-user who ultimately will use the goods or services. Papke-Shields, Beise and Quan (2010: 650–662), noted that there is a substantial correlation between the use of project management approaches and project success because the former practices can improve project performance.

Papke-Shields et al., (2010:650-662) claim that there is a strong relationship between the usage of project management and project success. However, (Serrador, 2013:28-33) argued that the calibre of the work produced is what determines the success of a project. Therefore, connection to both the limited variables that would have been employed and the perspective of the client or end-user is particularly pertinent because project management techniques can enhance project performance. The Iron Triangle, which is based upon the standards of quality, time and cost, has made a framework for specifying the standards by which project success should be measured available to academics and professionals.

The three aspects of the iron triangle are cost, time and scope/quality. Furthermore, stakeholder acceptability has been added as a further criterion and these are the most common project performance measures (Duncan, 2013:4). Scholars investigated how resources might be employed to achieve project success and developed a decomposition strategy for the Time Constrained Project Scheduling Problem (TCPSP) (Hurink, Kok, Paulus and Schutten, 2011:315). The three factors shown in Figure 3.3 below are known as the Iron Triangle of project management because they are so strongly integrated, and all three constraints are relevant to aspects of project management success.

Figure 3.3: Iron triangle
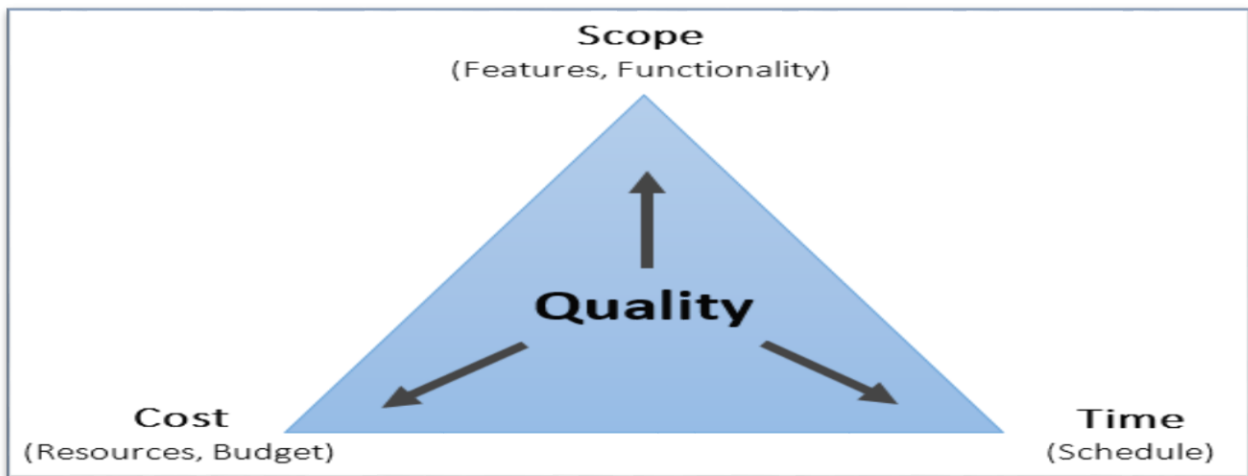
Source: adapted from (PMBOK, 2013:42)

Cost: The model combines scheduling with two constrained variables time and resources to produce improved project outcomes. Tabrizi (2018:58) suggests that the project timeline and material procurement be planned concurrently to enable more efficient project execution. This process would make it easier to handle the tricky supply and demand logistics.

Time: Dumic, Sisejkovic, Coric and Jakobovic (2018:42) stated that the main goal of planning is the allocation of limited resources to activities over time periods to optimize one or more criteria. Furthermore, these researchers include the fact that planning algorithms are developed by specialists in the relevant fields and evaluated against artificial benchmarks or real problem cases. This claim supports the idea that

completing projects on time and meeting budget have a beneficial effect on the final cost of the project.

Scope or Quality: Geraldi, Kutsch and Turner (2011:562) stated that whilst the concept of high-satisfactory ideas has been extensively studied in many establishments, scope and quality still remain underexposed in many project designs. They further mention that the uncertainty and dynamics of the tasks undertaking these high-satisfactory notions were evolved for the exceptional operations and, thus, require tailored solutions. There may be separated principles regarding the concept of high-satisfactory, hence, several challenge elements need to be contextualized to distinguish challenge performance. In repetitive operations, it is historically less difficult to decide on the fulfilment of high-satisfactory due to the fact there are ideas and requirements together with International Operating Standards (ISO). The three constraints are relevant to aspects of project management success; with the implication that the interaction of the triangle of factors is not intuitive (Malcolm, 2012:21-22).

Mehta, Hall, and Byrd (2014:417-429) claimed that it is unclear what really makes a successful project based on the experiences that PMs have acquired. As a result, managers frequently use corporate policies or broad guidelines to assess success or failure. However, other qualitative elements have also been considered by researchers as contemporary project management processes evolve. There are various degrees and stages to achieving project success, including:

- Getting the results
- Satisfying organizational and market needs
- Meeting quality requirements or meet quality expectations.
- Providing aspects that have been agreed upon within the scope and
- Carrying out projects according to schedule and budget.

According to Larson et al., (2011:7) the trade-offs between quality, cost and time depend upon the stage of the project, as well as the level of attention it receives. Therefore, during the first stage of a project the schedule is of the utmost importance, followed by cost and quality. Gradually a project cost becomes the primary interest, and its timeline acquires less important. Therefore, when a project is completed the deadline and any financial constraints are simply discarded, and quality becomes the primary concern.

3.1.6. Project Management Knowledge Areas

The success of a project is directly correlated with the efficiency of the PM in managing the project's budget, timeline and quality (Zakaria, Mohamed, Ahzahar and Hashim, 2015: 89). In addition to the required technical abilities, PMs also need to be familiar with the knowledge areas outlined in the PMBOK (PMBOK, 2013:5-481). A knowledge area is a comprehensive collection of ideas, expressions, and actions that comprise a particular professional subject, project management field or specialty activity performed to achieve an explicit goal (PMBOK, 2013:5-481). PMs use these techniques as step-by-step roadmaps to steer each project in the right direction. Consequently, when applied correctly, these techniques help eliminate uncertainty and confusion between PMs and project stakeholders and could result in project success.

3.2. PROJECT SUCCESS AND CRITICAL SUCCESS FACTORS

According to Masamha and Mnkandla (2017:38-40) the major success factor is one that greatly increases the likelihood that a project will be implemented successfully. Nasir and Sahibuddin (2011:2), further argued that not all initiatives use the same success elements. Ram & Corkindale (2014:4) asserts that to attain performance goals, the Critical Success Factors (CSFs) model offers a methodical approach for classifying the crucial areas or suggestions that management must be constantly and carefully monitored. Lutaaya (2019:2-5), posited that most studies concentrate on the conventional iron triangle (cost, quality and schedule) as the metrics for evaluating a project. Although, the majority of reviewed studies concentrated on the essential project elements that are unique to green building projects such as early team member involvement and integrated project delivery methods these factors typically are not acknowledged as critical success factors for enhancing project performance in terms of cost, time and quality by the majority of previous researchers. Figure 3.4 below identified five factors affecting project success.

Figure 3.4: Factors Affecting Project Success
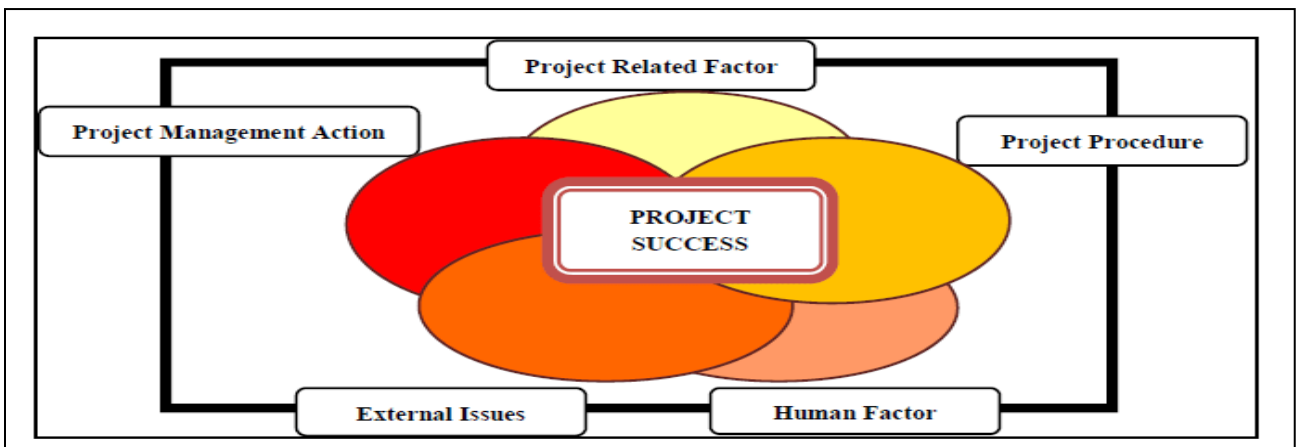
Source: Lutaaya, 2019:2-5)

Lutaaya (2019:2-5) mentioned five factors affecting project success, namely: project management measures, project procedures, external problems, human problems and project factors, each of which is explained in detail below.

o **Project Management Action:** these actions focus on the communication system, effort planning, development of an adequate organizational structure, implementation of both an effective safety programme and a quality assurance programme and the management and control of subcontractors' work.

o **Project Procedures:** these procedures include procurement methods and strategies.

o **Human Factors:** these factors include customer experience, nature of the customer, size of customer organization, customer's emphasis on low-cost construction or high build quality or fast build, capability of customer to provide information, including planning, defining roles, contribution to design and creation.

o **Factors related to the project**: these factors include the type, nature, size and complexity of the project.

o **External Issues:** these factors include physical, economic, social, political and technological progress. According to research, there are different lists of critical success factors that have changed over the years, such as effective monitoring and control and financial support. These features are explained below.

Top Management Support: Lutaaya (2019:2-5) stated that the greater the top management support, the greater the project's chance of success.

Stakeholder Engagement: Lutaaya (2019:2-5) mentioned that effective consultation with stakeholders is necessary for achieving success at each phase of the project cycle. Furthermore, there is a need for adequate and regular consultation with clients and other stakeholders.

Team capacity: Lutaaya (2019:2-5) emphasised that personnel's competency in handling projects is very important. The PM and the project team are ultimately responsible for the success and quality of projects; hence, it is essential for competent personnel to be recruited and appropriately trained regularly.

Adequate Resources: The successful implementation of projects is dependent upon resources. Financial support is inevitably required if an investment in a technological system needs to be made. Furthermore, Human resources are needed to coordinate and manage the implementation process as well as to take up knowledge-related roles and time is also a consideration (PMBOK, 2013: 313-314).

Effective Monitoring and Control: (Zhang and Wei, 2022: 2-11), noted that monitoring, control and providing feedback are useful in preventing incidents. Furthermore, when weaknesses in the project plan are noticed, then preventative actions are certified to carry the project back into line with the project plan.

Effective Communication: Lutaaya (2019:2-5) mentioned that communication is the exchanging of information from one point of the project to another point in an efficient manner. Effective communication, which is vital to the success of a project, often begins to break down in the middle phases of a project, when team members are immersed in their work and liable to lose sight of what others are doing (Zhang and Wei, 2022: 3-11).

3.2.1. Critical Success Factors for ICT Projects

Montequin et al., (2016:18-31), argues that there is no agreement upon the numerous lists of success criteria and failure causes that exist in the existing literature since they differ based upon the individual study and the type of project. In today's knowledge-driven economy, ICT has a significant role in both the public and commercial sectors. Masamha and Mnkandla (2017:32-38) further contended that regardless of the type or industry, projects are started to add value to the organization. ICT projects in common with any other conventional project, are temporary endeavours that require the use of resources, incur costs and are anticipated to produce deliverables over time.

Montequinet al., (2016-2-18), determined that the failure or success of a project has grown more complicated and the definition of success itself is a difficult topic in ICT project management because not only is success viewed differently from person to person, but the ICT industry and typology can also affect how people view success. Additionally, finding a universal definition of success is challenging. According to (Neverauskas et al., 2013:829-836) there are numerous project success variables listed in the related literature, which causes PMs to become fail. These researchers concluded that a project's success depends upon both its product and project management.

Ram and Corkindale (2014: 25), proving the empirical validity of key success criteria as challenging due to success and performances which are gauged in different ways. Additionally, the author stated that it is difficult to consistently determine whether performance or deployment of ERP is affected by crucial success variables. It is challenging to establish generalizations about crucial success variables because projects have an implementation, an outcome and a process. Ram and Corkindale (2014:25-26) further stated that numerous crucial success criteria need to undergo thorough empirical testing to gauge the actual affect they have on various aspects of project success. Studies noted that Information and communication technology for development (ICTD) projects have a high failure rate due to poor project management and design (Masamha and Mnkandla, 2017: 32-38). In the end, completing effective projects is more complicated than simply adhering to deadlines, budgets, and specifications. Even though there has been considerable research undertaken on how to make ICTD projects successful, there are still some gaps that need to be filled to ensure the required degree of success (Masamha & Mnkandla, 2017:32-38).

3.2.2. Communication and their characteristics in project

Sudhakar (2012:537-558), highlighted that effective communication among project teams, clients and parent organizations is very important. Furthermore, important details, such as changes to deadlines, should be communicated to the team members who are directly affected by the project activities, leaving no one in the dark. Fisher (2011:998), posited that a failure in communication can destabilize the project success and further argued that PMs should use more than 90% of their time communicating effectively with team members and other project stakeholders, both internal (at all organizational levels) and external to the organization. Zulch (2014:178) concurs that communicating, and

writing are two crucial skills that PMs need to effectively have, to interact with all stakeholders through the medium of emails, documents, memos, reports and proposals. Effective communication also necessitates PMs paying attention to what others have to say. Zulch (2014:172-177) asserts that good communication is a key component of a PMs leadership function and outlines the following roles it plays as follows:

- Communication is crucial in executing and managing projects as well as interacting with the project team and stakeholders.

- Communication with individuals remains fundamental to leadership although the preferred style of communication varies from leader to leader and from project to project.

- Through communication, a PM must enhance the balance between the requirements of the project activities, the project team and the individual members. Zulch (2014:176) stated that the better the PMs communication skills, the smoother the project will function.

- Good communication skills foster and generate the understanding and trust required to encourage others to follow a leader. Therefore, without effective communication, a manager achieves little and is not regarded as an effective leader.

- Communication is a strong force that influences project success; hence, the PM is required to develop a leadership style that nurtures effective and efficient communication between all stakeholders. Table 3.3 depicts forms of communication and their characteristics in projects.

Table 3.3: Forms of communication and their characteristics in projects

Form of Communication	Characteristics	Examples
Written Formal	• Precise • Transmitted through the medium of correspondence	• Project charter, scope statement, project plan, WBS, project status • Complex issues • Contract-related communications. • Memos
Written Informal		• Email, notes, letters, etcetera. • Regular communication with team members
Oral Formal	• High degree of flexibility	• Presentations, speeches,

Oral Informal	• Use the medium of personal contact, group meetings, or telephone	• Negotiations • Conversation with team members • Project meetings • Breakroom or war-room conversations
Non-verbal Communication	• About 55% of total communication	• Facial expressions, hand movements, tone of voice while speaking, etc.

Source: PMBOK (2013:243-271)

Leadership as a communication skill and communication as a leadership talent are extremely important, thus, effective communication is essential for resolving disputes that could endanger the project (Zulch, 2014:176). Fundamentally, PMs will not be successful without effective communication skills, because effective influence depends upon good communication skills, all forms of communication can be seen as tools of persuasion. According to Lutaaya (2019:2-5) communication can be internal within the project or external with customers, suppliers, other project stakeholders, organizations and the general public. The essential communication skills that the PM need comprise of:

- Questioning and exploring ideas and situations to gain a better understanding.
- Active and effective listening.
- Identifying facts to access or confirm information.
- Setting and managing expectations.
- Motivating individuals, teams or organizations to act.
- Providing encouragement or reassurance.
- Coaching to improve performance and achieve desired results.
- Negotiating to reach mutually acceptable agreements between the parties.
- Engaging in conflict resolution to prevent disruptive effects.

Priyadharshini and Kumar (2015:1494) demarcated communication as follows:

Communication of the project is the exchange of specific knowledge to a project with an emphasis on creating a mutual understanding between the sender and the receiver. Project communication is the responsibility of every member of the project team.

Efficient communication: is the provision of only the essential information. Effective communication is the ability to convey a clear message, mastering this skill enables PM team to successfully convey clear and concise message.

Effective communication: the dissemination of knowledge that is appropriate in terms of timing, impact, and efficiency is the most important factor in the project success.

3.3.   ROOT CAUSES OF PROJECT FAILURES

Sage, Dainty and Brookes (2014:548), stipulated that project management failure is often deemed as a result to poor management, whereas a problem could be solved by effective management. Furthermore, project failure is never a simple concept and continues to exist despite the improvements that have been made in the project environment. It is vital that PMs understand some of the reasons why ICT project fails. The author mentioned the main causes of project failures below.

Communication errors: Jonas (2010:820) stated that 80% of a leader's work during a project is communication. Communication must be effective and frequent to ensure that project requirements can be met. Therefore, poor communication can be one of the reasons projects fail.

Failure to define a problem: According to Papke-Shields et.al., (2010:650-662) a company can rush to find a solution without performing a proper problem analysis. The factors behind the research may ultimately change the nature of the problem. It is imperative to take a holistic approach so that all perspectives are considered when identifying the problem to be solved. Missouri (2013:18), noted that good planning is believed to prevent poor performance, the same is true for all projects, since planning creates a foundation and backbone upon which the project will be established. Reiser and Dempsey (2012:24) pointed out that poor allocation of resources such as time and money, therefore, ultimately leads to project failure. The reviewed literature stated that a good plan encompasses the right rules, tools, software, processes and all the experience necessary to carry out the project successfully.

Not using the right technologies: Yang, Chen and Wang (2012:22:182-191) mentioned that technically there are often errors related to the use of profanities that are not appropriate for the project. This practice may be because these are part of the preferred language of key project personnel. In addition, members of technology project teams sometimes receive technologies with which they have no experience or knowledge of. Yang, Chen and Wang (2012: 22: 182-191) further posit that to overcome this problem, the leader should assign project team members roles which they are capable to fulfil.

Few Tests: Tabassi and Hassan (2010:245-258) argue that a regular and careful verification process throughout the project is critical and the technology industry is often characterized by unexplored territory with many uncertainties. The status of a project is not always clear, leaving team members unsure of what is happening and how to resolve any problems that occurs. Tabassi and Hassan (2010:245-258) therefore, recommended that many tests be integrated into projects to avoid project failure.

Poor project management: The PM should be able to manage all aspects of the logistics of the project. A common trap is that PMs become over involved in one aspect and simply forget the rest (Verzuh, 2015:65). Capital requirements to support technology projects are often huge because these projects require extensive funding due to their complexity, thus, not allocating enough resources to such projects can have serious consequences (Kerzner, 2017:2). Meredith and Mantel (2011:16) contend that initially underfunded projects are repetitive, over-budget and often lack features or quality issues.

Project spectator sponsors: Katzenbach and Smith (2015:69) elucidated that when a project relies upon the collaborative efforts of diverse teams, the project can be completely derailed if one team fails to deliver on time. These authors further confirmed that another major cause of failure occurs when the project sponsors merely provide the requirements and wait for the teams to deliver a finished product, instead of being involved during the development phase.

Unexpected Risks: According to DeMarco and Lister (2013:67) unexpected risks are responsible for 27% of project failures. The solution for managing unexpected risks is the same as the solution for inaccurate estimates. To avoid project failure due to unforeseen risks, estimates should reflect known and unknown risks (Marchewka 2014:35).

Known Knows: Marchewka, (2014:35) emphasized the importance of knowing the risks so that PMs can plan the mitigation of any risks that might arise in a project. Truman and King (2013:5) cited that the reasons why management team fails to plan work effectively is due to inadequate allocation of resources such as human resources and manpower to the project, lack of control over costs, changes during the project execution phase, the inability to create a good project schedule and failure to maintain these schedules during the project execution phase.

3.4.   CHAPTER SUMMARY

PMBOK (2013:5-10) alluded that knowledge domains are created by classifying project management practices according to their areas of expertise. These subject areas specify the knowledge that PMs should possess to properly manage projects. The application of the process categories varies depending on the risk and complexity of each project (PMBOK, 2013:3-11). The reviewed literature has emphasized that these process groups serve as a roadmap for PMs to apply their skills and understanding of project management to projects. This chapter examined numerous references relevant to the research topic by examining the basic principles of project management in considerable detail. Harrin (2020:1-14) provided an overview of project management knowledge areas and processes. The chapter also emphasized the importance of understanding project management practices to ensure the successful management of projects. The reviewed literature indicated that the ICT industry still has a high failure rate of projects and provides reasons for this problem, along with methods for reducing failure (Fenech & De Raffaele, 2013:1-2). In addition, this chapter alluded to the fact that extensive knowledge of project management is required to manage projects, such as analysis of critical paths and work breakdown structures.

CHAPTER FOUR

CONCEPTUAL MODEL: LEADERSHIP COMPETENCIES IN PROJECT MANAGEMENT

4. INTRODUCTION

Dziekonski, (2017:175) is of the view that responsibilities of PMs ranges from managing the project team to leading the team, hence a PM needs to possess certain skills to carry out the project successfully. Project managers act as role models to team members as they establish an environment of morality and provide opportunities for continuous learning. Therefore, PMs should possess good interpersonal skills and the need to focus on developing the skills of the people involved in the project (Hwang and Jian,2013:2073). Sumner and Powell (2013:2) cited that PMs should be effective in both soft and hard skills. Hwang and Jian, (2013:2072) revealed that a PM who is capable of initiating, and completing projects successfully is critical for project success in any organization. Trivellas and Drimoussis (2013: 692-700), identified traits in the leadership profiles of effective PMs that were primarily centred on sets of management, emotional, and intellectual competencies. The conclusive body of evidence from the study seems to regard factors that can be processed under those of emotional competencies as the most important leadership traits found in successful PMs, and factors of managerial competencies that are also important, even when broken down by project type. Anantatmula, (2018:165-178) discovered that it is a challenge to identify and prioritize the required industry-specific competencies related to project management. Therefore, this chapter aims to identify the key project management competencies from the previous literature and furthermore the chapter will highlight leadership competencies required to complete project effectively.

4.1. CONCEPT OF LEADERSHIP COMPETENCIES

Sumner and Powell, (2013:1) defined a core competency as any knowledge, trait, talent, desire, attitude, value, or other human quality that is essential for performing a task. As a result, soft skills require interpersonal capabilities and hard skills entails technical ability to manage projects. Takey and Carvalho (2015:784-785) describe competencies as the ability to mobilize, integrate and transfer knowledge, skills and resources in order to meet and exceed performance configured in work assignments. In addition to fulfilling

necessary economic and social conditions while increasing the value on the organization and individuals. Chipulu, Neoh and Williams, (2013:508-515) stated that skills development helps PMs keep up with and adapt to market and industry expectations. Sumner and Powell (2013:2) cited that the hard skill competencies of successful PMs support the nine knowledge areas, including the management of integration, risk, project quality, project procurement, communications, project scope, project cost and project time.

According to Khamaksorn, (2016:93) the purpose of project management is a crucial issue requiring the application of recognized project management methodologies and skills to successfully execute projects through the project lifecycle. Khamaksorn (2016:93) asserted that project management establishes and develops a set of rules, along with standards for technical language and project management skills. Khamaksorn (2016:93) cited that it is essential to identify and improve the skills of PMs. According to the competence perspective, outstanding leaders have a range of characteristics such as the ability to cope with change and uncertainty, leadership, communication, and interpersonal skills which are just a few of the soft skills that have been recognized as improving PMs effectiveness (McShane & Von Glinow, 2010: 361). Although some leadership competencies are essential to all firms, organizations should also define what effective leadership attributes to the firm to create a competitive advantage (Sumner & Powell, 2013:2). Muller and Turner (2010:198-216) examined the leadership competence profiles of effective PMs in different types of projects and noted that distinctions in project types were considered by ranking projects according to their project application such as ICT, organizational change, complexity, importance and type of contract. The results in the reviewed literature show that effective managers in all types of projects should demonstrate a high level of emotional intelligence (EQ) sub-components and one Intellectual Intelligence (IQ) sub-component.

4.1.1. Classification of leadership competencies

According to (Ahmed, 2018:124-130) the use of different tools and procedures did not reduce the number of failed projects. This finding focused attention on the question of whether soft skills and leadership could be a solution to project failure that could replace technology, techniques and hard skills. The author mentioned the various leadership skills required for effective project management as follows:

Self-management: PMs typically have a variety of skills and capabilities that makes them more competitive and prominent. Moreover, traditional management skills are not adequate for a successful business in a functional or matrix-based organization. Therefore, these skills and competencies are critical for PMs to perform tasks effectively as their role is more challenging and often involves handling uncertain situations (Ahmed, 2018:124-130).

Project management: PMs leadership skills do not guarantee a project success, but they do raise such a possibility. Therefore, the coordination of project management methods and team members, together with the PMs management and leadership skills, helps to ensure effective project management (Ahmed, 2018:124-130).

Managing Programmes: In an organization, programmes are collections of multiple projects with short and long-term goals. Through the successful implementation of such programmes, the PM inspires and guides the team to achieve organizational objectives (Ahmed, 2018:124-130).

4.1.2. Framework for project management competencies

Sumner and Powel, (2013:2) posited that PM competence should encompass a broad range of both soft and hard leadership competencies. Barna (2013: 17- 21) argues against this view by stating that knowledge, skills and abilities, by contrast, can come with entry-level employees into the job. Figure 3.1 below illustrates the project management competency framework, which is a combination of hard and soft leadership skills.

Figure 4.1: Project Management Competencies Framework

Source: Barna (2013:17-21)

This framework demonstrates the hard and soft leadership competencies. Hard leadership competencies are technical skill, project management knowledge and expertise, whereas soft leadership competencies are personal attributes, abilities and skills (Sumner & Powel, 2013:2). PM is primarily in charge of coordinating and integrating the various tasks and processes that collected make up the finished project. Barna (2013:17-21) stipulates that PMs should strive to achieve a balance amongst the various project knowledge domains to successfully complete projects. Communication, human resources, risks, scope, time, procurement, cost and quality that have been recognized as the project knowledge domains. PMBOK (2013:5-8) defined project management as the application of knowledge acquired over time, tools and procedures to achieve the stated objectives of the project. According to Bodea, Elmas, Tanasescu and Dascalu, (2010:177-189) projects involving sustainable development calls for project management expertise. Project management competencies in sustainable development projects requires specific project management competencies (Bodea et al.,2010:177-189). These competencies are presented graphically in Figure 4.2 below.

Figure 4.2: Project Management Competencies

Source: Bodea et al., (2010:177-189)

Bodea et al., (2010:177-189) stated that in accordance with the International Competence Baseline of the International Project Management Association ICB (IPMA 2006) project management competencies can be divided into three categories as shown in Figure 4.2 above; and the project management abilities are as follows:

- **Knowledge:** The understanding of broadly accepted project management techniques applied to certain technological fields.
- **Skills**: The capacity to use knowledge efficiently, professionally, and successfully.

- **Personal Attitude:** The determination to conduct oneself in an acceptable, professional, and ethical manner.

- **Experience:** Knowledge or skills acquired via participation in an activity. Managing relationships with projects inside organizations, programmes and portfolios requires contextual abilities based upon an understanding of a project's characteristics and environment as well as the organizational context.

- **Behavioural competencies:** These include leadership, communication, results-orientation, ethics and negotiation abilities to ensure a positive, holistic and dynamic drive for cultivating project management professionalism.

4.2. SOFT AND HARD LEADERSHIP COMPETENCIES

4.2.1. Soft skills

Soft skills are the PMs personality traits that may incorporate, but are not limited to, effective communication including good listening skills, emotional intelligence, negotiation skills and empathy, as well as an emphasis on efficiency through enhanced interactive relations (Barna, 2013:17-21-23). These characteristics, along with the technical skills needed to complete tasks, help create a more productive and stronger team, set leaders apart from managers and usually result in employees' job satisfaction and improved productivity (Azim et al., 2010:399). The single factor that coordinates the various definitions of leadership is that all leaders motivate their followers. The following are a few examples of how this phenomenon has been defined from various researchers' perspectives. According to Jowah (2016:10-17) leadership entails a relationship in which a single person (the leader) inspires and motivates others to work toward reaching an organization's objectives. Mazibuko, Tait and Jowah, (2015: 313–335) define leadership as the ability to provide followers or subordinates with instructions to complete a task and the power that sways them to do so without question.

4.2.2. Hard skills

Hard leadership competency focuses on job-related technical skills (Kennedy, 2016:7-13). The ability to develop a WBS which divides the project into smaller manageable tasks and assigns them to the team members, is one of the difficult leadership traits that is constant across all industries (Barna, 2013:17-21). According to Kerzner (2012:69) PMs are responsible for managing projects, whether or not they have the necessary technical component and will be required to find solutions for technical problems that

may develop while the project is still in progress. If organizations believe that their PMs lack the ability to manage projects successfully, they should offer the necessary professional training or, if practical, arrange for them to be mentored by an expert (Kerzner, 2012:69).

According to Azim et al., (2010:399) a competent PM first applies hard skills in selecting the most appropriate strategy for the project before resorting to soft skills to carry out the plan and manage the workforce. According to Kloppenborg (2011: 5-6) hard and soft skills complement each other because hard skills can also include risk analysis, quality control, planning, budgeting and other duties, while soft skills can include leadership and communication-related activities. Additionally, within the context of project management hard skills can include leadership and communication abilities, in addition to risk analysis, quality control, planning and budgeting. Azim et al., (2010:392) further stated that hard skills are often associated with procedures, tools and techniques, whereas soft skills are associated with handling human problems, such as engaging with project participants. Training and participation in professional development programmes help to promote the acquisition of these crucial hard and soft skills (Sumner et al., 2013:2).

Hassan and Ismail (2019: 8-11) cited that two other crucial interpersonal skills for PMs and leaders are coaching and mentoring that allow for the development of project personnel, because these activities are frequently seen as supportive actions in career development. Hassan and Ismail (2019:8-11) further highlighted four key leadership abilities that PMs should possess, namely:

- **Diagnosis:** obtain detailed information about the project members' situation and the consequences of this condition.
- **Adaptation:** to adjust behaviours in response to the contingencies of the situation.
- **Communication:** interact with others in a way they can understand and accept.
- **Progress:** manage movement and behave professionally.

4.3.   PROJECT MANAGER'S LEADERSHIP COMPETENCIES

According to Ahmed (2018:124-130) PMs duty has shifted from managing or directing to leading, hence they must possess the necessary leadership qualities and skills. The importance of the PMs leadership skills in ensuring project success that has been underlined in project management research. Ahmed (2018:124-130) cited three basic

categories of leadership competencies such as: managerial competencies (MQ), emotional competencies (EQ), and intellectual capabilities (IQ). The Leadership Development Questionnaire (LDQ) identifies fifteen characteristics that are grouped under these three dimensions as follows:

Emotional intelligence (EQ): Involves self-awareness, emotional resilience, intuition, sensitivity, influence, drive, and conscientiousness. The foundation of an individual's emotional skills is the capacity to notice, name and regulate their own feelings, as well as comprehend and control others' emotions. Learning these qualities requires a certain level of EQ. Effective PMs have higher EQ scores than their fewer successful colleagues (Ahmed, 2018:124-130).

Managerial competencies (MQ): the ability to consistently motivate and encourage team members to achieve excellence in their performance, looking for ways to improve production and standards. Ahmed (2018:124-130) further stated that managerial competencies include managing resources, communicating effectively, empowering and developing others and achieving objectives.

Intellectual Intelligence (IQ): Is the capacity for strategic perspective, imaginative and creative vision and critical analysis. The term intellectual acuity refers to cognitive skills such as intelligence, systematic thought, acquiring and applying pertinent concepts, comprehending patterns, understanding tasks and solving problems. According to Narh (2013:2) such skills can be measured and contends that individual variance makes it difficult to quantify competency levels objectively.

Narh (2013: 2-4) stated that emotional skills (EQ) are needed to manage employees and teams to use their talents to complete the task for the benefit of a project. Additionally, the emotional quality of a PM comprises the capacity for empathy and interpersonal connection. Therefore, EQ involves seven characteristics such as: conscientiousness, emotional resilience, influence, interpersonal sensitivity, intuitiveness, motivation and self-awareness. Narh (2013:4) sees the emotional quality as the PMs ability to empathize and interact with team members to encourage them to use their skills for the benefit of a project.

4.4.   ESSENTIAL PROJECT MANAGEMENT COMPETENCIES

It takes a variety of knowledge areas, technical and management abilities, as well as a combination of personal and behavioural competencies, to manage a large-scale project.

Zadeh, Reza Dehghan, Ruwanpura and Jergeas(2016:11-24), summarised the types of project management competency elements in Figure 4.3below.

Figure: 4.3 Types of project management competency elements
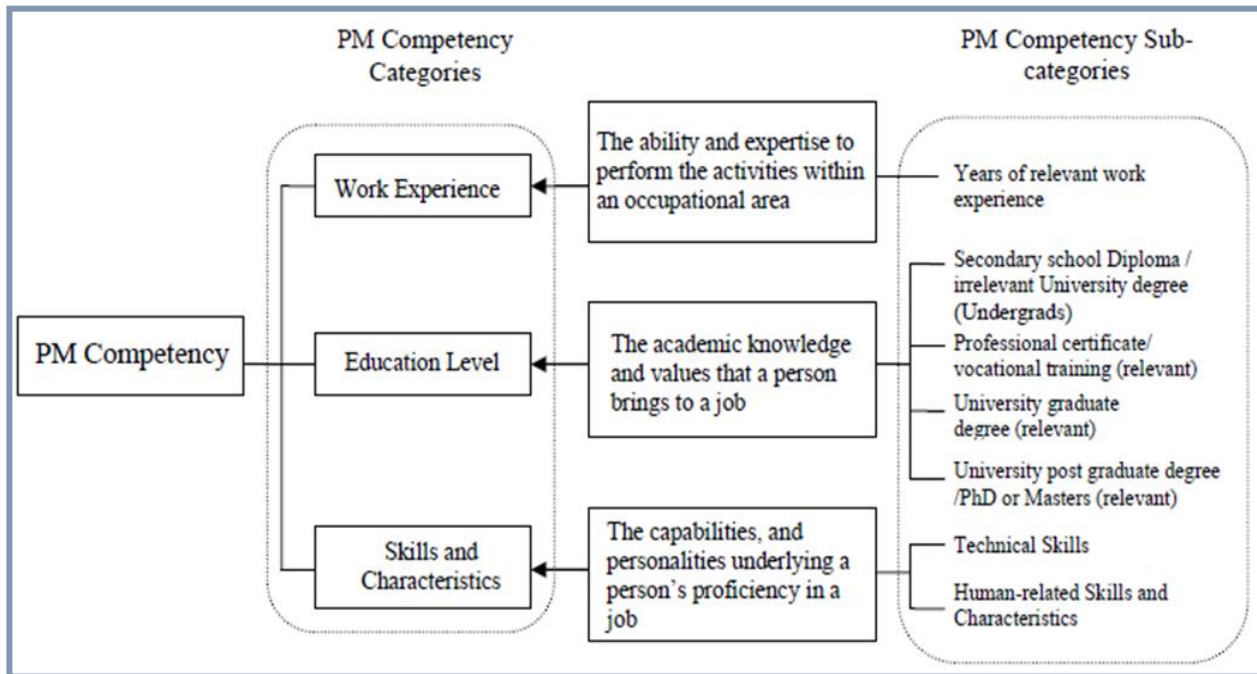
Source: Zadeh et al., (2016:11-24)

Experience in the workplace: professional proficiency in project management is gained by combining knowledge learned during training with skills honed through practical application. The growth of a project management team's knowledge and skills is greatly aided by work experience (Zadeh et al., 2016:11-24). Additionally, the researcher further stated that the efficacy of project management practices will vary depending on the experience of project management team members. Zadeh et al., (2016:11-24) investigated the effects of management experience in handling change orders and showed that the more experience a project manager has in the field of the project, the more that PM can reduce project inefficiencies due to change orders.

Education level: Education complements the experience of project management practitioners in the workplace. Zadeh et al., (2016:11-24) illustrated the necessity of developing a training environment that combines the expertise of academics and practitioners. The requirement for training that emphasizes the development of project management soft skills, in addition to the necessary technical knowledge, is highlighted by research on project management education. Zadeh et al., (2016:11-24) advocated a

new way of thinking to widen the scope of current techniques in project management education through the introduction of more human abilities into educational programmes. To manage complexity, one must develop critical thinking to deal with complexity developing softer parameters of managing projects and preparing PMs to be engaged in actual projects. Academic and training programmes at universities and professional institutions need to support trainees' project management knowledge within the context of its application. Significantly, (Ramazani and Jergeas, 2015:41:52) underlined three key topics that educational institutions should consider when training PMs as follows:

Skills and personality traits: Zadeh et al., (2016:11-24) noted that to successfully manage projects, the project management team needs a combination of skills and personality traits Additionally, there are six categories of skills such as: communication, organizational, team building, leadership, coping and technology skills. The primary skills and behavioural characteristics have been split into technical and people-related skills in the current research to assess the competency level of a project management team.

Technical competency: to implement and integrate all components of the project, each member of the project management team needs to possess competent technical skills in the relevant field of expertise. They also need to have sufficient knowledge of and skill with project management tools and procedures. Although PMs are not required to be specialists in the project's technical domains, they are more effective at managing the project when they have a reasonable level of technical understanding of the project sector. PMs must devote more effort to honing their management skills as projects have become more complicated. According to Zadeh et al., (2016:11-24) planning, scheduling, budgeting and estimating together with cost control, quality control and management are the primary competencies required for effective project management. These abilities are required to identify project risks and to balance competing demands on time, money and quality.

Individual-linked competencies: According to Zadeh et al., (2016:11-24) behavioural competencies can be divided into two main categories such as: Task performance behaviours contributing to the technical and managerial functions, making plans, organizing and assigning tasks. Contextual performance behaviours contributing to the organizational, social and psychological environment, such as conscientiousness, commitment, initiative and dedication. Lussier and Achua (2013: 9-13) recognise

management skills as a key competency, and highlight interpersonal, decision-making and technical skills as the three crucial management traits that businesses leaders should possess to succeed. Interpersonal and decision-making abilities are primarily used by top-level managers. Senior-level managers employ their technical and interpersonal abilities, whereas middle-level managers must strike a balance between all three (Lussier and Aschua, 2013:9-13). The abilities required for project management are entirely based upon the style of leadership needed for a particular project. Figure 4.4 below provides an example of these managerial leadership abilities:

Figure 4.4: Management Leadership Abilities
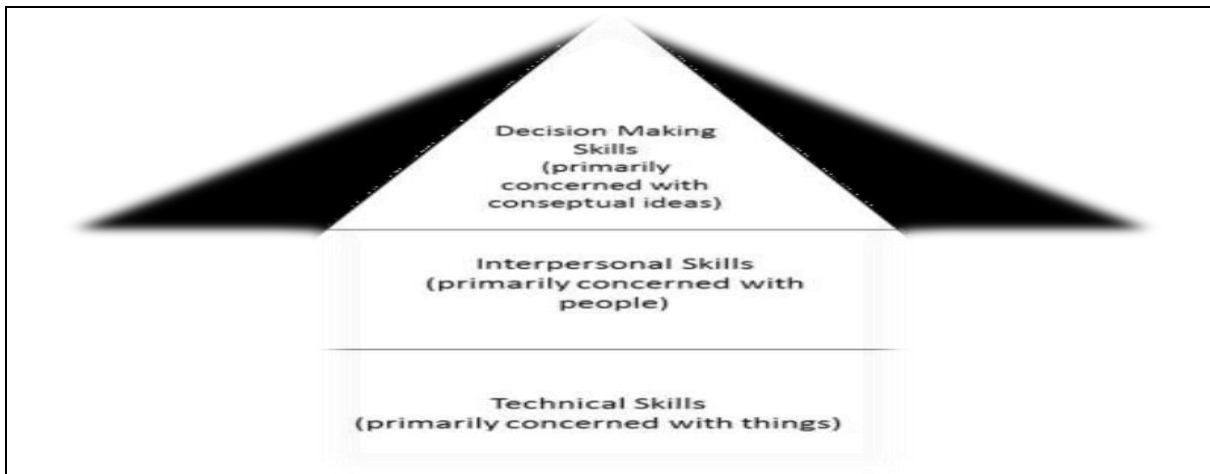
Source: Lussier and Achua (2013:9)

According to Lussier and Achua (2013:9-13) technical skills includes the knowledge and aptitude to employ procedures, processes, techniques, tools and equipment to carry out tasks. These abilities are sometimes referred to as business capacities. The three management skills comprise technical, interpersonal, and leadership abilities, with the technical skills being the simplest to master. In addition, (Lussier and Achua, 2013:9-15) highlighted those interpersonal skills, often known as people skills, comprises the capacity to comprehend, communicate and collaborate effectively with individuals and groups by establishing strong relationships. Therefore, since leadership focuses on relationships, competent interpersonal abilities are necessary to engage emphatically with other human beings. Interpersonal competencies are primarily based upon abilities such negotiating, motivating and conflict-resolution skills.

Lussier and Achua (2013:10) stipulated that decision-making capabilities are primarily based upon cognition and the potential to conceptualize conditions and select options to

solve problems and take advantage of opportunities. Additionally, it involves fundamental thinking, analysing preferences and attempting to maximize high-quality results for the organization. The author further mentions that decision-making competencies are primarily based upon creative, diagnostic and time management skills. According to Ahmed and Mohamad, (2014:39) competencies comprise of knowledge, attitudes, skills and other personal qualities that have a significant impact on individual job, correlate with job performance and can be measured against industry standards this can be improved through training and development. Leadership literature has generally ignored the numerous roles that leadership qualities have during the implementation of various organizational change activities. Ahmed and Mohamad (2014:39) also stated that management competencies are any characteristic that can be measured with reliability and shown to vary significantly between the best and average performers. The most important factors associated with human elements are abilities, attitudes, knowledge, behaviours, and competencies. Figure 4.5 illustrates the PMs leadership competencies and styles.

Figure 4.5: Project Managers Leadership Competencies and Styles
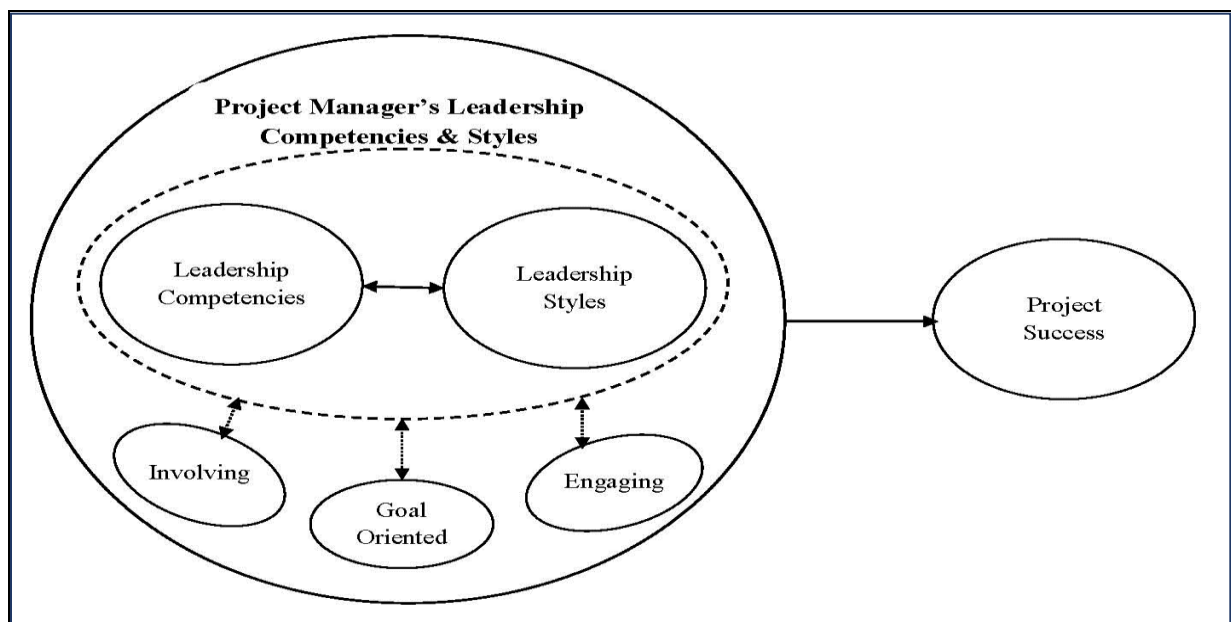
Source: Ahmed and Mohamad (2014:39)

Ahmed and Mohamad, (2014:39-44) are of the view that leadership styles are a result of leader's personality traits, cognition, underlying motivations and comprehension of operational situational variables as well as their project management knowledge, hence,

no researcher has conclusively demonstrated the optimal leadership style. Ahmed and Mohamad (2014:39-44) hypothesize that there is no definitive leadership style that is ideal for handling all situations. Figure 4.6 below presents a theoretical framework of leadership styles and abilities geared toward project success.

Figure 4.6: Hypothetical framework
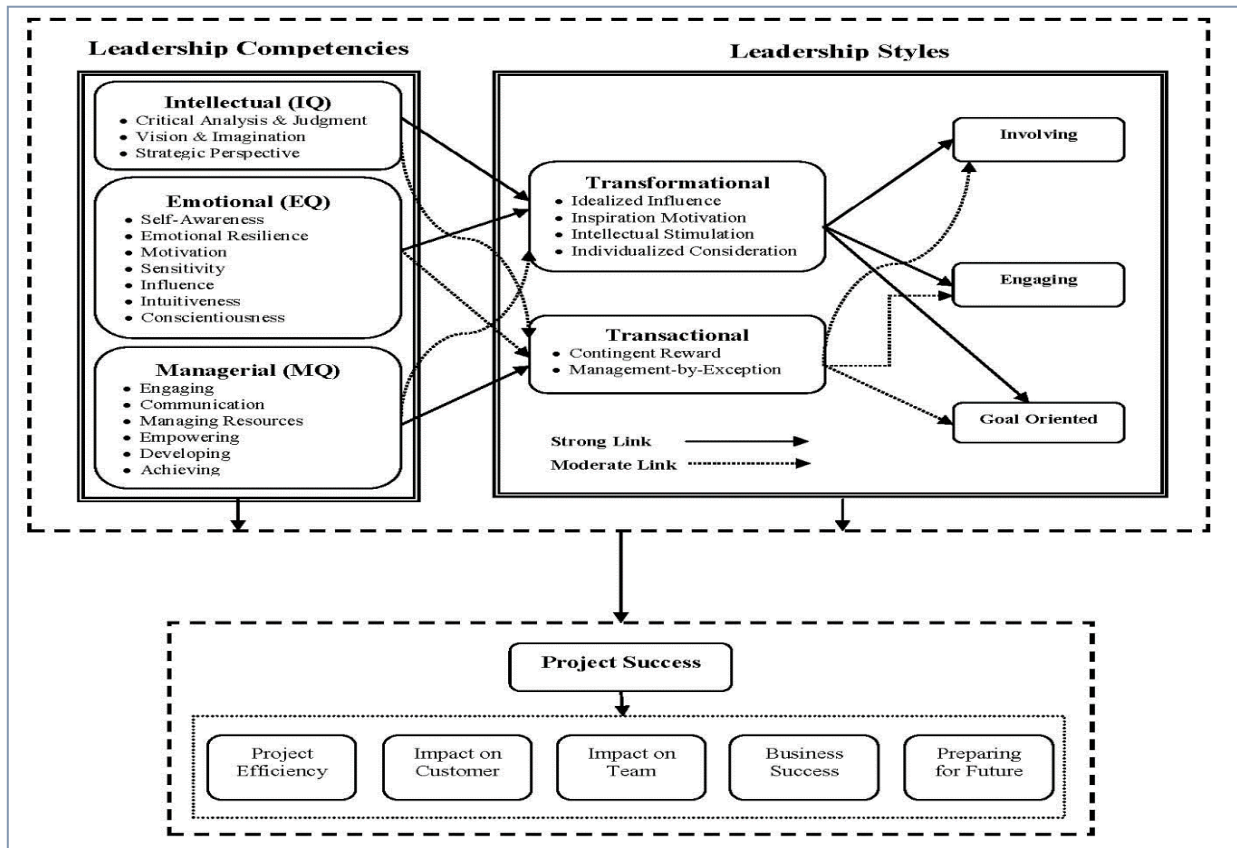
Source: Ahmed and Mohamad (2014:50-51)

According to Ahmed and Mohamad (2014:50-51) the above hypothetical framework illustrates the nature of the connection between PMs leadership styles and competences. PMs who exhibit transformational leadership have strong connections to both intellectual and emotional capabilities and engage in goal-oriented approaches. Furthermore, PMs who follow a transactional leadership style have significant ties to managerial skills and weak ties to other leadership philosophies.

4.4. LEADERSHIP COMPETENCIES AND PROJECT SUCCESS

Jiang (2014:51-57) stipulated that a strong emphasis on management, emotional, and behavioural competencies. This study demonstrated that leadership qualities are associated with effective PMs as these traits contribute to project success. However, this

success can be adversely affected if the PM lacks experience with the project type and/or chooses the wrong leadership style. Managerial and emotional competencies as factors of leadership have important causative effects in determining the success of a project. In accordance with the PMBOK guide, PMBOK (2013:5-15) these two skills work together to advance the PMs ability to achieve a set goal based upon clearly defined deliverables or scope.

Barna (2013:17-21), mentioned that it takes years of arduous work and employment-related involvement to create the competencies required for successful project implementation. Larson & Gray (2014:2-16) identified a succinct list of core traits linked to successful PMs and indicated their support for the non-existence of a universal method of project management capable of leading to success in all projects. Larson & Gray (2014:2-16), emphasized that PMs effective leadership creates a cooperative team environment in which employees are encouraged to participate, learn, grow and work collectively to reach the goal of organizational success. Devi (2013:25) emphasized that PMs should possess a range of managerial capabilities because modern projects are complicated.

Larson and Gray (2014:2-16) offer a short list of eight basic qualities associated with effective PMs. The author stipulated that a PMs capacity for effective leadership fosters a collaborative team environment in which employees are motivated to advance their knowledge by contributing and collaborating towards the success of a project. Devi (2013:25) likewise affirms that PMs need a range of managerial abilities to achieve today complex project objectives. The fundamental skills and expertise by PMs are listed below:

- **Management-related knowledge and skills –**skills such as those required in finance and accounting, marketing and sales, market research, production, distribution, operational, tactical and strategic planning, organizational structures and behaviour, managing personnel and interpersonal relations.
- **Human abilities and knowledge–** the ability to interact and carry out daily activities among people.
- **Technical skills and understanding–** expertise in a particular activity, especially one that demands for certain methods, processes, procedures and/or techniques.
- **Business acumen** – expertise required for smaller projects in which PMs are also responsible for project oversight.

Therefore, PMs should be able to handle managerial, intellectual and emotional dimensions (Muller et al.,2012:87-88). Table 4.1 below illustrates these various dimensions:

Table 4.1: Intellectual, Managerial and Emotional Dimensions

Intellectual Dimensions	Managerial Dimensions	Emotional Dimensions
Critical Analysis and Judgment	Resource Management	Self-Awareness
Vision and Imagination	Participating Interaction	Emotional Resilience
Strategic Perspective	Encouraging	Intuitiveness
	Development	Interpersonal Sensitivity
	Achieving	Influence
		Motivation

Source adapted from: (Muller, Geraldi and Turner, 2012:87-88)

According to Muller, Geraldi, and Turner (2012:87-88) intellectual dimensions involve comprehending the broader context, establishing an organization's strategic goal, comprehending its vision and mission and incorporating understanding, all of which are critical competencies for a PM. The managerial component involves carrying out the role of a leader, including staff development, relationship building, project delivery success, engagement with all stakeholders and determining the importance of a project team. The emotional component necessitates the PM possessing sufficient self-confidence to inspire team members, have a favourable impact on workers, maintain emotional resilience, particularly under time constraints, and demonstrate emotional understanding.

4.5. Research gap

Neverauskas et al., (2013:829-836) stated that since corporate environments are dynamic, unexpected and unreliable, PMs must be well-versed in trustworthy knowledge, cutting-edge techniques and a practical understanding of how to successfully complete projects. According to Bin Ahlan and Subiyakto (2013:342-343) there are still gaps in the knowledge of ICT project management, necessitating a greater understanding of both theory and practice to guarantee the success of ICT projects. Masamha and Mnkandla (2017:38-40), also noted that there is a limited quantity of research on ICT project management. Their stance indicates that in the coming years, the value of project management will become more enthralling, complex and vital, and the role of PMs much more diverse. Consequently, this gap suggests the need for new research in a related topic.

4.6. CONCLUSION

This chapter emphasised that the PM has the fundamental role in projects and without sufficient expertise and adequate knowledge of the project process, various risk factors may occur. According to Kerzner (2012:69-72) a project leader ensures that technology is used efficiently and remains well-informed of new developments to produce excellent outcomes and handle budgetary restrictions. The PM promotes creativity and innovation amongst team members, forges strategic alliances, recognizes internal and external politics, and works to ensure successful management of projects and the accomplishment of shared objectives. The literature review discussed in this chapter emphasized the importance of PMs possessing the strong leadership qualities necessary for successfully managing both people and projects. The literature further highlighted that for a PM to successfully manage projects the following competencies are mandatory; education, work experience and skills set. The literature review in this chapter has also revealed that a PM should possess both soft and hard skills in managing projects. The next chapter (chapter five) will look into research methodology and research design for this study.

RESEARCH METHODOLOGY AND RESEARCH DESIGN

5.   INTRODUCTION

Gaur & Kumar, (2018:280-289) are of the view that a systematic approach to studying a problem is referred to as research methodology and is also known as a set of techniques used to acquire data. This chapter will discuss in detail the concept and theory behind this study as well as the choice of methodology together with the research design process employed in this study. Furthermore, the chosen research topic and philosophical position that influenced the researcher's methodological choice is discussed in this chapter. Quantitative and qualitative research methods have different purposes, which is why different methods are used in this study. This chapter explains why a single-method explanatory research strategy is considered appropriate for the study. This chapter further comprises of the research scope, study limitations, target population, sample size, data collection methods, systems used to interpret the data and assumptions. In addition, it focuses on the research techniques used to attain the study findings and conclusions. The various research paradigms and standards for interpreting the data are all explained and justified in this chapter. Additionally, the chapter establishes the ethical protocols required for engaging in research as well as the methods used to improve the reliability and validity of the findings.

5.1. RESEARCH PHILOSOPHY

Bryman, (2016:124–130) asserted that the philosophy of research refers to a set of assumptions about the nature of the world being studied and is regarded as the fundamental explanation of the nature of knowledge. The research onion depicted in figure 5.1 below was designed to simplify the steps that the researcher should follow when deciding upon the appropriate methodology. Pearlson, Saunders and Galletta (2019: 130-132) noted that the research onion begins with the research philosophy in the ring or outer layer and creates the entry point for the research approach pursued in the second layer. The third level provides the programme options from which the researcher can choose. The time horizon is mentioned in the fourth layer. The fifth level represents the phase in which the data collection and analysis methodology is located. The benefits of the search interface are that it provides a better understanding of the steps used during the different phases of data collection and analysis.

Figure 5.1 Research onion
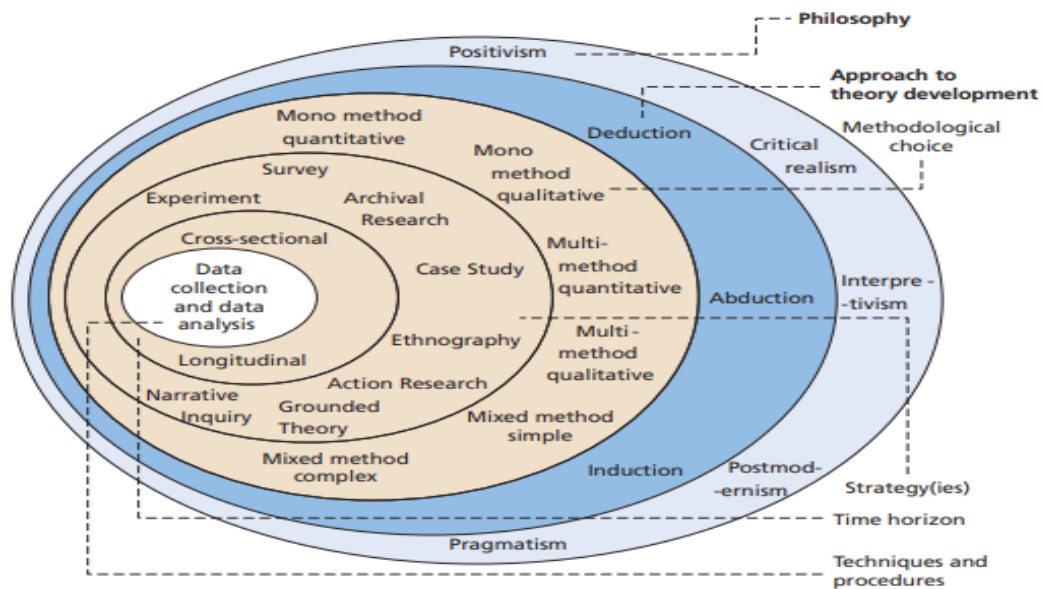
Source: Pearlson et al., (2019:130-131)

Pearlson et al., (2019:130) states that the philosophical foundations of the research study are restricted to the ontological and epistemological facets of research. The first study paradigm is ontology, which refers to views about the nature of reality. According to Bryman, (2016:2-16) ontology expresses individual's perception of what constitutes reality. It is presumed that individuals influence social phenomena, thus, subjectivist or nominalist adoptive parent theory holds that reality depends upon social participants. Given this fact, the topic of whether social beings should be viewed as objective or subjective might be connected to ontology. As a result of the above assumption, subjectivism (interpretivism) and objectivism (positivism) can be cited as two crucial components of ontology. The stance of objectivism asserts that social entities happen apart from the social circumstances that affect people's existence (Pearlson et al.,2019:130).

Subjectivism on the other hand is an ontological viewpoint that claims social phenomena and their meanings have an existence separate from social participant (Bryman, 2016:29). Epistemology refers to the ideas about how to produce, comprehend and apply knowledge that are thought to be accepted and valid. Epistemology is specifically concerned with the possibilities, nature, sources, and limitations of knowledge in the field of study (Hallebone & Priest, 2019:133-136). According to Wilson (2014:19-26)

interpretivism is an epistemology that adopts a subjective perspective and suggests that academics engage with the social sphere to study a phenomenon. As a result, epistemology concentrates on what is recognized to be real.

Wilson (2014:19-26) further asserts that pragmatism places the research topic and problem at its core rather than taking a particular epistemological perspective and determining what is considered knowledge in the field of study, therefore, is less important than identifying the truth underlying the research subject. Gratton and Jones, (2010:23-26) stated that when considering the requirement to establish individual perceptions, feelings and viewpoints on various parts of the study issue, merging philosophical viewpoints is important given their concerns for subjectivity. The inherited assumptions of the research process, therefore, can be explained by understanding the chosen research philosophy, as well as how these assumptions are acceptable for the methodology chosen (Pearlson et al., 2019:130)

5.1.1. Research approach

The inductive method is defined as a transition from a specific theory to a generic theory (Bryman & Bell, 2011:124-130). In this method, observations serve as the beginning point from which the researcher seeks to identify patterns in the data, therefore, the emphasis is established after data collection. This approach can be viewed as the creation of new hypotheses, but it is also possible that existing theories can be supported by the evidence after analysis. This technique, which is most frequently employed in qualitative research during which the theory is still being established, may be effective as it eliminates the possibility of the researcher being misled during the data collection stage (Bryman & Bell, 2011:124-130). However, it should be noted that the inductive method which is linked to the interpretative paradigm uses a specific idea to generalize the situation in accordance with the study issue (Neuman 2011: 67-70).

The positivist paradigm and the deductive method, in contrast, both rely on general principles that are then applied to particular situations (Cohen, Manion and Morrison, 2011:4-11). These techniques may be appropriate for a study that aims to determine whether the events under investigation will produce the same outcomes as previous investigations (Wiles et al., 2011:589-593). Although the expectations in these situations can be discovered by hypothesis testing, the deductive approach can also be used with qualitative research methodologies (Pearlson et al., 2019:130). A deductive method is

best described as the development of a broad theory toward a specific theory (Silverman, 2013:352). Therefore, a blended research approach that incorporates the deductive and inductive methods as its study philosophy, should be selected based upon the objectives of the study.

5.1.2. Research philosophies and paradigms
Research Paradigms:

According to Creswell and Poth (2018:53-58) research paradigms and the numerous methodologies that fall under them have a direct impact on research outcomes. Creswell and Poth, (2018:53–58) contend that the many approaches that make up research paradigms have a significant effect on the findings of research. The three research philosophies are positivism, interpretivism and pragmatism and are part of the broad research philosophy that consists of two dominant philosophical views on the nature and management of knowledge and reality. According to Antwi and Hamza, (2015: 218) positivists consider that knowledge may be attained by experimentation, observation, and measurement. According to Le Thanh and Thanh (2015:24) an interpretive approach is a model whereby a researcher strives to comprehend human experiences and perceptions and provide them with significance. The goal of pragmatism is to integrate positivism and interpretivism (Kumar, 2011:7). A constructivist or interpretative paradigm frequently takes a qualitative technique, whereas a positivistic paradigm typically employs a quantitative methodology (Chissa & Kawulich 2012:53-60). This study uses both positivist and interpretivist approach, which arguably conforms to the standards of a pragmatic approach. This strategy aims to balance the weaknesses of both positivist and interpretivist techniques and allows them to better comprehend social reality. Neuman, (2011:22-26) contends that the research goal and research questions serve as the core pillars on which to build a research design. In this study the researcher sought to evaluate how the leadership competencies of PMs affect project success by conducting an objective examination of reality.

5.2. RESEARCH METHODOLOGY

Kabir (2016:202-209), describes that study methodology includes the procedures used to carry out the research design. According to Jowah (2015:31) research technique describes the ways that will be used to carry out the specifications of the study design. Research methodology is essential since it initiates the data gathering process. Jowah

(2012:71) posited that the purpose of the research process is to increase knowledge and comprehension of the subject matter or phenomenon. The primary research approaches are:

- **Exploratory research**: which aids the identification and definition of potential problem areas and research questions.

- **Constructive research:** aids the development of theories and hypotheses that can be used to make solution suggestions.

- **Empirical research**: helps to test the applicability of ideas with empirical tests.

Accordingly, the choice of research method and design are crucial elements for ensuring the success of the research process and the production of trustworthy results (Garg, 2016:640-645). The nature of the phenomena and the research questions are the key elements that researchers consider when choosing a study method and design (Yin, 2014:26-29). This section provides an explanation and justification of the technique and design chosen for data collecting and analysis in this study. According to Ngulube (2015: 125-143) the theoretical framework that informs comprehension, interpretation, choice of literature, the research practice implemented within a particular study and the philosophical beliefs about the nature of reality, knowledge and values, guides the methodological process. Figure 5.2 illustrates the research methodology format below.

Figure 5.2: Research Methodology Format Diagram

Research Methods	Research Strategy	Data Collection
Qualitative	Experiment	Documents
Quantitative	Survey	Interviews
Mixed methods	Historical	Quuestionnaires
	Case study	Archive
		Field notes

Source: Author's own construct

5.2.1. Research Method

Ngulube (2015: 125-143) alluded that research methods can be described as phases within practices which incorporate broad logical and defined principles that stated specific methods and procedures that may be used to investigate, deduce, analyse, interpret or rationalise different ideas and problems within the scope of a particular

discipline. Therefore, three accepted and prominent methods to conducting research in organizational studies are qualitative, quantitative and mixed methods (Bernard, 2013:282-284). The quantitative method, also known as the positivist technique, is typically employed in natural sciences and associated subjects, whereas the qualitative method or anti-positivist approach, is mostly utilized in the social sciences to measure attitudes and perceptions (Bronstein & Kovacs, 2013:354-360). Gratton and Jones (2010: 26), opined that quantitative research designs are better equipped for studying objective phenomenon, while qualitative research is equipped for studying subjective phenomena such as personal feelings and perceptions. Kumar (2011:26) cited that mixed methods can be applied when the researcher needs to capture the benefits of both quantitative and qualitative study designs. Table 5.1 below summarizes the characteristics of quantitative and qualitative research methods.

Table 5.1: Characteristics of qualitative and quantitative research methods

Qualitative study design	Quantitative study design
Data produced is mainly textual (written or verbal).	Data produced is numerical and can be mathematically or statistically analysed.
Small samples can be used for data collection.	Relatively large samples are required to enhance representativeness.
It is mostly inductive – needs to generate new theories.	The analysis aims to tests hypotheses or statistical truths.
Data collection is flexible, semi-structured or unstructured and conducted in natural settings.	Data collection is highly structured and standardized and usually conducted in artificial settings.
Emphasis on both reliability and validity is very low.	High emphasis on reliability and validity.

Source: Saunders et al., (2019:67)

The characteristics of subjective experiences and the meanings connected to the phenomenon are the focus of qualitative research (Du Plooy-Cillierset al., 2014:173). However, linkages between a greater number of qualities across fewer examples are the focus of qualitative research, which is more interested in understanding the meaning of social occurrences (Tuli, 2010:106). According (De Vos, Delport, Fouche and Strydom, 397-420) research is considered qualitative if the main objective is to explain the 'what', 'how', and 'why' of a phenomenon. This process gathers data in the form of words and sentences and includes subjective information such as sentiments or perceptions (Kabir 2016:202). Furthermore, qualitative data gathering techniques are crucial for effect

evaluation as they provide information that can be used to analyse the mechanisms underlying results and gauge changes in people's perceptions of their wellbeing (Willgens et al., 2016:2380-2395). The goal of quantitative methodology is to quantify social phenomena, gather and evaluate numerical data and concentrate on the relationships between a small number of characteristics over many cases (Tuli 2010: 99-105). This approach primarily employs statistical analysis and researchers work with numbers focus groups, group discussions and interviews are examples of qualitative techniques (Korstjens & Moser, 2018:120-123). Therefore, such approaches are effective for examining the results and unintended implications of a programme but are costly and time-consuming to execute (Gratton and Jones, 2010:26). Additionally, the results are solely representative of the participating group and cannot be extrapolated to participants in other programmes.

Quantitative methodology is concerned with attempts to quantify social phenomena and collect and analyse numerical data and focus on the links among a smaller number of attributes across many cases (Tuli, 2010:98-103). Therefore, this approach mostly makes use of statistical analysis and researchers work with figures. Qualitative methods include focus groups, group discussions and interviews, and are effective for exploring the effects and unintended consequences of a programme (Gratton & Jones, 2010:26). These methods are expensive and time consuming to implement. Additionally, the results are not applicable to participants in other programs since they are solely representative of the group participating. Plano Clark and Ivankova (2015:58-62) stated that quantitative and qualitative research methodologies should be combined (mixed methods) approach in order to benefit from their complementary strengths rather than overlapping defects. Venkatesh, Brown and Sullivan(2016: 435-494), further asserts that the ability to simultaneously respond to exploratory (qualitative) and confirmatory (quantitative) research questions is a key component of mixed methods research. However, for the purpose of this study, the researcher chose to utilize quantitative research technique to optimize the benefits this method.

5.2.2. Research Design

According to Cope (2014:89-91) research design is the blueprint and general strategy for conducting the research study. Fouche and Schurink (2011:307) stated that research design refers to the decisions made by the researcher while setting up the study and

stresses that the effectiveness of the research methodologies used can impact the quality of the research outcome. Jowah (2011:3) specified that the aim of research is to unearth the hidden truth and further provided a more thorough explanation of the variations in research design and methodology as depicted in Table 5.3 below:

Figure 5.3: The distinctions in research methodology and research design

No	Research Design	Research Methodology
1	Strategic master plan	Operational or execution plan
2	Emphasizes the road to be walked	Emphasizes how the walking is done
3	Emphasis on what results are expected	Emphasis on tools or techniques for results
4	Guided by research problem/ question	Guided by the tasks and work packages
5	Focuses on rationality of research	Focuses on procedures and processes
6	Focuses on the "what should be done?"	Focuses on "how should it be done?"

Source: Jowah (2012:73)

According to Jowah (2012:73) the research design serves as a master plan, and the research methodology is how the strategy is carried out. Therefore, the research technique explains how the study needs to be conducted while the study design highlights what needs to be done. Hyland (2016:120-124) asserts that every research design can be utilized to address research questions. The study's primary research question is: Do project manager's leadership competencies have an impact on project success?

5.2.3. Research strategy

Hyland, (2016:116-123) mentioned various types of research strategies which are experiment, survey, historical, archival and case study. Therefore, each unique method of data collection and analysis has benefits and disadvantages. The various types of research strategy are explained below:

Experiment: Is the research conducted with a specific approach using sets of variables. There are three primary types of experimental research which are: pre-experimental, true experimental and quasi-experimental research design. According to Hyland (2016:120-125) the advantage of experimental research is that it allows a researcher to test ideas in a controlled environment before taking it to the market.

Survey: Is a technique used to collect data from a selected group of respondents to obtain insights about numerous study issues. The survey's advantages include ease of participation, accuracy, the ability for respondents to be open-minded and flexible in their responses and speedy analysis (Hyland,2016:122-125).

Historical: Is the research that relies on gathering information from both primary and secondary sources. It enables a researcher to investigate and clarify the features, stages and significance of a phenomenon at a certain historical point (Petty, Thomson and Stew, 2012: 378-384).

Archival: Is the historical and non-current sources of knowledge, such as documents and records, used in research to preserve historically significant material and make it accessible for future use (Petty et al., 2012: 378-384).

Case study: Is a thorough research technique that focuses on the 'how' and 'why' of a phenomenon to analyse a problem, an actual-world situation and/or a current phenomenon (Yazan, 2015:138-142). Therefore, it enables researchers to examine every aspect of the topic being investigated such as a single phenomenon, activity, person, or group (Yin, 2012:378-384). Petty et al., (2012: 378-384), advised using case studies to comprehend a complex entity, such as a procedure, system, policy, institution, individual or groups. Yin (2012:378-384) underlined the use of single case studies as being a way for researchers to concentrate on evaluating examples that may be normal, unusual or revealing. The case study approach is chosen as the research methodology for this study since it enabled the researcher to consult with practitioners to better understand their real-world practices as they exist.

5.2.4. Target population of the study

Jowah (2011:94), posited that a study population is the complete set of components that must be investigated for conclusions to be drawn. Therefore, the target group for this study are the project management team members who are directly involved and consequently influenced and impacted by the PMs leadership competencies. Giorgi (2017: 1-11) stated that sample refers to a division of the population, which is defined as all potential participants who meet a research requirement by possessing a particular set of attributes. This study population comprises of project managers, project administrators and project team members involved in the implementation towards the completion of projects in different ICT departments. Consequently, the participants for this study are males and females over the age of 18 years with considerable experience in the ICT sector. Accordingly, participants under the age of 18 with no experience in the field are ineligible to partake in the study. Accordingly, the organization consists of employees who provide project management in the information communication and technology ICT services and support.

5.2.5. Research location

Figure 5.4 below demonstrates the map of the Western Cape Province which consists of six districts such as the West Coast, Central Karoo, Cape Winelands, Eden, Overberg and Cape Town.

Figure 5.4: A map of the Western Cape

Source: adapted from Western Cape Government Website: 2018

The location for this case study is a particular ICT organization situated in the Cape Metropolis that provides innovative technological solutions projects through the use of technology.

5.2.6. Population validity

According to Johnson and Christensen (2012:257) population validity is the ability to extrapolate results from the sample of study participants to the larger target population and other subpopulations. Reliability refers to whether the results are trustworthy. This concept can be assured by using the criteria of reliability, conformity, credibility, transferability and reflexivity (Korstjens & Moser, 2018:120-122). The general criteria for research reliability and validity are described in the following sections:

- **Reliability:** Venkatesh, Brown and Sullivan, (2016:435-455) indicated that reliability is proved when a researcher can track the course of another researcher's decisions arising from a similar study to reify whether the same outcomes will appear twice. The qualitative researchers main concern is to ensure the research report thoroughly describes the role of the researcher, participants' demographics, research method, design, population, sampling method, data collecting techniques, instruments and analysis process, in order to assure the dependability of the study.

- **Conformability:** Korstjens & Moser (2018:120-123) outlined the researcher's ability to confirm that the qualitative research's norms are being followed. This process is evaluated by looking at the study's coherence. In this study, the researcher's supervisor checked all aspect of the research process to ensure that the information, interpretations, conclusions and recommendations provided were accurate.

- **Credibility:** Korstjens & Moser (2018:120-123) asserted credibility is the term used to indicate the level of confidence felt regarding the validity of research findings. It mut be noted that the reliability of data in relation to social phenomena is a crucial aspect of credibility. The researcher checked the questionnaire to ensure it was capable of correctly portraying the participant's responses and, by responding to follow-up questions following the first survey, participants were able to add remarks, pose queries and share information that researcher may have overlooked during the initial meeting.

- **Transferability:** This term describes how broadly the findings and conclusions drawn from a study could be applied to other entities (Korstjens & Moser, 2018:120-123). Cope, (2014:89-91) stated that transferability also means that the study findings and conclusions can serve as the foundation for future research.

- **Reflexivity:** The researcher's reflection on their own presumptions affects the study is referred to as reflexivity (Korstjens & Moser, 2018:122-124). In this study, the researcher remained as objective as possible throughout the data collection and analysis process, as well as when interpreting the results and making suggestions to retain the research validity and dependability.

5.3.   Methods of sampling and sample selection

Englander (2016:12-15) stated that sampling refers to smaller units that can statistically relate to the population. According to Jowah (2011:83-100) sampling is a technique used by researchers to locate, choose and isolate a specific number of persons or entities about which a study could be conducted. A sample is a portion of the population chosen for the study, and sampling is the process by which that portion of the population is chosen (Jowah, 2011:83-100). The researcher's goal is to have samples that will provide the most significant and plentiful data regarding the research problem; thus, the study sample is chosen carefully, often through a planned method known as purposive sampling (Yin, 2011:88).

5.3.1. Sampling Methods

A sample is the segment of the population selected for the study (Bryman, 2016:174). According to Taherdoost (2016:19-27) there are two different types of sampling techniques: probability/random sampling and non-probability/non-random sampling. Probability sampling techniques are frequently used in quantitative research, while non-probability techniques are more common in qualitative research. Kandola, Banner, O'Keefe-McCarthy and Jassal (2014:15-18), identified the sampling categories listed below:

o **Probability sampling method:** entails selecting random samples of population components, with each component having an equal and independent probability of being chosen for the sample (Kandola et al., 2014:15-18). Simple random, systematic random, stratified random, cluster, and multistage are the five primary types of probability sampling techniques (Kandola et al., 2014:17-19).

o **Non-probability sampling techniques** include selecting sample items using non-random criteria (Kandola et al., 2014:18). The many non-probability sampling methods include convenience sampling, quota sampling, snowball sampling and purposive or judgmental sampling (Kandola et al., 2014:15-18).

o **Purposive sampling** examines the specific characteristics of the population by (Kandola et al., 2014:17-23). In targeted sampling, researchers examine subjects using their professional judgment and select participants according to their expertise and experience in the field (Kandola et al., 2014: 6-21). Researchers use purpose sampling to consciously select participants who meet the criteria for interview questions and who will provide comprehensive information (Suen et al., 2014:104-105). This non-random sampling technique is used to target larger markets (Kumar, 2010:291-109). Researchers use the objective aspect in case studies to reflect how they select case studies (Petty et al., 2012:378-384).

Purposive sampling is used for this study, the purposive sampling method is one of the non-probability sampling methods. The reason for opting purposive sampling as the preferred method for this research project, is because this type of sampling is utilized to find and select information-rich samples and to increase the effectiveness and validity of the research (Ruppel & Mey,2015:172-186). The method of collecting questionnaire data is deliberately used to maximize respondent responses in answering questionnaires and

respondents are randomly sampled using the targeted sampling method (Baille, 2015: 36-43). Therefore, a simple random sampling will be used to all project team members, project administrators and project managers during the investigation. A questionnaire data collection method will be used deliberately to maximize the response rate by the participants in the answering of the questionnaires. The respondents will be randomly sampled with the help of the purposive sampling method.

5.3.2. Sample size

Gerrish and Lacey (2010:147) asserts that the most important consideration of the experimental design is the sample size, or the number of participants or subjects to be included in the study. This research sample is selected from at least 110 respondents based upon the nature of the sector, accessibility, level and qualification criteria. The author further states that, choosing the right sample size requires considering the range of differences within in the population, which are sometimes referred to as standard deviation or expected variation.

5.3.3. Sampling bias

According to Johnson and Christensen (2012:217-218) a biased sample is a sample that is systematically different from the population. Therefore, for this study the researcher used a probability and purposive sampling strategy to avoid sampling bias, in which samples were chosen at random from a specific group within the organization chosen for the survey.

5.4.   Data Collection Method

Pearlson et al., (2019:130-131), stated that gathering data is a crucial step in obtaining information from the most important sources to achieve the goals of the study. This research study will be completed through the processing of quantitative data. Given the nature of the study, both methods must be utilized to enable the quantification of the data and the use of the Likert scale to evaluate participants' perceptions (Black, 2012:228). In this investigation, both primary and secondary data sources were used to obtain the study's objectives. The primary source of data will be structured questionnaire that allows research participants share their in-depth views, perceptions and experience on the subject matter. Furthermore, as a secondary data source, books, journals, papers, and dissertations that have already been published in the field of study will be utilized.

5.4.1. Designing the Questionnaire

Jowah, (2011: 149) posit that a questionnaire is a tool or instrument which consists of set of questions used to collect or gather information from a selected target population for the purpose of conduct research to understand a phenomenon. Therefore, the purpose of administering questionnaires to respondents is to increase the return rate explains where the questions are not clearly understood and assist with the keeping of confidentiality. At the forefront of each questionnaire is a standardized cover letter whose contents included the research topic, importance of the study and respondent's voluntary contribution, respondent's confidentiality rights and assurance of ethical implications of the study. The questions on the questionnaire were created based on the research objectives and from the information obtained from the literature review, following the is then the questions. The wording of the instructions and the questions in the questionnaire is in simple and concise English. The structured questionnaire comprises of three sections, namely, Section A – Biography, Section B –Likert scale – perceptions and Section C – open-ended questions. The researcher made use of open-ended as well as closed-ended questions.

The objective of the closed-ended questions is to get factual and direct answers, whilst the open-ended questions were added to elicit detailed responses from the respondents. Simpeh (2012:38), posited that closed-ended questionnaires greatly simplify the recording, tabulation, and editing processes. In addition, closed-type questions are direct and to the point, making responses unambiguous and facilitating the grouping and quantification of related responses. Simpeh (2012:38) further asserts that since closed-ended questions may be rigidly constructed, respondents are compelled to make artificial decisions. The author goes on to say that an open-ended questionnaire is made to provide respondents the freedom to fully respond to the questions however they see fit. The researcher conducted the fieldwork electronically. In this instance, the researcher administered questionnaires electronically as seeing that most ICT organizations have time constraints, the researcher elected to have an option available where questionnaires could be completed electronically via e-mail or via the online tool (Google forms). The advantage of this method is that they were able to complete the questionnaires at their leisure and not hurriedly. The questionnaire was distributed to PMs, project teams and project administrators in the ICT sector in the Cape Metropolis.

5.5. Data analysis

The data collected in this study is analysed with the specific reference to the research questions using the Statistical Package for the Social Sciences (SPSS) and Excel analysis tool, and the research records is assessed using bar charts, pie charts, tables and other forms of primary diagrams. Therefore, relationships between variables are used to understand the results. The decision to use SPSS is motivated by the programs reputation for being efficient and user-friendly for data analysis (Rubin & Babbie, 2011:583). The advantages of adopting SPSS include its capability to carry out statistically significant tests based on research questions, enable data analysis, provide valuable tables, and investigate relationships between variables (Rubin & Babbie, 2011:583).

5.6. ETHICAL CONSIDERATION

Resnik (2015:1-2) defines ethics as standards of behaviour that make a distinction between appropriate and inappropriate practices. According to Ledwaba (2012:27) ethical considerations are essential in the field of research not merely for the protection of both the researcher and participants, but also for the reliability of the research. Therefore, the researcher-maintained integrity throughout the research process and followed all necessary ethical guidelines and standards. The researcher completed the following before the study began in compliance with CPUT's ethical concerns regulations.

- Prior to the start of the research project, CPUT issued the researcher an ethics clearance certificate (ethics clearance certificate number: FBMSREC066).
- The researcher assured the anonymity of contributors and guaranteed that the information they provided will not bring either themselves or their organisation into disgrace, thereby ensuring that respondents felt at ease when sharing information.
- Respect for the respondents was maintained and they were not forced to participate in the research but allowed to do so voluntarily.
- For purposes of transparency and honesty, the respondents were informed from the initial stages of the intentions and parameters of the research to ensure that they were aware of how the information they provided would be used.

5.7. SCOPE AND LIMITATION OF THE STUDY

The delimitation of the research is due to the usage of a single industry that limits the generalization of the results to other industries. Therefore, generalizing the results of one industry may be debatable. Time constraints, since the questionnaire instrument will only be available for a specific period not all the project management teams will be able to participate. The difficulties in persuading companies to participate in this study since most of them have privacy concerns. Lastly, the inability to obtain sufficient information required from informants as the field research data that was initially planned to be conducted face-to-face will be difficult to obtain due to COVID-19 pandemic lockdown laws that enforced social distancing methods.

5.8. CHAPTER SUMMARY

The researcher discussed the research methodology followed throughout the research process, which consist of the research philosophy, research approach, research strategy, data collection techniques, and how the data will be analysed. The chapter started by explaining the research philosophy, followed by ontology and epistemology. This section presented different research paradigms and methods and discussed them in different perspectives. The contrasts between positivism and interpretivism and how they relate to quantitative and qualitative research methods, as well as deduction and induction, were also covered in this chapter. The chapter further examined the research design and technique that is utilized to carry out the study. As a result, it also provided a detailed context for the methodological choices made in the research. More information is provided on the research design, theoretical aspect of the methodology, research strategy, study population, sampling techniques, data collection techniques, and ethical considerations. This chapter's objective was to develop the methodology of the research approach using a variety of research approaches. As a result, the research method also assisted the researcher to understand how to interpret the research findings. The data analysis and result interpretation are presented in the following chapter (Chapter 6).

CHAPTER SIX

DATA ANALYSIS AND INTERPRETATION OF RESULTS

6.   INTRODUCTION

The purpose of this chapter is to examine and analyse the records collected from participants who contributed to the survey. The main objective of this research is to determine the leadership competencies a PM requires to effectively manage ICT projects, as well as the leadership competencies that PMs in the ICT sector use to reduce project failure. The questionnaire is used to collect data from all participants and the participants who contributed to the questionnaire were advised that they were not obliged to participate in the study and their identities would not be disclosed. The research used primary and secondary data to conduct the research and answer the research question. The data is collected and analysed using Excel spreadsheets and SPSS with graphical representation (graphs, pie charts, bar charts and histograms). The objective of transforming statistics to graphs and charts is to ensure that the data collected is easily readable and retains its meaning. The descriptive statistics are first discussed in detail, followed by the presentation of the results and interpretation at the end of each section. The questionnaire has been divided into three sections, as indicated in the previous chapter, namely, Section A –Biography, Section B – Likert scale, and Section C – Open-ended section as a result this format is followed in this report. All questions, statements and requests are listed chronologically as they appear in the research instrument (questionnaire). The responses from the survey are then listed after each question, statement and request. Therefore, the responses from the questionnaire are analysed and the results are shown in sections as follows:

6.1.   SECTION A: BIOGRAPHY

6.1.1. Presentation and discussion of results

The format of the section is to write the entire question first, followed by the answer from respondents. This process is followed to ensure that each question and answer receives due attention. Section A of the questionnaire focuses on biographies used to screen respondents and identify eligible respondents. This part therefore allows researchers to classify the status of respondents. The questions in this section are of a general nature and are based upon the demographical information of the respondent. Therefore, samples are created for statistical purposes to ensure that they accurately reflect the

population. As a result, each question asked in this section is listed with a description of its relevance to the survey for clarity and comprehension. This section comprises of the following questions: What is your position within the organization? What are your qualifications? How long have you been working in this field? How old are you? Therefore, the survey was intended for ICT professionals and questions were asked to determine the respondent's actual understanding of project leadership in their sectors.

6.1.2. Data gathering and statistical evaluation.

To attain the objective of the survey, 110 questionnaires were distributed of which 100 responses were reverted. The distribution process was to gather responses from PMs, the project team and project administrators. Therefore, the responses were as follows: 52 questionnaires were completed by project coordinators, 27 questionnaires were completed by the project team and 17 questionnaires were completed by PMs. As a result, after checking the completed questionnaires, all were found to be appropriate and coded through SPSS 22 for analysis and Excel tool for statical analysis.

QUESTION 1: WHAT IS YOUR GENDER: - According to Deloitte Global (2016:5-10) the technology sector still has a male-dominated workforce despite efforts to enhance diversity and inclusion. As a result, women make up approximately 33% of the workforce at major international technology companies. The reason of asking this question was to determine whether diversity and inclusion in the technology industry as emerged in the 21st century. There are some areas where males and females showed similar leadership characteristics and some variances indicating the difference in general leadership shown across genders. The gender participants for the study are illustrated in figure 6.1 below:

Figure 6.1: Gender participants in the survey
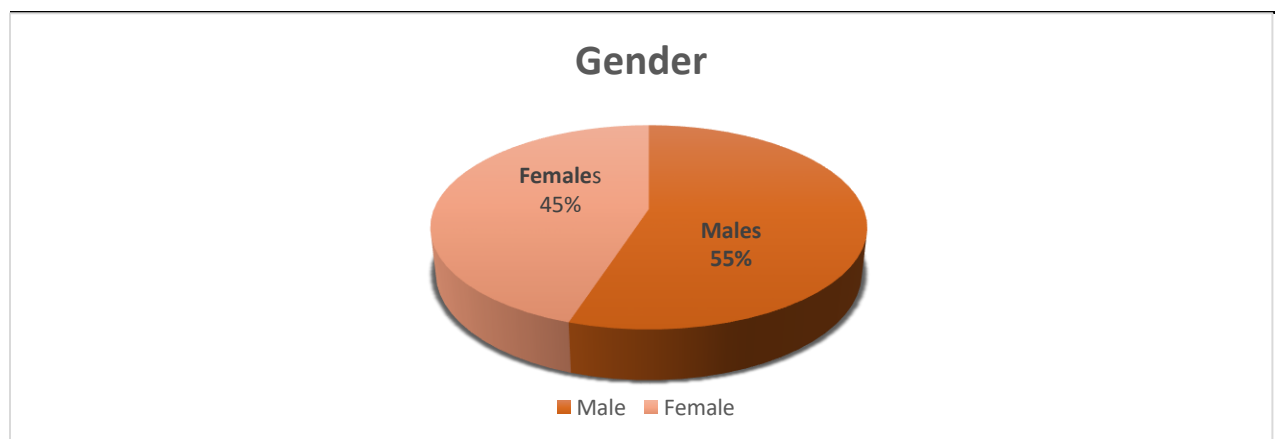
Source: Author's own construct

RESPONSE: Figure 6.1 demonstrates that 45% of participants are female and 55% are men. The gender question that was posed in this study was crucial to understanding uniqueness of individuals. Leadership skills are still necessary for good project outcomes regardless of gender. There is no option that specifically caters to transgender people in this inquiry since each person is treated as an individual. Statistically, it is important to note the different perceptions of the different genders within the organization.

QUESTION 1: HOW OLD ARE YOU? - The researcher discovered that a certain age is associated with certain knowledge and due to years of exposure and experience within the certain sector. Therefore, based upon the law of averages, it appears that the greater exposure and experience one has on a task, the greater the likelihood of making informed decisions/judgments (Shipley, Jackson and Segrest, 2010:1-18). This question sought to ascertain the age of the respondents, the understanding was that there may be a relationship of an individual and their understanding of what constitutes competency. The older one becomes; the more people expect one to be knowledgeable about the industry and work. Age range can also be a good indicator of how long someone has worked in a project setting, especially if that work involves interacting with others and developing the interpersonal skills necessary. The responses of participants to this question are shown schematically in Figure 6.2 below.

Figure 6.2: The age of the respondents
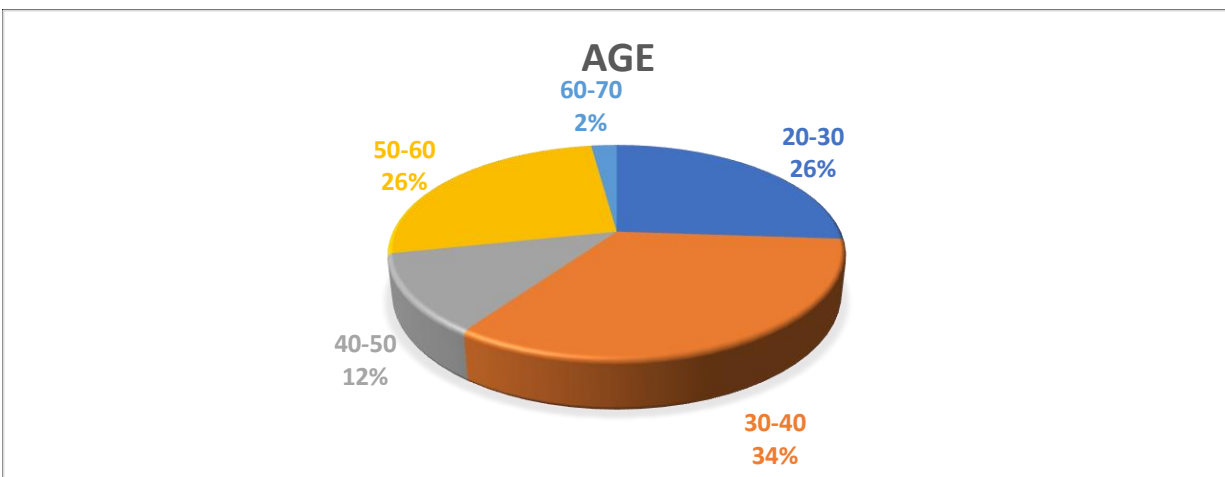
Source: Author's own construct

RESPONSE: The results in figure 6.2 demonstrates the number of respondents in the age category of 30-40 years at a highest of (34%), followed by 20-30 years at (26%), 50-60 years at (26%), 40-50 years at (12%) and finally 60-70 years at (2%). As expected,

the majority of respondents in this case are from people with over 36 years of age. Presuming that they have extensive project management experience. Therefore, they clearly understand the significance of interpersonal and leadership competencies in the ICT workplace based on their experiences working in the industry. The intent of the age group component is to evaluate the personnel's maturity level. Correspondingly, the ability of professionals to continuously enhance their competencies and leadership philosophies is generally improved with more experience, which will better position them for success in the forthcoming projects.

QUESTION 3: What is your highest educational qualification? - The purpose of this question is to establish the qualifications of participants. the researcher believes that professionalism and education equate with merit, hence this inquiry is aimed to establish the respondents' qualifications. The higher the qualification the more knowledgeable one is expected to have and primarily the reason why individuals are sent to school (May and Aikman, 2016:314-334). Therefore, Understanding the respondents educational background is crucial since it can influence their knowledge of a particular field of study and industry. Hence, educated respondents are considered to be experts; their responses are expected to be decent, meaningful, and professional and in line with the in-depth knowledge of factors affecting performance of an ICT project management. Figure 6.3 represents respondents' level of education.

Figure 6.3: Respondents level of education
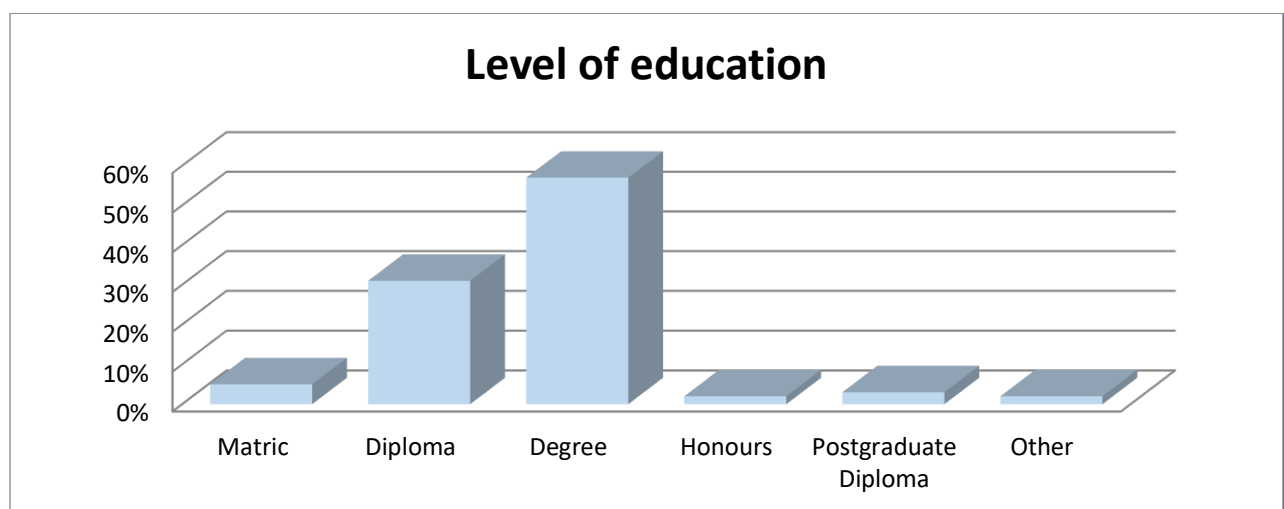
Source: Author's own construct

RESPONSE: The results in figure 6.3 illustrates that the majority of respondents are highly educated. According to the graph above, 57% of respondents have academia degrees and at 31% with diplomas, 2% obtained honours and 5% have matric certificates, although it is not specified what knowledge they have in the ICT field. The 'other' option in the questionnaire is included to establish the level of education beyond the options mentioned. It shows that 2% of respondents have achieved other types of education such as management certifications at various NQF levels. The results showed that while some respondents already had considerable ICT work experience, most of them had received a form of tertiary education, indicating that they know at least the basics of management. Therefore, it is always best to empower individuals with at least a modicum of training and experience. Accordingly, qualitative feedback demonstrates that respondents with higher level of education have a more positive insight of the importance of effective project management practices, as a result of their educational qualifications.

QUESTION 4: What is your position in the organization? The main objective of this question is to determine the position of each respondent and their relations to the PM. The expectation or assumption is that the respondent's position within the organization will help determine whether they are able to provide the requested answer. In the organisation, managers may not discuss how leadership affects them, but rather what they think subordinates will accept. However, subordinates might be in a better position to comment on how leadership influences their performance and motivation. The purpose of this question, regarding each respondent's position within the organization, was to better understand the respondent's relations with the PM. The expectation is that individual's positions in the organization will assists in identifying the respondent's ability to provide the answer required. Therefore, the respondent's perception of what constituted project failure is strongly influenced by their understanding of their positions in the industry. The question is specifically designed to determine the suitability of the study respondents through an analysis of the respondent's positions within the organization. The specifics of the participant's positions are shown in figure 6.4 below:

Figure 6.4: Respondents positions in the organization

POSITIONS WITHIN THE ORGANIZATION
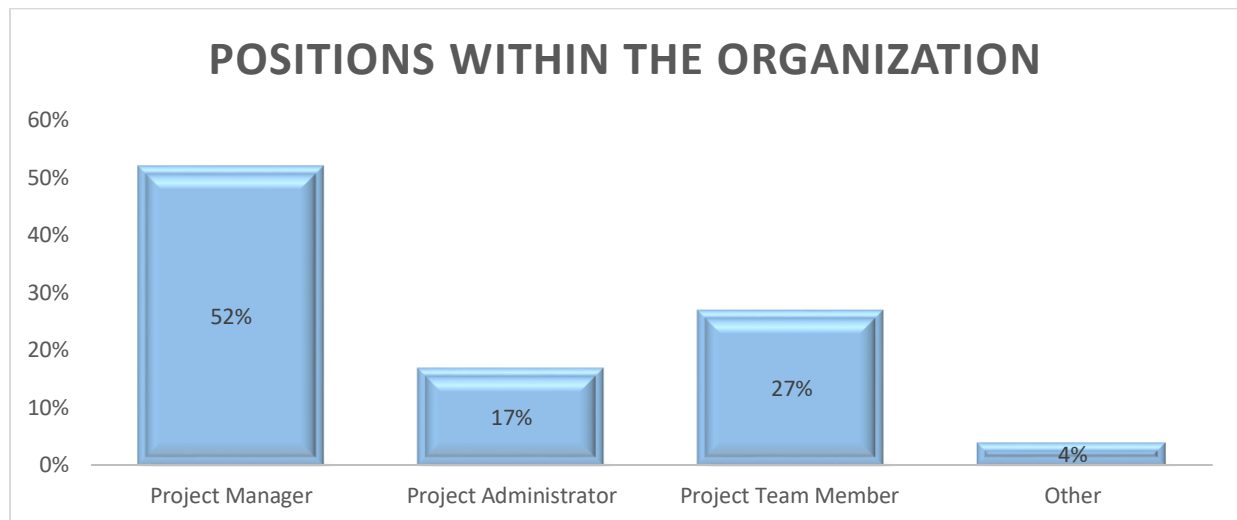
Source: Author's own construct

Figure 6.4 above shows that respondents at 52% are project managers who mostly work with large projects and with general and executive managers. A project team is a group of people that collaborate on a project to accomplish its goals since their skills complement one another, the project team members answered to the questionnaire at a rate of 27%. Then, project administrator serves as the project manager's right hand in many ways, handling the smaller tasks so that the project manager may concentrate on the more important ones. As a result, working as a project administrator might serve as a steppingstone to becoming a project manager, project administrators' responses are at 17%. As alluded to results, practitioners may not be directly involved in management, but they nonetheless complete the project-related work under the direction of a team leader who also serves as their manager, responses are seating at 4% for other.

According to the results, although practitioners may not be directly involved in management, they still carry out project-related tasks under the supervision of a team leader who also serves as their manager. As a result, responses are at 4% for other. Presuming that individuals have in-depth subject knowledge and the necessary skill set to complete the project's work.

QUESTION 5: How many years have you been employed in the industry? - The aim of this closed-ended question is to determine the respondents' level of experience in the ICT sector. Jowah, (2013: 278) confirms that individual experience and emotional intelligence are directly related. The expertise of practitioners enables them to offer recommendations and justifications for the proper course of action. Therefore, the

amount of time a manager or supervisor has worked for a company usually is a measure of their ability to understand their role. It also enables the evaluation of management perceptions that have changed, which will help the researcher understand the relationship between practitioners' work experience in an industry and their comprehension of the advantages and disadvantages of various project phases, allowing more seasoned respondents to assess project failure more accurately. Therefore, such knowledge empowers project team members adopt skills of PMs, thus, allowing them to make smarter decisions. However, practical experience also counts as training and is as important as formal education. Managers and supervisor's organizational experience serves as a barometer for how well they comprehend their responsibilities. Figure 6.5 below shows the respondents' years of experience within the industry:

Figure 6.5: Years of experience within the industry
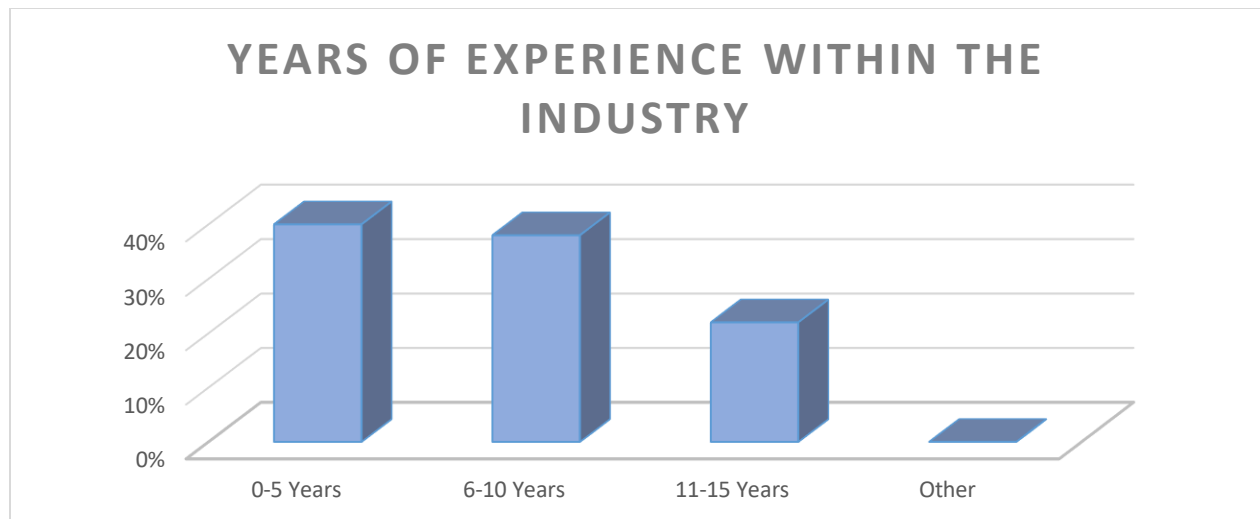
Source: Author's own construct

RESPONSE: Findings from figure 6.5 above depicts that respondent's worked on projects professionally for 0-5 years at 40%, between 6-11 years at 38% and lastly from 11-15 years at 22%. The outcome is most likely caused by the apparent age difference between ICT sector professionals in their mid- to late-30s and those who are over 50 years old. This imbalance poses a threat to the industry's knowledge transfer component, which is a major concern for the sector. This outcome also prevents the project management industry the possibility to teach new technicians and professionals the basics of project management. According to the findings, team leaders could improve project outcomes by imparting knowledge attained over the course years working in the industry to their subordinates.

Question 6: How often are you involved in managing projects? The goal of this question is to find out how frequently respondents interacted with PMs during the project's duration. Respondents who are primarily involved in projects are able to evaluate the PMs communication competences by interacting and observing how the PM conducts project meetings and projects. The gathered data is depicted in Figure 6.6 below.

Figure 6.6: How often are you involved in managing projects?
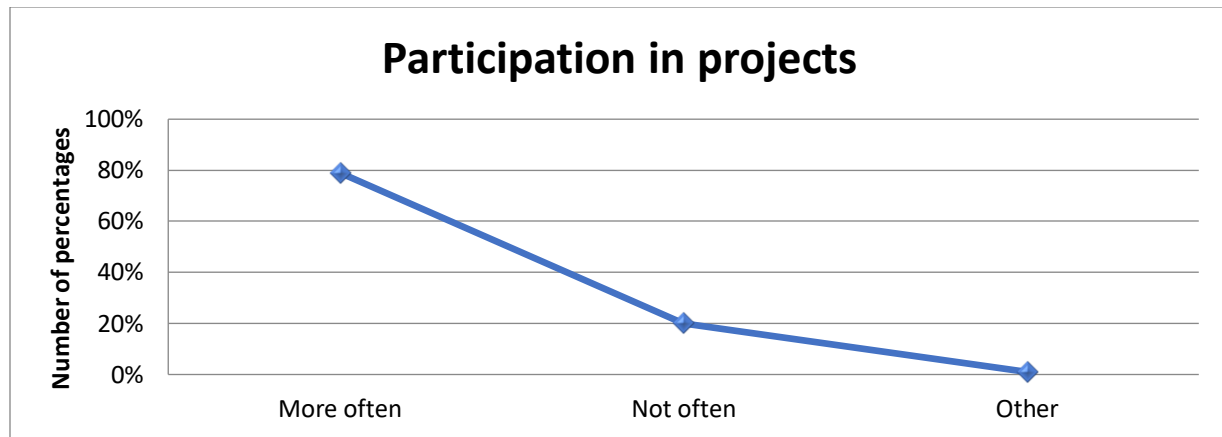
Source: Author's own construct

RESPONSE: According to the aforementioned findings, the majority of respondents at (79%) are frequently involved in managing projects, compared to 20% who are rarely involved and 1% who indicated other. In accordance with this question's results, PMs, project administrators and project team members must always be present at project meetings. It is their duty to discuss and disseminate information from project meetings to operational workers. Therefore, most respondents agreed with the fact that the project team should always be involved in handling of ICT projects in order to be fully conversant with the proceedings and to prevent possible project failure.

Question 9: What is the size of the project? - This question sought to ascertain whether strategic management methods should be utilized within a particular project. Project management procedures are designed to make sure that projects are be conducted in a planned manner, on schedule, within budget and with the desired results. The various project sizes must be taken into consideration for any set of project management techniques to be useful. Therefore, when describing the total scope of a project, the term "size" is often used to account for the project's duration, cost, complexity, staffing requirements, and other pertinent elements. The use of the terms

'small', 'medium', and 'big enables project efforts to be compared. The respondents' answers to the question are shown in Figure 6.6 below:

Figure 6.7: Size of the project

Size of the project

Small	Intermidiate	Large	Other
19%	33%	47%	1%
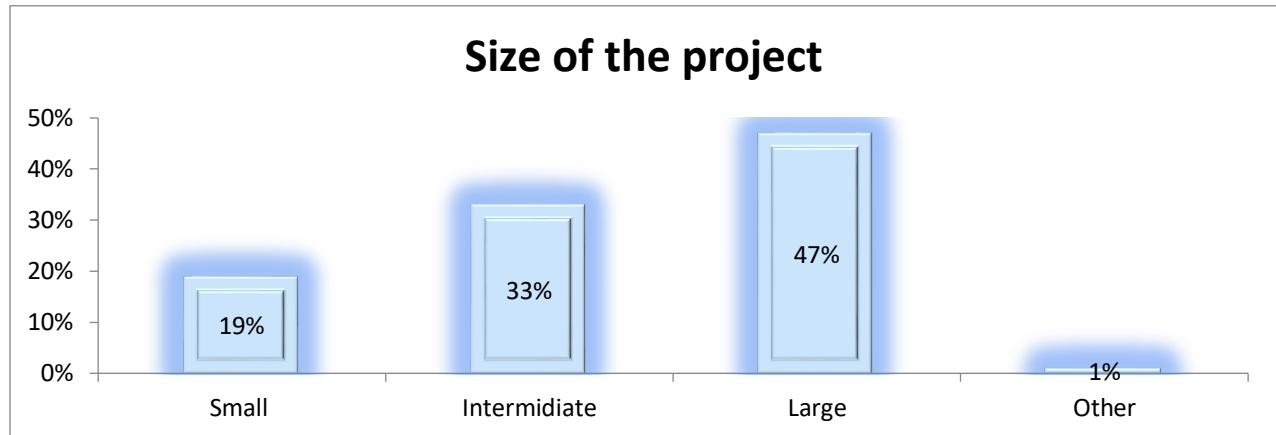
Source: Author's own construct

RESPONSE: The respondents working within different sized projects are indicated in the illustration above, respondents at 47% are involved in large projects, 33% are involved in medium sized projects, respondents at 19% are involved in small projects and respondents at 1% of indicated 'other' in the category. The process of establishing and quantifying the degree to which project management methods are formally employed throughout a project is referred to as project sizing. It is a comparative indicator of the project's anticipated work effort. The process of sizing aids in determining the scope of project management tasks unique to a particular project. According to the results of the survey, 47% of respondents are managing significant projects that require project planning, process scheduling, and execution control, which means they are accountable for the project's success or failure.

QUESTION 6: Anything else you want to say? This question is intended for respondents to make comments they had regarding their biographies, however, there were no comments provided.

6.2. SECTION B – LIKERT SCALE

This section refers to the leadership competencies required for project leaders to manage projects successfully as perceived by the respondents. The Likert scale consist of statements that were to be rated on a scale of 1 to 5, 1 – disagree, 2 – strongly disagree, 3 – neutral, 4 – agree and 5 – strongly agree. Respondents were asked to rank

the claims based upon how well-informed they are be about the statements. The percentage of responses is shown in the % column, but the responses are shown in the vertical categories of the table (according to the Likert scale). The results are presented by SPSS, and Excel-created tables, graphs, and charts and each table summarizes the results presented in each graph.

LEADERSHIP COMPETENCIES: It is understood that PMs will undertake leadership roles in the ICT project, thus this section of the questionnaire aims to assess this particular competency. Leadership competencies are knowledge base, behavioural traits, and skills set that various organizations use to evaluate and grow leadership within their own ranks (Ruel, Rowlands and Njoku, 2020: 141-161). The PM should often engage in project activities in order to establish, maintain and reinforce cohesive relations with the project team. These activities incorporate simplifying the most complex assignments, ensuring strong connections and being accessible and available to all project activities (Litz & Scott, 2016:1-22). PMs are crucial to the advancement of projects as they put ideas into reality, organize people into teams and settle arising conflicts. They aid in fostering positive work environment in which everyone is motivated in giving their best work. Therefore, clarifying these connections offers PMs guidance on potential selection and project improvement models, showing how improved leadership capabilities can enhance project management success. PMs are effective when they are able to manage associations within the project team and direct members to carry out their duties. The responses to leadership competencies are shown in figure 6.8 below.

Figure 6.8: LEADERSHIP COMPETENCIES:

LEADERSHIP COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Provides guidance and direction that inspires team members	4%	3%	0%	44%	49%
■ Creates team building opportunities for the project team	4%	0%	3%	49%	44%
■ Gives prompt feedback on individual and team performance	4%	1%	5%	43%	47%
■ Encourages creativity and innovative ideas from the project team	3%	2%	2%	42%	51%
■ Empowers the project team through mentoring and coaching	3%	2%	2%	42%	51%

Source: Author's own construct

In the field of ICT, PMs are expected to undertake leadership positions when managing projects. Therefore, PMs should demonstrate leadership capabilities by performing the expected tasks in the project. There are five statements under this area which are all intended to assess whether PMs are capable to effectively manage projects and give directions to the project team and all other stakeholders. As a result, the statements are described in more detail below.

STATEMENT 1: Provides guidance and direction that inspires team members. Narh (2013:3-4) highlighted that PMs without vision may lead project teams in the wrong direction. Additionally, PMs work within the framework of the organizational strategy, to ensure that the project strategy is in accordance with the company plan. Therefore, it is expected of a PM to establish a clear project vision and communicate with the project team. PMs must exhibit behaviours and personalities that command attention if they are to have the power to influence others, in addition subordinates are more likely to learn

from the PM based upon what they observe ''leadership'' rather than what the PM say. A motivated workforce is more likely to achieve its objectives, show greater involvement, and generate higher-quality work. PMs are in a unique position to motivate and inspire their workforce, as they may serve as role models ''leadership'' on how to foster a sense of purpose within the company. The respondents' views on this topic are illustrated in figure 6.9 below**:**

Figure 6.9: Provides guidance and direction that inspires the team members.

Provides guidance and direction that inspires team members

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Provides guidance and direction that inspires team members	4%	3%	0%	44%	49%
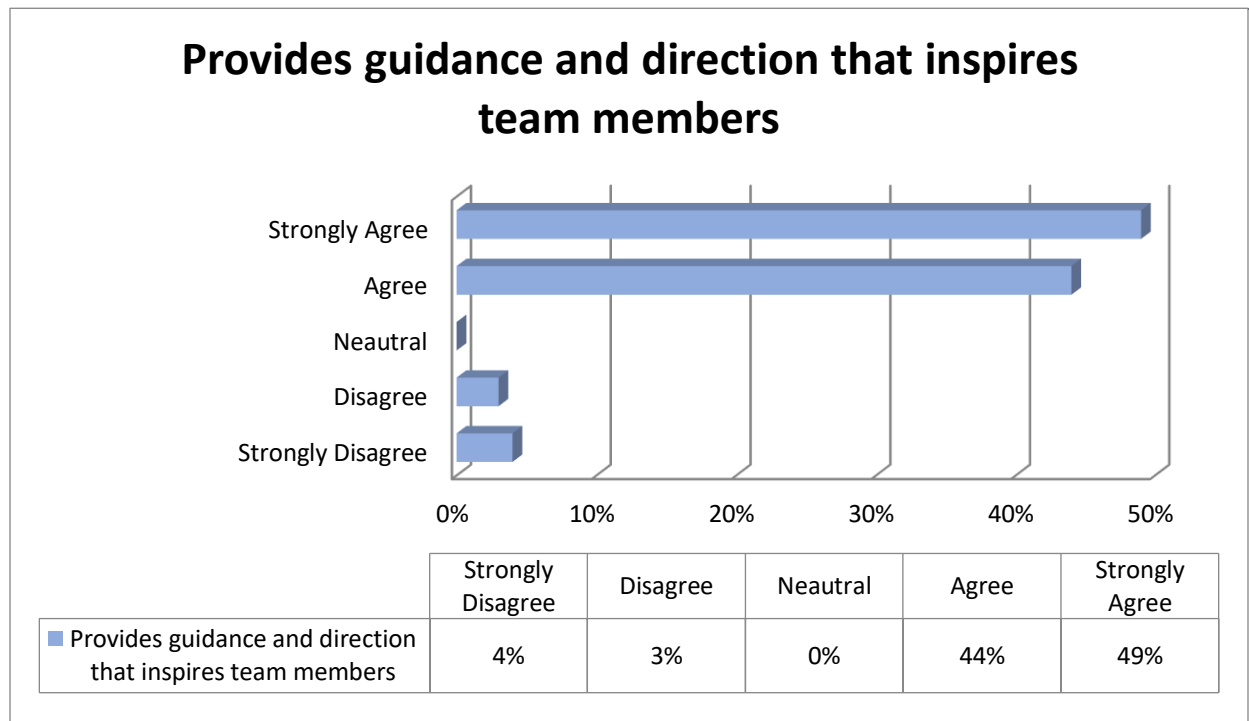
Source: Author's own construct

RESPONSE: As shown in figure 6.9 above, a high number of respondents at (49%) strongly agrees that PMs should offer guidance and direction that motivates team members, while 44% agrees with the statement and perhaps feel that their PMs largely set an example by acting in a way that their employees can respect and perhaps desire to imitate. In a way, this demonstrates that these respondents might find it easy to have confidence in their leaders. The respondents at 3% disagreed with the statement, whereas 4% strongly disagreed and no one is indifferent to the statement. In accordance with the results, it is practical to draw the conclusion that an effective PM is necessary to provide advice and direction that motivates the team.

STATEMENT 2: Creates team-building opportunities for the project team: According to Dietz et al., (2010:908-914) teamwork is the cooperative effort of people who have one

aim in mind, for the purpose of working together towards a meaningful project. Therefore, collaboration entails communication and cooperation between several individuals and stakeholders involved resulting in a unification of purpose. The following results from respondents are shown in figure 6.10 below:

Figure: 6. 10 Creates team-building opportunities for the project team.

Creates team building opportunities for the project team

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Creates team building opportunities for the project team	4%	0%	3%	49%	44%
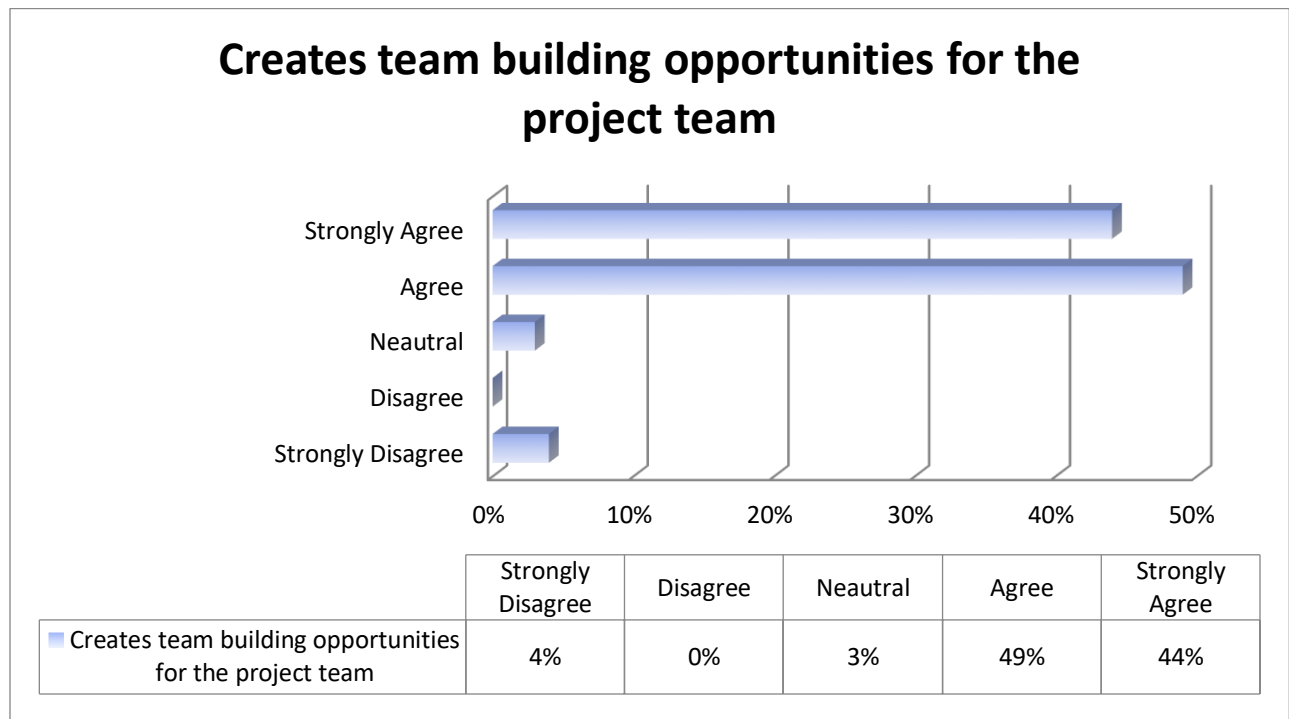
Source: Author's own construct

RESPONSE: As depicted in the diagram respondents at 44% strongly agreed that PMs should create team-building opportunities for the project team, 49% agreed and 3% were neutral to the statement. The respondents at 4% strongly disagreed and 0% disagreed with the statement which resulted in confusion as to why respondents would disagree that PMs should create team-building opportunities for the project team. Nonetheless, 93% of respondents agreed with the statement, which suggests that after participating in team-building activities, employees are better able to understand each other's strengths, weaknesses and interests. Moreover, they can collaborate more effectively on future crucial project developments.

STATEMENT 3: Gives prompt feedback on individual and team performance: Through ongoing team member monitoring, the PM will be able to identify each members strengths and weaknesses. This might also help PMs to allocate the task most appropriate to each team member, perhaps with plans to provide the resources and

100

additional support needed to help team members who are having difficulties. This statement aims to clarify whether giving prompt feedback on individual and team performance could provide greater project results. The responses to statement 3 are recorded in figure 6.11 below.

Figure6.11:Gives prompt feedback on individual and team performance.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Gives prompt feedback on individual and team performance	4%	1%	5%	43%	47%
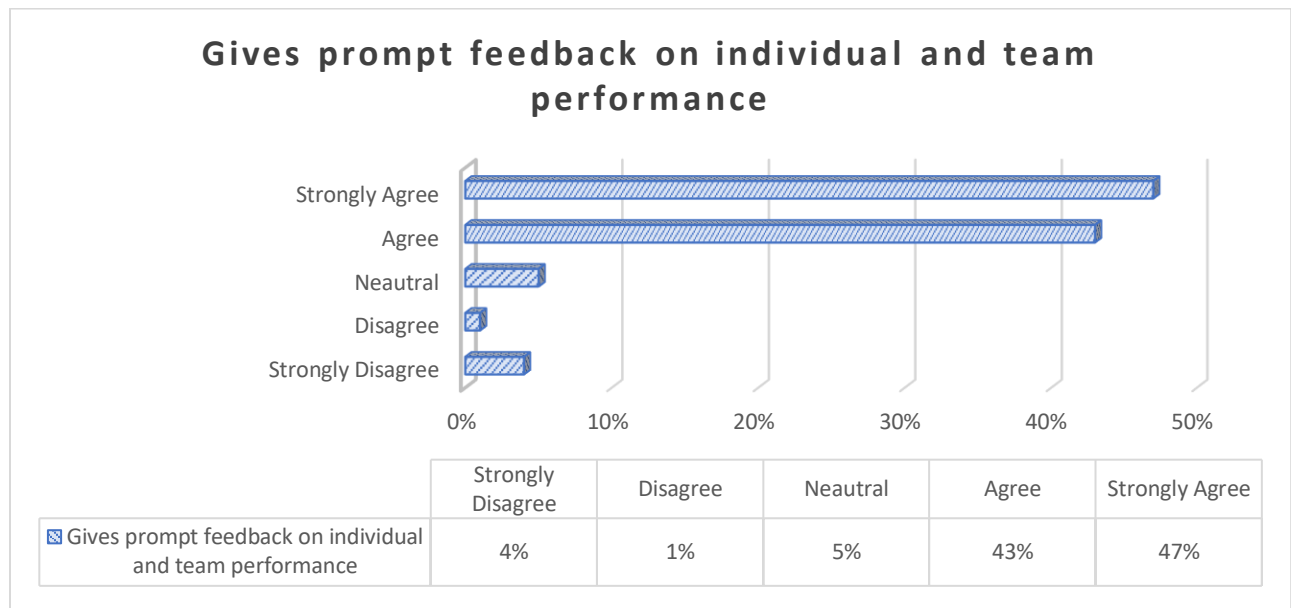
Source: Author's own construct

RESPONSE: Figure 6.11 shows a strong number of respondents in agreement that a PM should give prompt feedback on individual and team performance with the quantity of (47% strongly agreeing and 43% aggreging) which totals to 90% of respondents agreeing with the statement. However, respondents at 4% strongly disagreed and 1% disagreed with the statement. The respondents at 5% were neutral, assumingly that they were unwilling to be single-minded therefore, they remained neutral. It can be generalized that the ordinary if not every project leader should give prompt feedback on individual and team performance to boost their ability to deliver effective results on the project.

STATEMENT 4: Encourages creativity and innovative ideas from the project team: The project team may be inspired by the encouragement of the PM to work ethically and place significance in their responsibilities, resulting in them being eager to deliver quality work to avoid disappointing the PM. As a result, the morale and performance of the project team may be destroyed by the PMs discouragement. The objective of this statement is to evaluate whether encouraging creativity and new ideas from the project

team could improve the project outcome. The responses to statement 4 are shown in figure 6.12 below.

Figure6.12: Encourages creativity and innovative ideas from the project team.

Encourages creativity and innovative ideas from the project team

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Encourages creativity and new ideas from the project team	3%	2%	2%	42%	51%
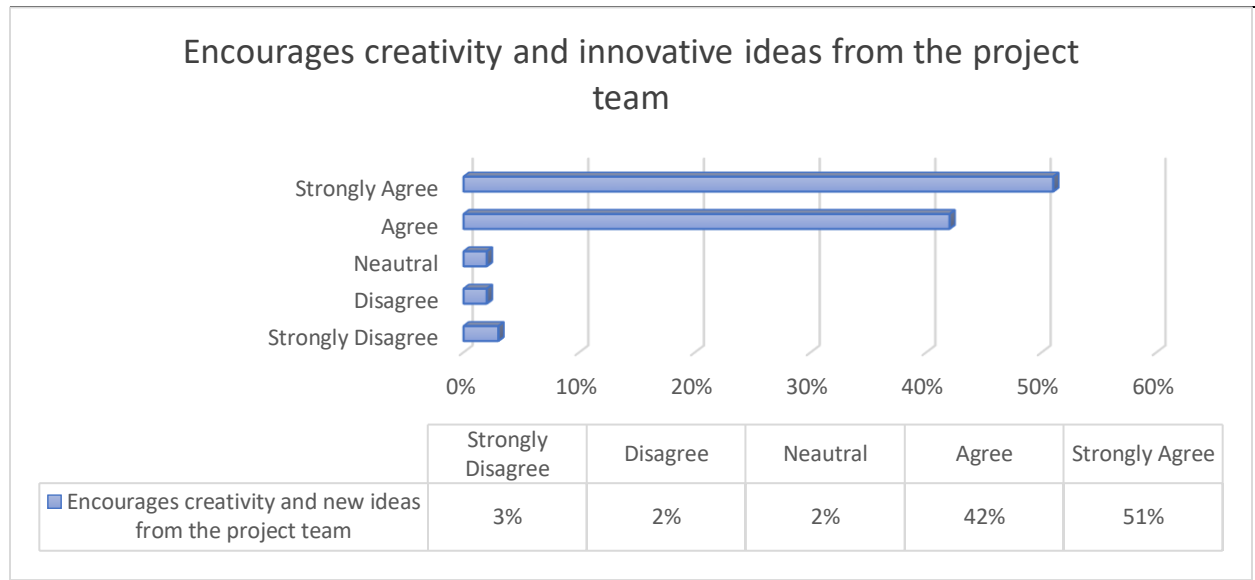
Source: Author's own construct

RESPONSE: The results in figure 6.12 illustrates that the majority of respondents at 51% strongly agrees that leaders should encourages creativity and innovative ideas from the project team and 42% agreed to the statement. The respondents at 2% stayed neutral and were undecided whether to agree or disagree with the statement. Moreover, the respondents at 2% strongly disagreed and 2% disagreed with the statement. As alluded to by the graph the total of 92% are strongly agreeing that the PM should always encourage creativity and innovative ideas from the project team. It can be established based on this statement that an effective PM should encourage team members to be creative bringing new ideas into the project. Therefore, an effective PM should encourage team members to be innovative and contribute creative ideas to the project and also motivate team members to work together to complete tasks effectively.

Statement 5: Empowers the project team through mentoring and coaching: Coaching and mentoring both promote dedication to a project, it also increases project team performance, productivity and helps to generate greater results (Klopper et al., 2018:20-31). Therefore, the goal of coaching and mentoring is to improve individuals' performance in their current positions, which may involve helping them to learn new skills or resolve performance problems. The aim of this statement is to assess whether

coaching and mentoring could assist practitioners to work effectively on the project tasks leading to project success. Figure 6.13 below depicts the results for statement 5.

Figure 6.13 Empowers the project team through mentoring and coaching.

Empowers the project team through mentoring and coaching

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Empowers the project team through mentoring and coaching	3%	2%	2%	42%	51%
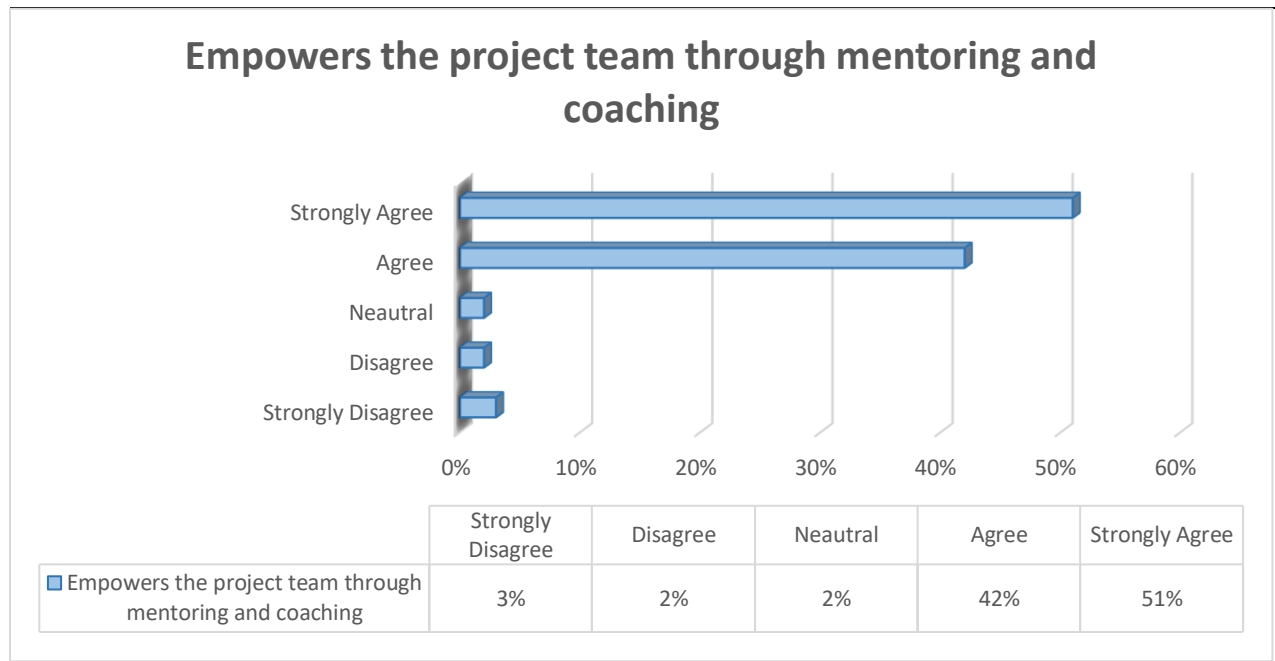
Source: Author's own construct

RESPONSE: As illustrated in figure 6.13 above that respondent's at 51% strongly agreed with the statement that PMs should empower individuals and the project team through mentoring and coaching, 42% agreed, 3% strongly disagreed, 2% disagreed and 2% were neutral on the statement. The results at 93% suggest that PMs should empower individuals and the project team through coaching and mentoring. Therefore, it is noted that the project team who receive coaching and mentoring contribute more value to the project at the same time, improve their self-awareness, problem-solving abilities and role confidence.

COMMUNICATION COMPETENCIES:

The act of conveying meaning from one source to another using a technique or procedure that both parties can understand when used in the same situation is known as communication and the method of communication may be vocal, formal (written), graphic, or any other form that both parties can understand (Kerzner, 2012:69). Efficient PMs have the capacity to bring disparate groups together throughout the project and implementation procedures that depend critically on effective communication management. Sumner and Powell, (2013:15-23) asserts that team members are who are motivated through effective communication can learn more and look for ways to increase

their performance if they do not have the necessary abilities for their positions. According to PMBOK (2013:45-49) communication is one of nine key subject areas of project management knowledge. The level of understanding of these knowledge domains influences the expected behaviour of the followers and leaders in the project management process. This anticipated practice within the project management process depends upon how well these knowledge domains are understood. Communication is a required component within an ICT project which involves communicating with stakeholders and the project team. This section of the questionnaire is intended to evaluate the communication skills of PMs. Therefore, a clearly defined communication plan should be shared with all project participants. The response to this statement is shown in figure 6.14 below.

Figure 6.14: COMMUNICATION COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Effectively communicates project objectives and milestones	4%	1%	1%	49%	45%
■ Clearly communicates the project scope, WBS and deliverables	3%	1%	5%	47%	44%
■ Communicates and engages project stakeholders frequently	2%	1%	5%	46%	46%
■ Discusses the project charter regularly with the project team	2%	1%	4%	52%	41%
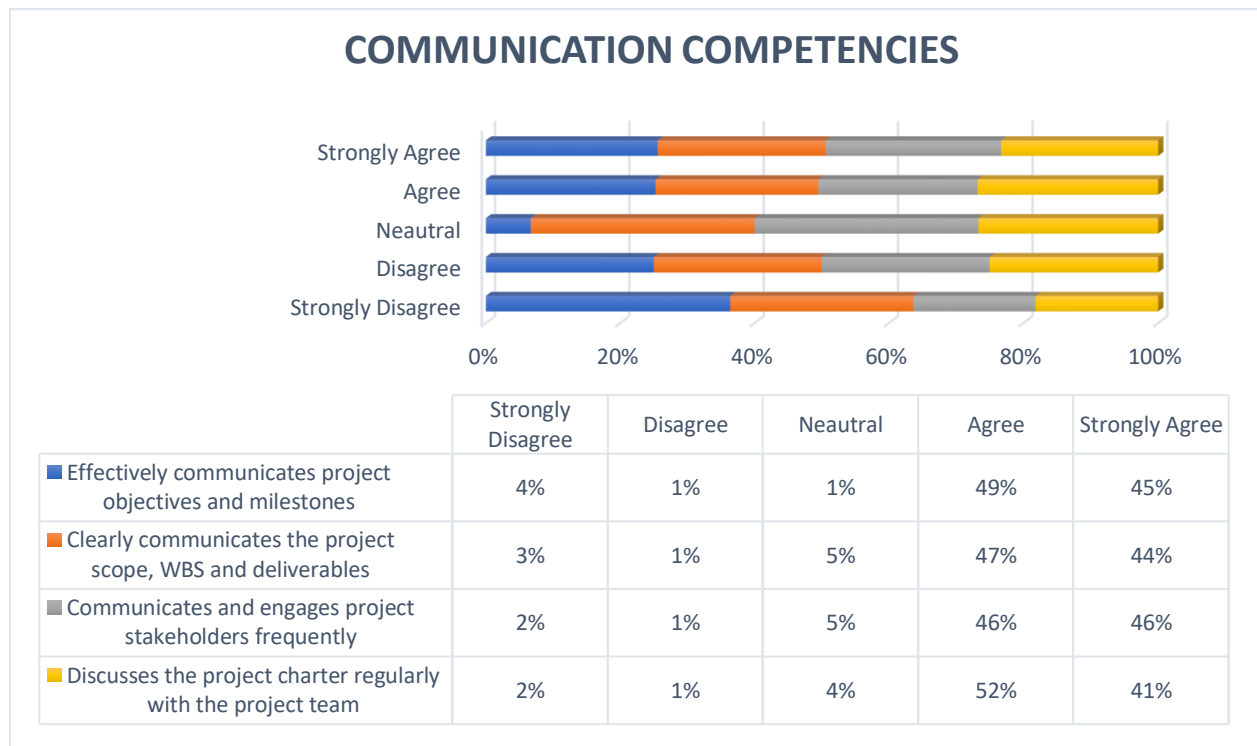
Source: Author's own construct

The key quality of an effective PM is excellent communication, and it has been discovered that sending appropriate information to appropriate individuals through the appropriate channels at the appropriate time prevents delays in project progress and ensures its success. The purpose of this statement is to evaluate the communication competency which is the key indicator for project success. The PMs ability to communicate with the project team and stakeholders is the key component of their

communication competency. The six statements that make up the communication competency are described below.

STATEMENT 6: Effectively communicates project objectives and milestones: According to Cohen, Rozenes and Ben-Gal (2020:85) the success of a project depends on the team members ability to communicate effectively and thus, a PM should effectively manage project teams by clearly communicating the project scope. Moreover, it should be emphasized that PMs should have project objectives defined and a project plan that is continually assessed for operating conformity. To guarantee that the project team is aligned with the project goals and know exactly what is expected of them, the respondents were requested to respond on whether their PMs effectively communicates project objectives and milestones throughout the project life cycle. The response to this statement is illustrated in figure 6.15 below:

Figure 6.15: Effectively communicates project objectives and milestones.

Effectively communicates project objectives and milestones

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▪ Effectively communicates project objectives and milestones	4%	1%	1%	49%	45%
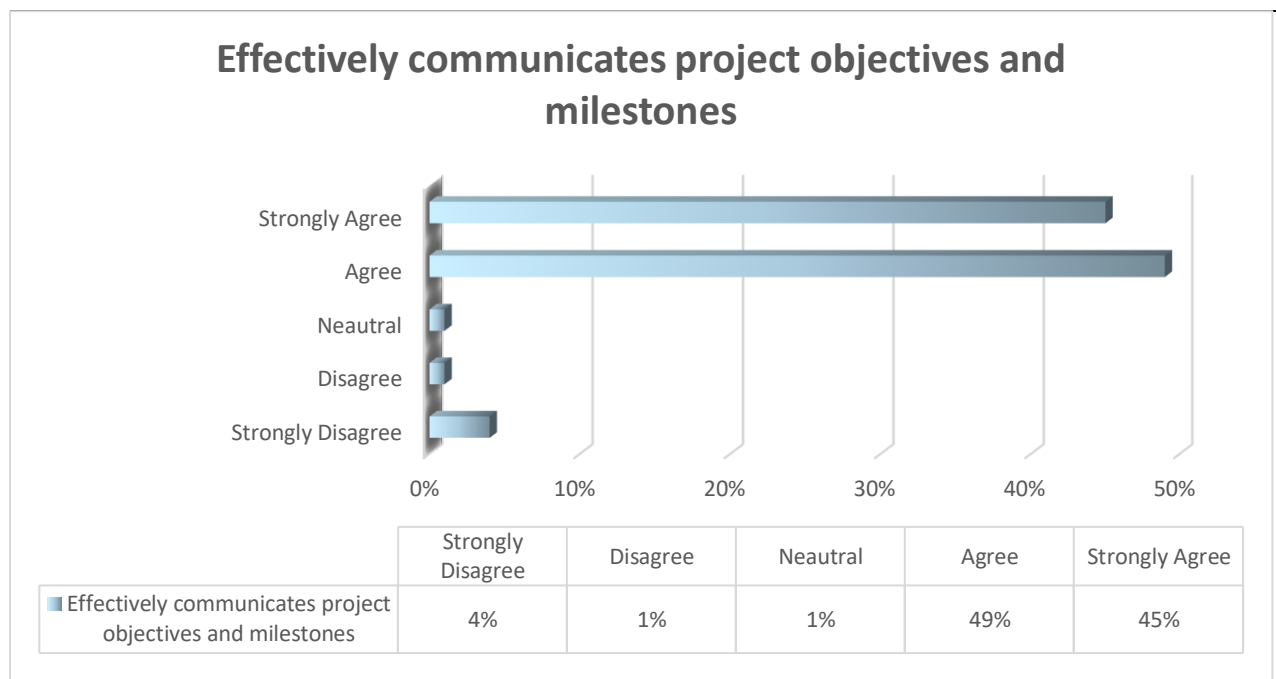
Source: Author's own construct

RESPONSE: According to figure 6.15 above, respondents at 49% agreed that PMs should effectively communicate project objectives and milestones and respondents at 45% strongly agreed with the statement. A total number of respondents at 5% disagreed with this statement (4% strongly disagreed and 1% disagreed). Moreover, the respondent at 1% remained neutral to the statement. The positive responses at 94%

confirms the importance of communicating project goals and milestones. It should be noted that without an effective communication ethos, PMs may discover that the team is operating blindly and unmotivated as they are unaware of the project's overall milestones and goals. In addition, effective communication fosters trust, which improves teamwork throughout the project. Therefore, it is necessary to highlight the value of maintaining communication skills as an essential element of project success in any organization.

STATEMENT 7: Clearly communicates the project scope, WBS and deliverables: Laufer (2012:3-4), identified and specified the specific deliverables that will cooperate to accomplish the project's objectives. The author is of the view that to be effective, PMs should maintain the project scope to inspire the team, elucidate a strategy for success, and track developments for the project. Furthermore, clarifying deliverables might help the team renew their understanding of what needs to be accomplished for the project; process deliverable, which includes planning, document development, information exchange, tools, resources, and software's, which is the path to be taken to get to the project goal. WBSs should be overseen by various sub-team leaders who will report to the project manager for every project that is being carried out. Therefore, communication is the link that holds all the project completion elements together. Therefore, deliverables of a project must also be described as they represent the outcome of some action. The respondent's responses to this statement are shown figure 6.16 below.

Figure 6.16: Clearly communicates the project scope, WBS and deliverables.

Clearly communicates the project scope, WBS and deliverables

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Clearly communicates the project scope, WBS and deliverables	3%	1%	5%	47%	44%
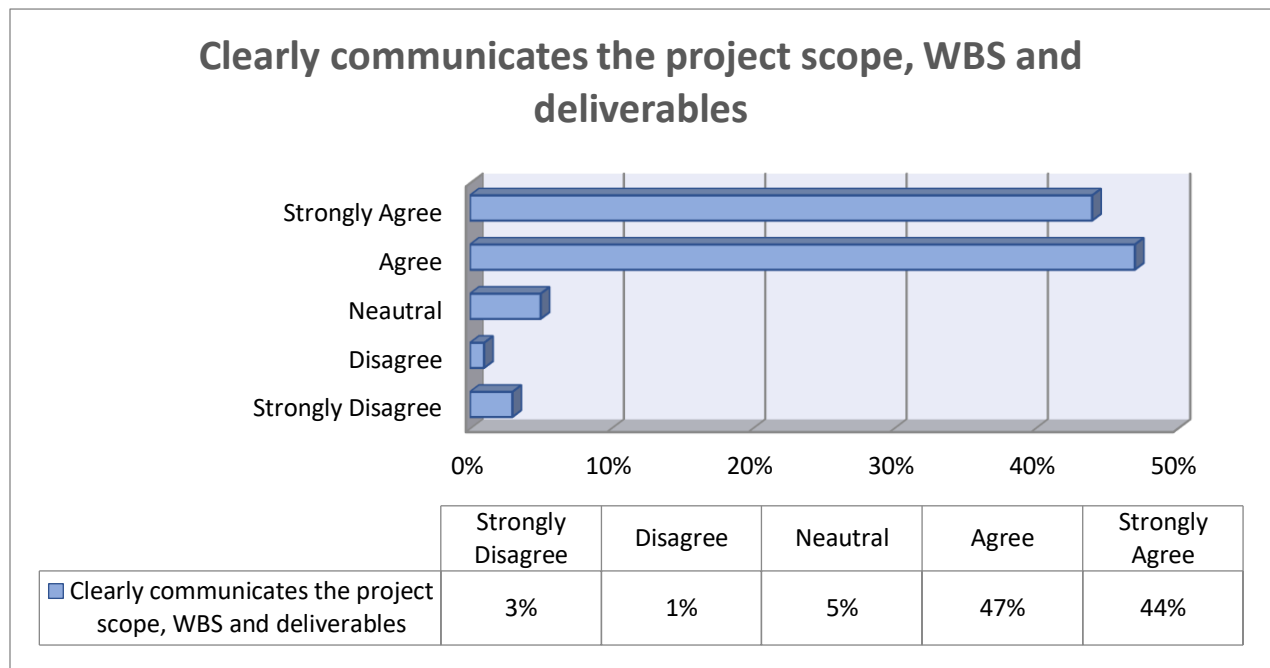
Source: Author's own construct

RESPONSE: Figure 6.16 illustrates that the respondents at 47% agreed that PMs should clearly communicates the project scope, WBS and deliverables and the respondents at 44% strongly agreed to the statement. A modest number of respondents disagreed with the statement (3% strongly disagreed and 1% disagreed). The respondents at 5% were indifferent (neutral) to the statement. The assertion is relevant given the fact that the study involves managers at various levels within the ICT industry, it is expected that they will not all manage according to the same project scope, WBS, and deliverables. An overwhelming 91% of responses agreed that it is essential for a PM to properly communicate the project scope, WBS, and deliverables to increase the likelihood of project success.

STATEMENT 8: Communicates and engages project stakeholders frequently: PMBOK (2013:47), indicted that stakeholder management is positioned in the nine critical project management areas and arguably that stakeholders are individuals taking part or connected to the project. A project involves both internal and external stakeholders and each has a function and an effect on how well the project is carried out. Although they do not share the same objectives or have the same impact, their management lowers the project execution risk factors. Muskat, Blackman & Muskat (2012:12) outlined some of the benefits in developing strong relations with stakeholders;

the following are the reasons: to help stakeholders comprehend the PMs scope of responsibilities; to get to know stakeholders better and to exercise communication restraint while resolving disputes and to be upfront and explicit about projects requirements. Therefore, stakeholders will have confidence in the PM even when unexpected problems occur. Thus, respondents were requested to share their insights in relations to how to project managers communicates and engages project stakeholders frequently. The respondents' views are illustrated in figure 6.17 below.

Figure 6.17: Communicates and engages project stakeholders frequently.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Communicates and engages project stakeholders frequently	2%	1%	5%	46%	46%
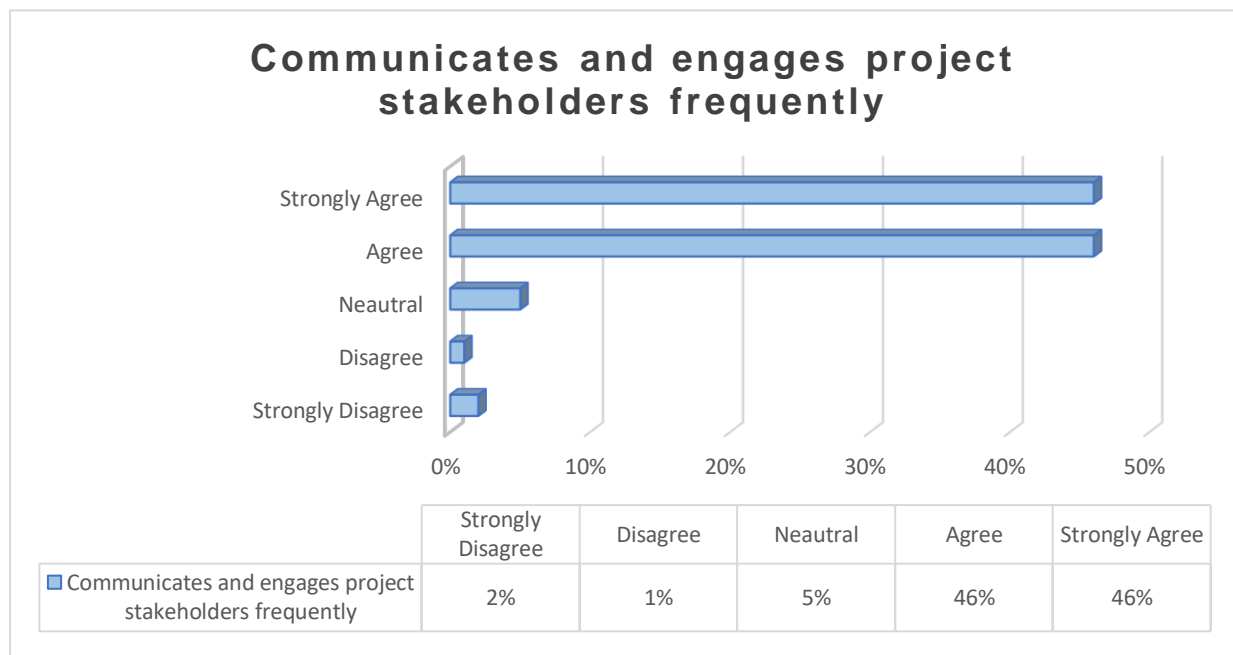
Source: Author's own construct

RESPONSE: The results shown in figure 6.17 illustrates the total number of respondents at 92% (46% strongly agreeing and 46% agreeing) with the statement that an effective PM should communicate and engages project stakeholders frequently. The respondents at 5% stayed neutral on the statement. The total number of respondents disagreed with the statement are at 3% (1% disagreed and 2% strongly disagreed). As a result, it is noted that effective communication of work progress aids in identifying potential project delays. This statement agrees with the generalization that for project success; leaders, managers and supervisors should have good working relations with all stakeholders in and around the project. According to 92% of respondents who answered positively that the PM should effectively communicate with all stakeholders so that they can identify potential project delays and take appropriate actions.

STATEMENT 9: Discusses the project charter regularly with the project team: A project charter outlines the goals and expected contributions of each participant and its sole function is to confirm and record the existence of the project (Heagney, 2011:25). This record serves as a document for allocating the organization's resources to the project and the PM should draft the project order to analyse the following factors during the project planning phase: identify and record a precise list of goals, deliverables, tasks, costs and deadlines for the project chatter. Azim et al., (2010:399) asserts that the scope statement or reference condition is a document that details the parameters of a project, the project scope is very important when managing a project as it affords PMs knowledge regarding time, money or effort that must be allocated to the project. This statement is intended to determine whether the PM discusses the project charter regularly with the project team and the respondent's views on this statement is depicted in figure 6.18 below.

Figure 6.18: Discusses the project charter regularly with the project team

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Discusses the project charter regularly with the project team	2%	1%	4%	52%	41%
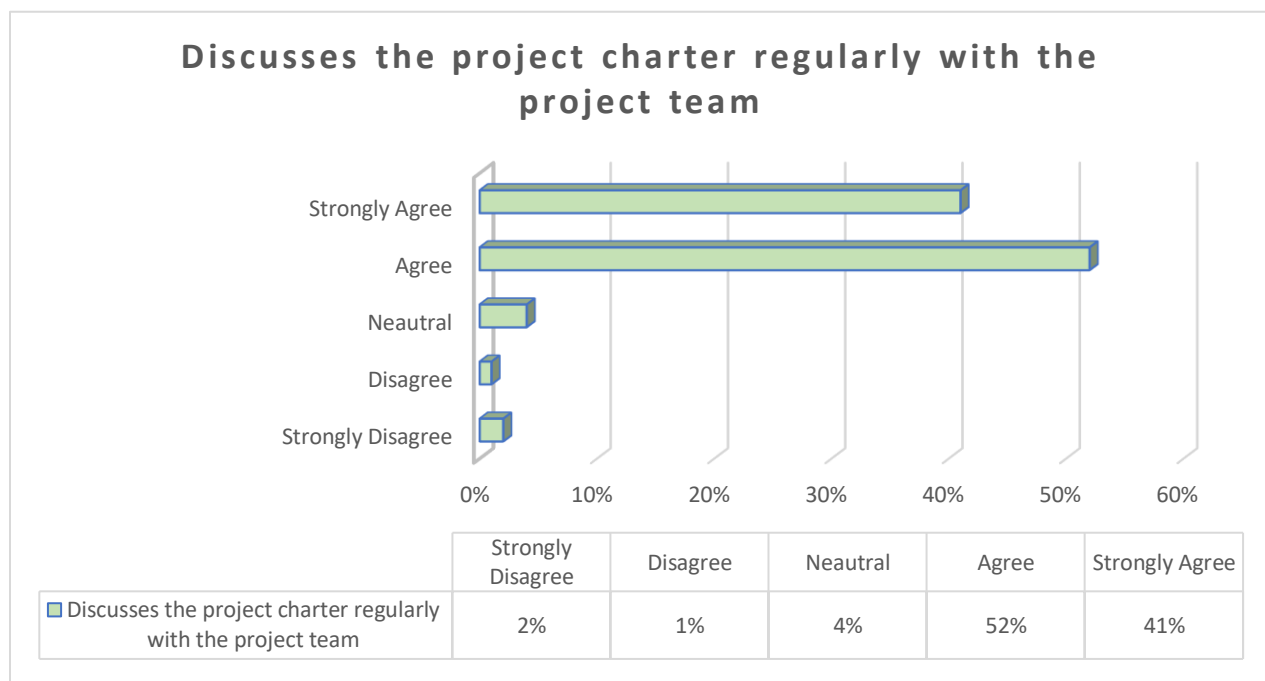
Source: Author's own construct.

RESPONSE: The findings demonstrates that respondents at 93% (41% strongly agreed and 52% agreed) with the statement that PMs should discuss the project charter regularly with the project team. The respondents at 4% were neutral on the statement. Meanwhile, the respondents at 3% disagreed (2% strongly disagreed, 1% disagreed) with the statement. According to the results presented in figure 6.18, indicating that PMs

should periodically discuss the project charter with the project team, and they should also take this into consideration in their daily operations.

TECHNICAL COMPETENCIES - Laufer (2012:3-4) is of the view that technical competencies have always been linked with the leader's ability to manage projects more effectively and understanding the specifics of projects and it is always correlated with having technical knowledge. As a result, it is presumed that they are aware of the steps to take, and the tools and techniques required to successfully perform specific tasks. This question is posed considering the high failure rates of projects managed by experts in the ICT industry. The responses for technical competencies are shown in figure 6.19 below.

Figure 6.19: TECHNICAL COMPETENCIES:

TECHNICAL COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
⊠ The project leader should understand the technical aspects well	3%	1%	4%	48%	44%
⊠ Must be able to align human skills to the tasks to be performed	3%	0%	2%	52%	43%
⊠ Should have knowledge of appropriate tools and techniques	2%	1%	3%	49%	45%
⊠ Should be able to do task scheduling effectively and efficiently	3%	0%	4%	46%	47%
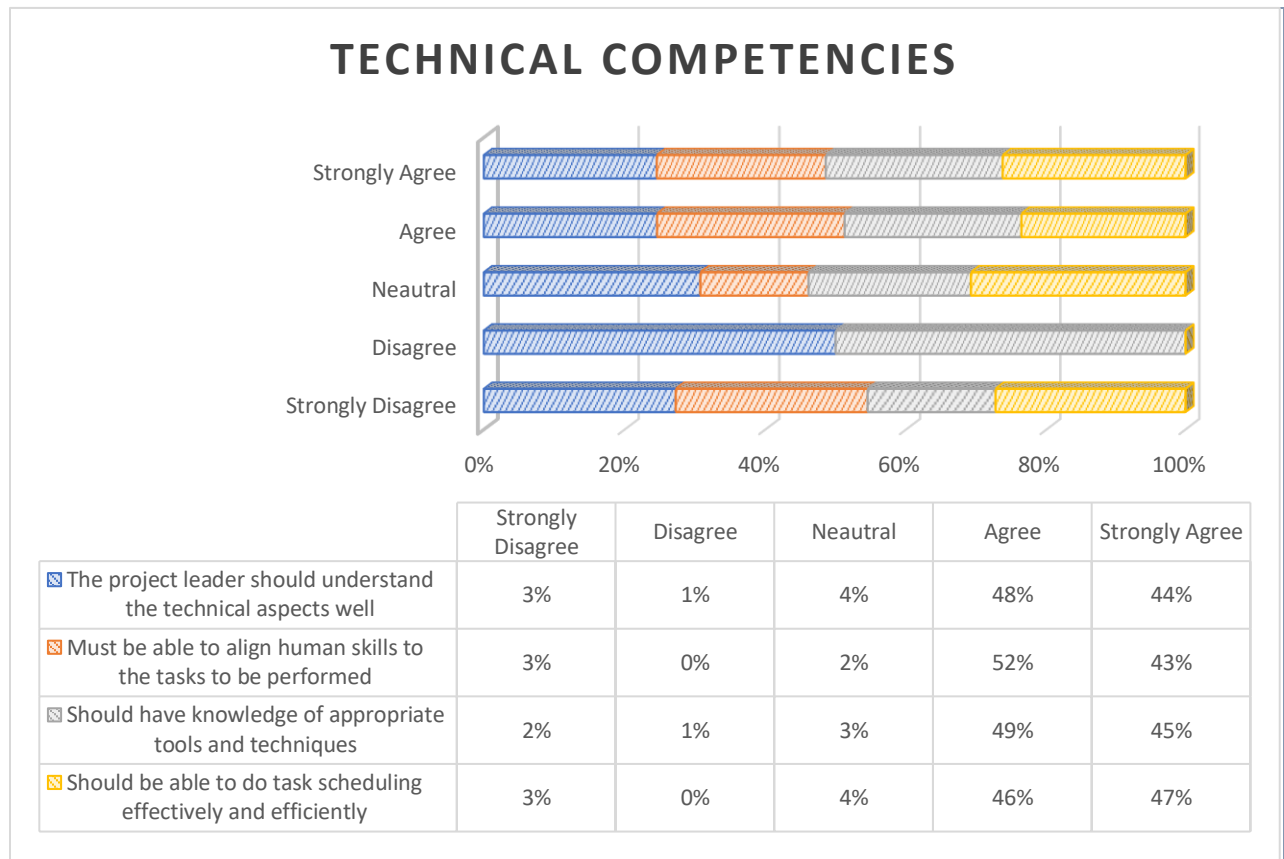
Source: Author's own construct

The four statements under this heading which are all intended to determine the technical competencies PMs need to successfully manage ICT projects, are discussed below**.**

STATEMENT 10: The PM should have a solid understanding of the technical aspects of the project, technical knowledge gives PMs the authority to lead a technically based project, the capacity to understand key project components and the ability to communicate in a technical scope. The purpose of this inquiry is to ascertain whether a PM for an ICT project should have a solid understanding of the technical components. The answers to this query are displayed in figure 6.20 below:

Figure: 6.20: The project leader should understand the technical aspects well

The project leader should understand the technical aspects well

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
The project leader should understand the technical aspects well	3%	1%	4%	48%	44%
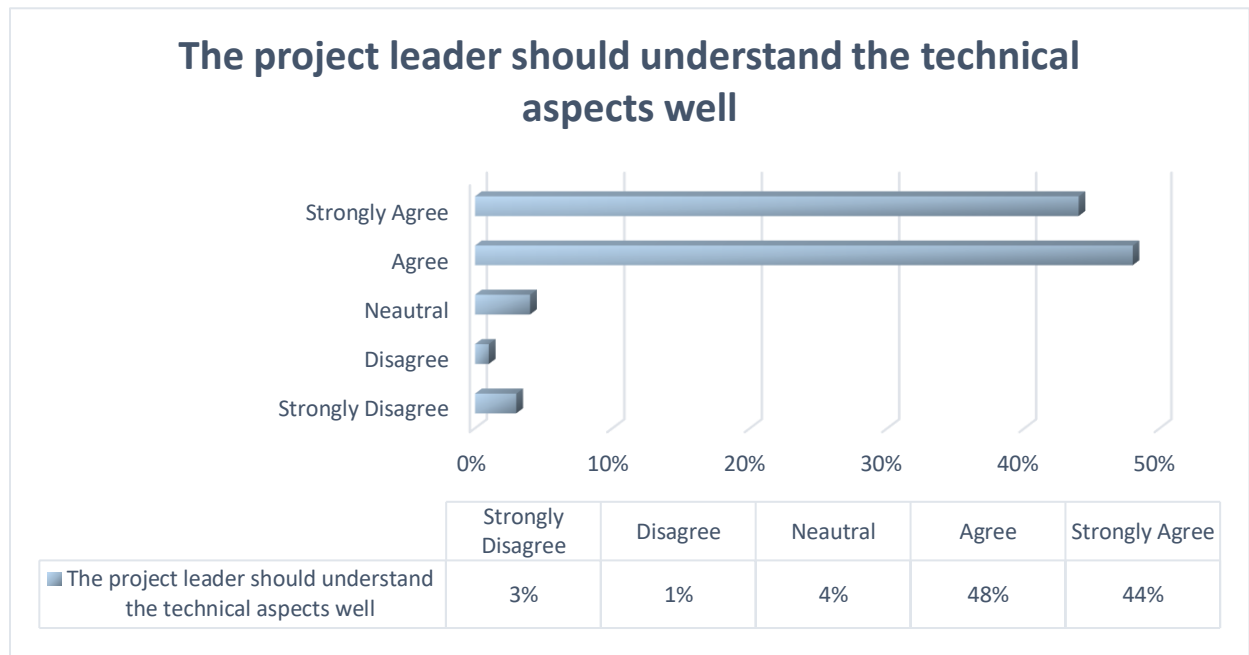
Source: Author's own construct

RESPONSE: The respondents in this case overwhelmingly agreed at 48% that the project leader should understand the technical aspects well; followed by the respondents at 48% who agreed to the statement. The respondents at 4% were neutral and chose not to take sides. Moreover, the respondents at 3% strongly disagreed and at 1% disagreed with the statement. Therefore, the majority of respondents firmly believes that PMs with technical abilities relevant to their industry have better chances of completing projects on time with high quality. Therefore, project leaders should understand the technical aspects well based on the majority of respondents at 92%.

STATEMENT 11: Must be able to align human skills to the tasks to be performed: The goal of this statement is to ascertain whether PMs interpersonal abilities can affect how well the team performs. PMs are extremely important, and their decision can make or destroy a project. PMs with strong interpersonal skills frequently make right decisions,

especially when dealing with the project teams that should perform effectively. According to Barna (2013:17-21) understanding individuals requires EQ, which has the extra benefit of teaching and inspiring others. The ability to understand people is challenging but once mastered, PMs can better communicate with the team and inspire team members to produce their best efforts. PMs have the responsibility of managing individuals to carry out tasks. As a result, individuals are the most significant resource in project management since they are the key stakeholder in all types of projects and are therefore crucial to the success of projects. Project success is primarily based on how practitioners carry out their jobs. Therefore, the results for statement 11 are shown in figure 6.21 below.

Figure 6.21: Must be able to align human skills to the tasks to be performed.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Must be able to align human skills to the tasks to be performed	3%	0%	2%	52%	43%
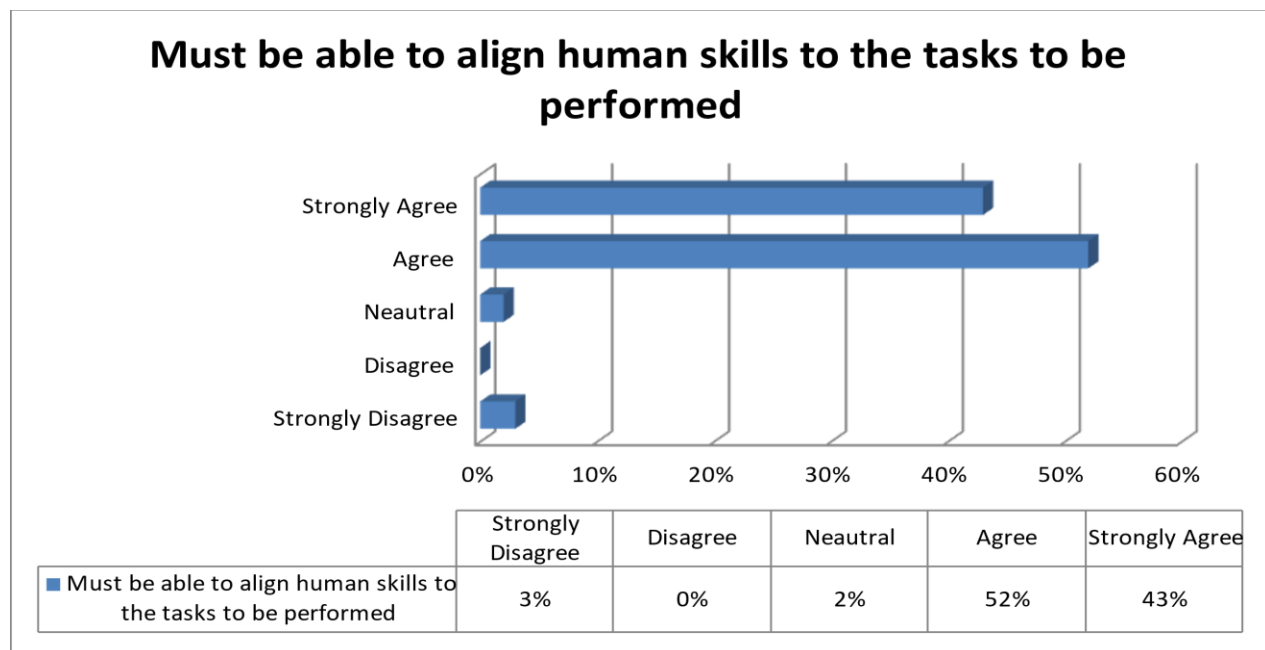
Source: Author's own construct

RESPONSE: According to figure 6.21 above 52% of respondents agreed that project leaders should be able to align human skills to the tasks to be performed, meanwhile 43% strongly agreed with the statement. The respondents at 2% were neutral, 3% strongly disagreed and 0% disagreed to the statement. Therefore, the overall number of respondents at 95% agreed that PMs should align human skills to the tasks to be performed, thus making people the crucial component in project management. Technical ability does not ensure that work gets done instead, it is human knowledge and devotion.

Therefore, PMs need to be proficient in managing people as the results revealed in figure 6.21 above.

STATEMENT 12: Should have knowledge of appropriate tools and techniques: According to Oksana (2016:3), project managers gain credibility and even an advantage over rivals when they simply have a basic understanding of project management technologies. Additionally, these tools improve their capacity for planning, organizing, and problem-solving. Figure 6.22 below displays the responses to statement 12.

Figure 6.22: Should have knowledge of appropriate tools and techniques.

Must be able to align human skills to the tasks to be performed

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Must be able to align human skills to the tasks to be performed	3%	0%	2%	52%	43%
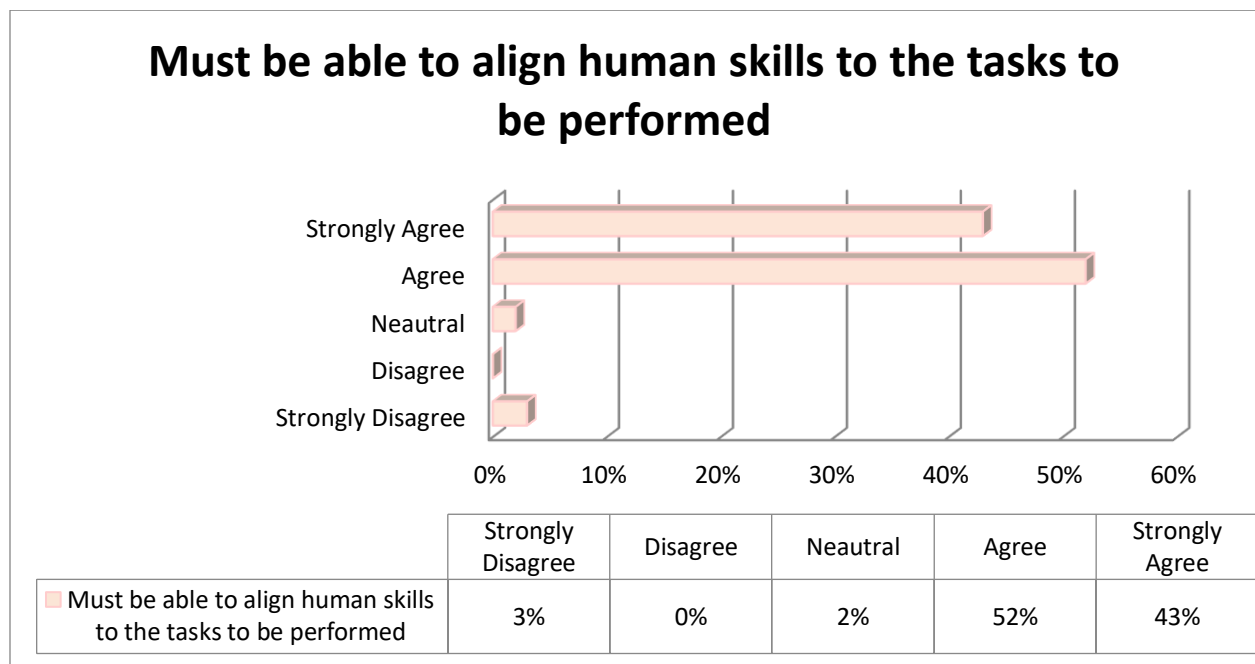
Source: Author's own construct

RESPONSE: According to the analysis, the respondents at 95% (52% agreed and 43% strongly agreed) that PMs should have knowledge of appropriate tools and techniques. The respondents at 2% stayed neutral to this statement meanwhile the respondents at 3% strongly disagreed and no one disagreed to the statement. Technical expertise is undoubtedly important to projects, but is not the most crucial element (Oksana, 2016:3-6-11). Considering that people with technical backgrounds will use tools and techniques in projects more effectively than those without technical background. According to the results, PMs gain by using ICT tools and practices for the project.

STATEMENT 13: Should be able to do task scheduling effectively and efficiently: The purpose of this statement is to determine the importance of task scheduling in

project management and to discover what other project management experts think about this statement. Figure 6.23 demonstrates the results for statement 13.

Figure 6.23: Should be able to do task scheduling effectively and efficiently.

Should be able to do task scheduling effectively and efficiently

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Should be able to do task scheduling effectively and efficiently	3%	0%	4%	46%	47%
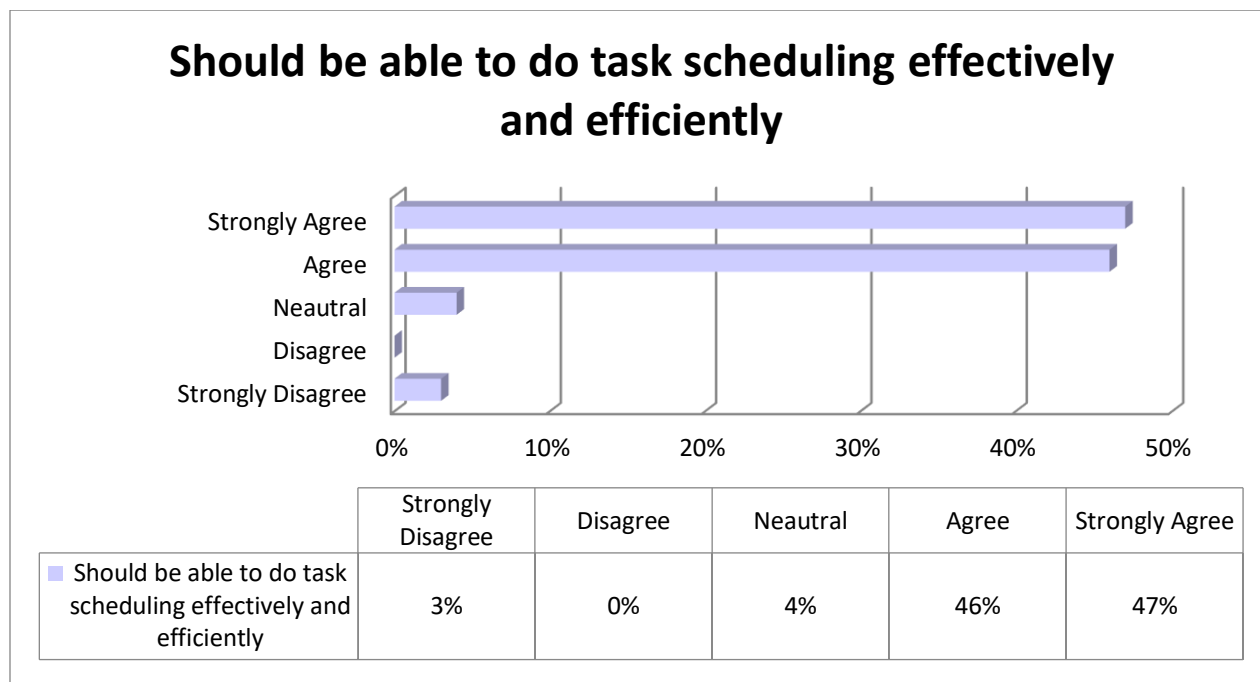
Source: Author's own construct

RESPONSE: According to figure 6.23 above, 47% of respondents strongly agreed that PMs should be able to do task scheduling effectively and efficiently, the respondents at 46% agreed with the statement. Moreover, the respondents at 4% remained neutral, meanwhile at 3% respondents strongly disagreed with the statement and no one at (0%) disagreed to the assertion. A total number of 93% agreed that PMs should be able to plan work effectively and efficiently to complete project tasks based upon results. Additionally, the goal of efficient time management is to complete more crucial tasks in any given day.

OPERATIONAL COMPETENCIES: Bromiley & Rau (2016:95-106) defined operational competencies as the capability of a PM to utilize resources effectively in relation to a practice-based interpretation of strategy. Furthermore, PMs who have operational understanding of their industry will always add value, especially when it comes to tools and techniques that will be applied to the project. Their competency also fosters a favourable atmosphere in the project team, which improves the team's performance. PMs with operational expertise will be able to handle projects more effectively than those

without any technical training, thus, the significance of technical knowledge is contrasted with that of other types of expertise in projects. Operational knowledge is crucial while managing projects because it requires an awareness of other project management process groups and knowledge domains. Figure 6.24 below illustrates the operational competencies.

Figure 6.24: Operational Competencies

OPERATIONAL COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Focuses on interpersonal skills to motivate member cooperation	3%	2%	7%	51%	37%
Should know how to balance task performance and relationship	2%	1%	5%	44%	48%
A good leader can identify weaknesses and support the weak	3%	1%	6%	43%	47%
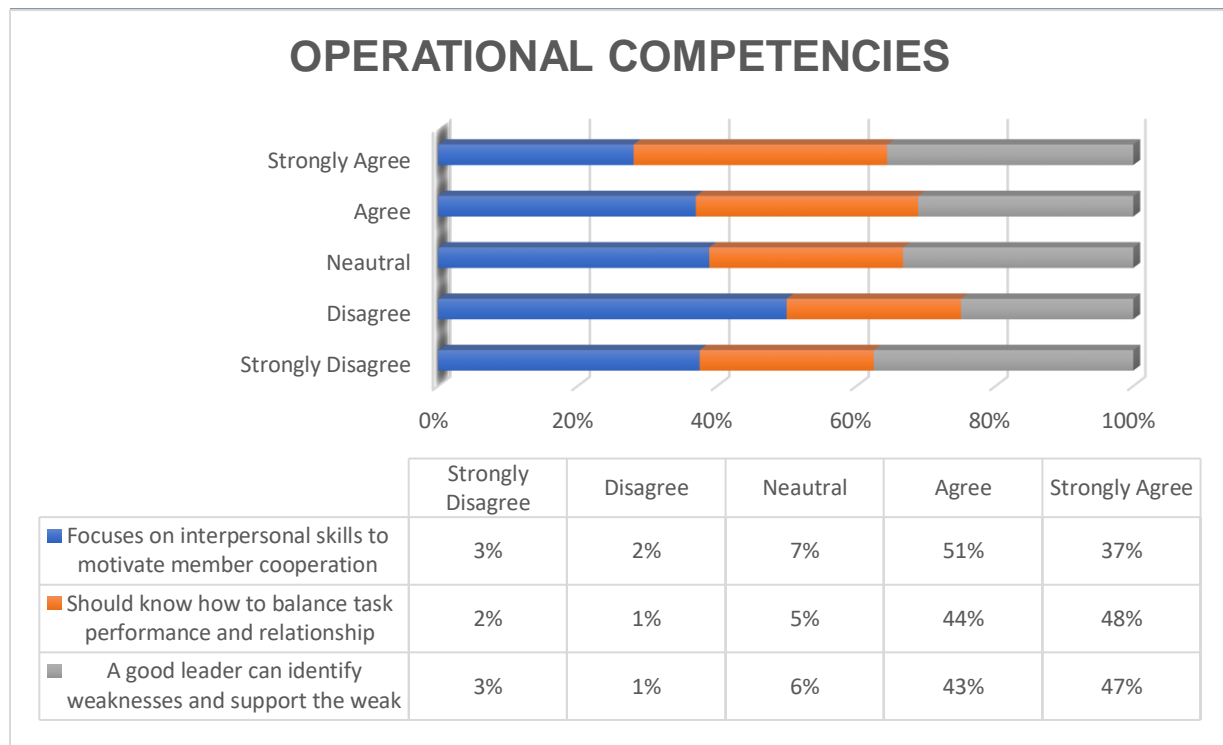
Source: Author's own construct

The purpose of this component is to determine the PMs operational competencies in the ICT sector. The three statements that follow this heading are all intended to assess the PMs ability to effectively manage projects and communicate clear instructions to the project team and all other stakeholders. The statements are further discussed below.

STATEMENT 14: Focuses on interpersonal skills to motivate member co-operation: PMs with strong communication skills can help teams to understand the scope of their responsibilities and deal with problems as they arise. If PMs cannot effectively communicate expectations, the project will be more challenging to manage from the start. The purpose of this inquiry is to determine whether PMs should focus on interpersonal competencies to inspire the project team to co-operation. The outcome for this assertion is shown in the graph below.

Figure 6.25: Focuses on interpersonal skills to motivate member co-operation.

Focuses on interpersonal skills to motivate member co-operation

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▪ Focuses on interpersonal skills to motivate member co-operation	3%	2%	7%	51%	37%
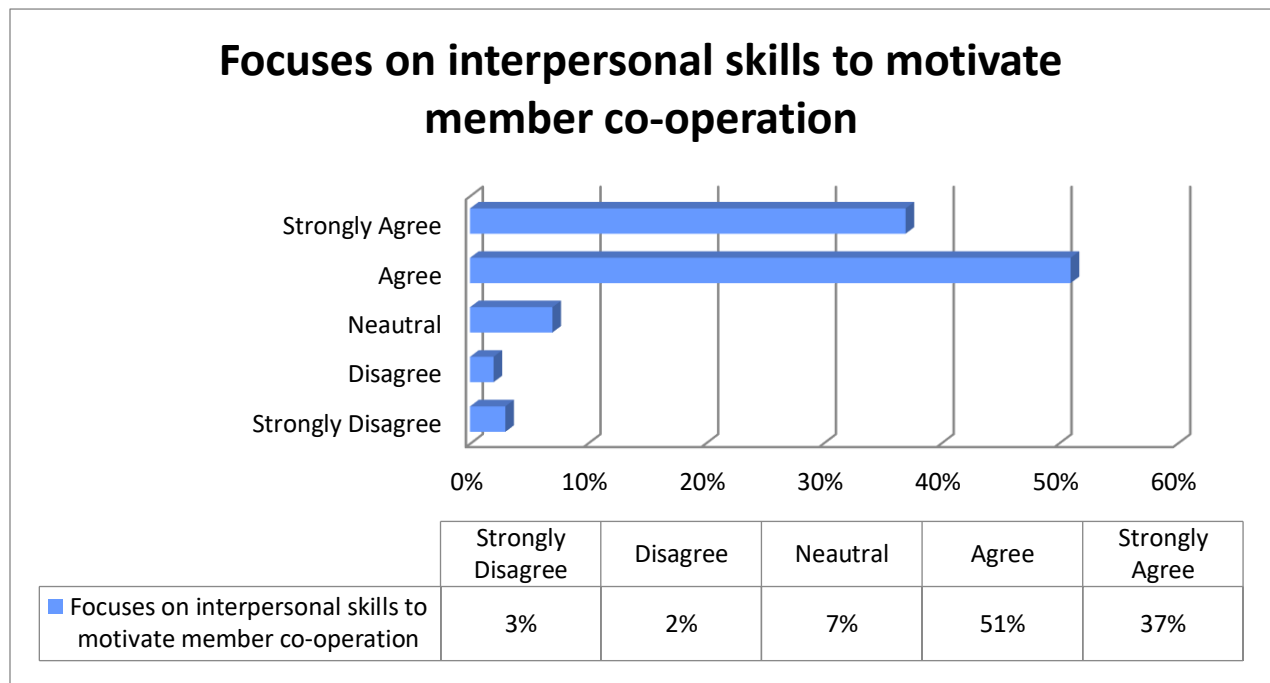
Source: Author's own construct

RESPONSE: Figure 6.25 illustrates that respondent at 51% strongly agreed that PMs should focus on interpersonal skills to motivate member co-operation, 37% agreed to statement 14. The respondents at 7% were neutral meanwhile 2% disagreed and 3% strongly disagreed to the statement. As illustrated in figure 6.25 above, the respondents at 90% approves that project leaders should focus on interpersonal skills to motivate members to co-operate to guarantee project success. Therefore, the project team member is more likely to add value and comprehend the task's significance when they are aware of the larger context in which the activity is taking place.

Statement 16: Should know how to balance task performance and relationship: April and Govender (2022: 90-103), posit that effective leadership requires both relational and task behaviours because this leadership style fosters effective collaboration. Relationship-oriented leaders prioritize the requirements of the group while devoting time and effort to meeting the needs of each practitioner. The purpose of statement 16 is to ascertain whether PMs should be able to strike a balance between task performance and relationship. Therefore, it can be argued that an effective working relationship creates a healthy working atmosphere that encourages team members to carry out their duties. The answer to statement 16 is shown in figure 6.26 below.

Figure 6.26: Should know how to balance task performance and relationship.

Should know how to balance task performance and relationship

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▪ Should know how to balance task performance and relationship	2%	1%	5%	44%	48%
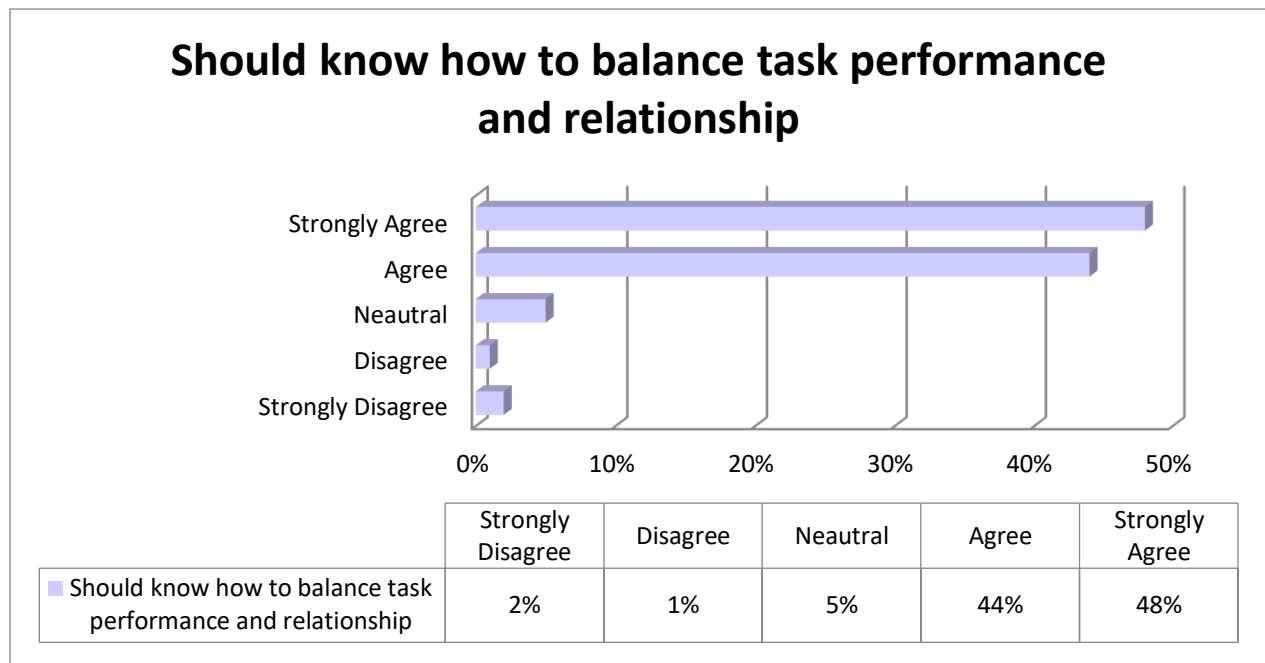
Source: Author's own construct

RESPONSE: The results shown in figure 6.26 above indicates that 48% of respondents strongly agrees that PMs should be able to balance task performance and relationships and 44% of respondents agreed with the statement. Only 2% of respondents strongly disagreed,1% disagreed and finally, the neutral response came in at 5%. Therefore, it is concluded based on this statement, that effective PMs control interactions with team members and direct them to perform their tasks. The findings from figure 6.26 above indicates that a PM may be required to establish a close relationship with members of the project team to maintain a productive working relationship which could result in effective task performance that could produce positive project outcome.

STATEMENT 17: A good leader can identify weaknesses and support the weak: The intent of this question is to ascertain whether a good PM can identify weaknesses and support the weak. Team and individual weaknesses can impact projects productivity and performance negatively. PMs can efficiently distribute duties by determining the strengths and weaknesses of each team member. Acknowledging how to identify these traits can help to increase the success of individual and team goals in the project. The results from statement 17 are illustrated in figure 6.27 below:

Figure 6.27: A good leader can identify weaknesses and support the weak

A good leader can identify weaknesses and support the weak

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ A good leader can identify weaknesses and support the weak	3%	1%	6%	43%	47%
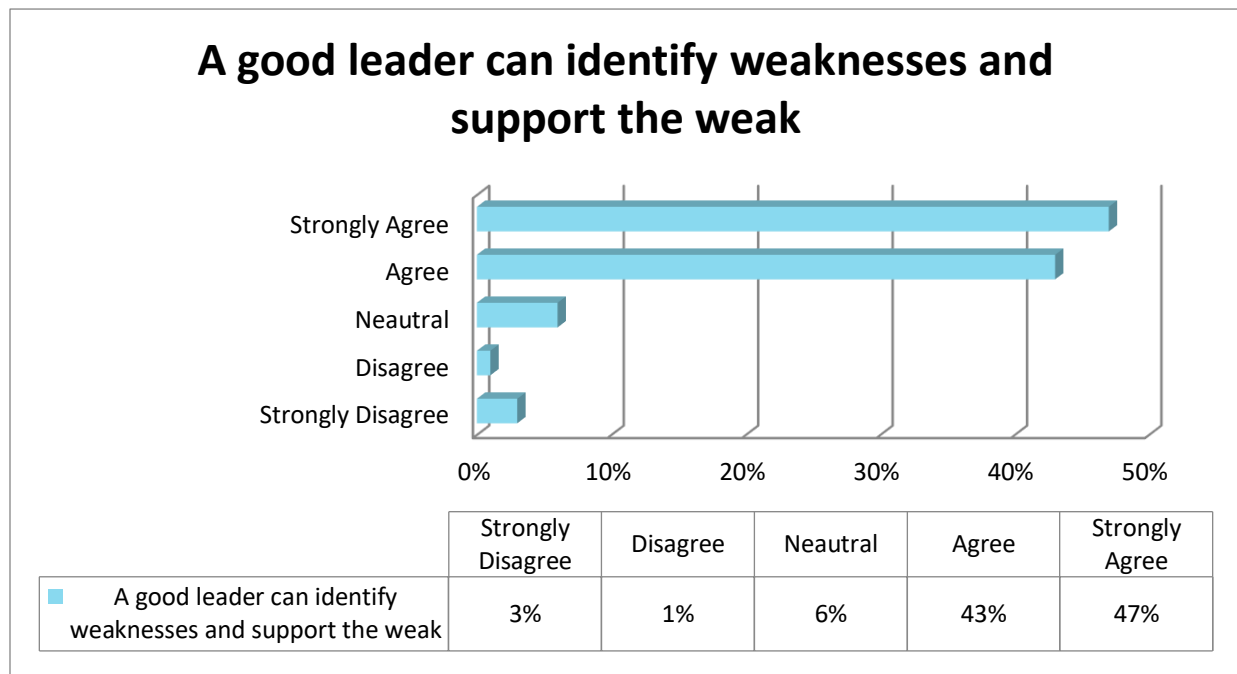
Source: Author's own construct

As illustrated in figure 6.27, 47% of respondents strongly agreed and 43% agreed with statement 17 that a good leader can identify weaknesses and support the weak. The respondents at 6% were neutral meanwhile at 3% respondents strongly disagreed and at 1% disagreed to the statement. It is significant to note that 90% of respondents approves that a good project leader should have the ability to identify weaknesses and support the weak. The roles that individuals perform at work are largely determined by their strengths and weaknesses. It is noted that the formation of teams with varying strengths and the selection of task delegation can assist managers. Therefore, it is crucial for PMs to conduct performance reviews that are more accurate and for the purpose of recognizing each employee's potential.

PROBLEM-SOLVING COMPETENCIES

This part of the questionnaire seeks to determine the problem-solving competency of a PM as problems are likely to occur during a project life cycle. Therefore, the more complex a project is, the more is the likelihood of problems occurring. In some instances when a PM manages multiple projects problems have high possibility of taking place (Papke-Shields et.al.,2010:650-662). Consequently, types of issues that can arise includes conflicts, political disagreements, lack of funding, inadequate and resources, all of these issues can hinder the progress and success of a project. The researcher stated

that there is no easy way to solve problems in a project, however, it is essential that PMs resolves issues during the life cycle of the project. Therefore, it is suggested that PMs should have problem-solving techniques and approaches that helps PMs break down problems into smaller pieces that can be easily resolved. Figure 6.28 below demonstrates project-solving competencies.

Figure 6.28: PROBLEM-SOLVING COMPETENCIES

PROBLEM-SOLVING COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▨ Has the ability to identify and analyse the nature of a problem	3%	1%	1%	44%	51%
▨ Consults team members and uses facts to decide on solutions	3%	0%	4%	47%	46%
▨ Calculates risk factors and use them to try and solve problems	3%	0%	2%	50%	45%
▨ Is not hasty to make decisions without gathering relevant data; however uses confirmed facts, not favouritism to solve existing problems.	3%	0%	5%	53%	39%
▨ Applies risk management to mitigate hitherto unseen problems	3%	1%	4%	49%	43%

Source: Author's own construct

This section aims to establish problem-solving competencies of PMs, as it is critical for PMs to have the ability to deal with problems in the project environment. Problem-solving competencies are all intended to assess whether PMs can identify obstacles, problems and opportunities then find and implement solutions. This competency consists of five statements, which are demonstrated below:

Statement 18: Has the ability to identify and analyse the nature of the problem: This statement investigates whether PMs should be able to recognize and define the nature of the problem to manage projects effectively. Notably that when the problem is

not detected, it can affect the success of a project and it could be too late to solve problems when root causes are not acknowledged prior. The ability of PMs to identify problems and create contingencies to mitigate risks before problems arise is critical. Figure 6.29 below provides a response to statement 18.

Figure 6.29: Has the ability to identify and analyse the nature of the problem.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▨ Has the ability to identify and analyse the nature of a problem	3%	1%	1%	44%	51%
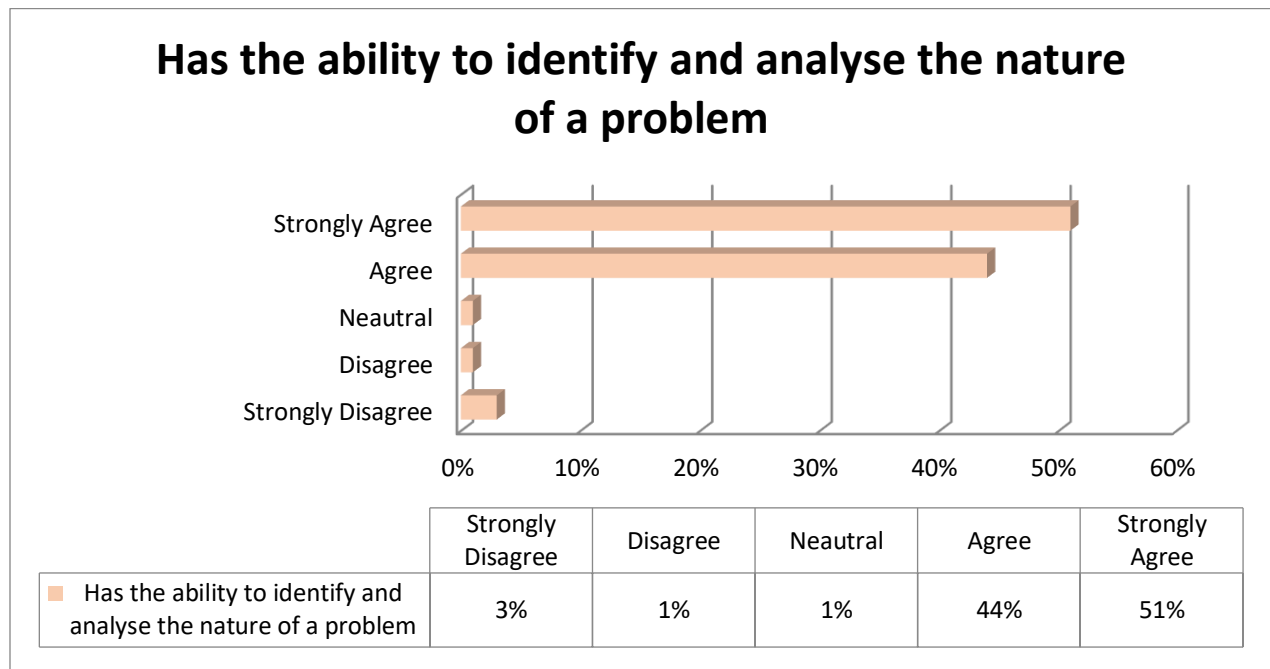
Source: Author's own construct

The results in figure 6.29 depicts that 95% of respondents agreed with statement 18 above as (44% agreed and 51% strongly agreed). Meanwhile 1% remained neutral and decided not to agree or disagree with the statement. The respondents strongly disagreed at 3% and at 1% disagreed. The results in figure 6.29 demonstrates that at 95% respondents approves that PMs should be able to identify problems in order to solve them effectively when managing ICT projects.

Statement 19: Consults team members and uses facts to decide on solutions: The intent of this statement is to establish whether a PM should consult with team members and use facts to decide on solutions, for instance the involvement of others and processes when solving problems is crucial in the project management. It is likely that a PM who is unable to identify a problem would certainly experience consequences when it is completely inflated and irreversible. The consultation processes and insights from other team members could help PMs find better ways to deal with issues thus, PMs are

expected to involve others and processes when solving problems. The results for statement 19 are shown in figure 6.30 below.

Figure 6.30: Consults team members and uses facts to decide on solutions.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Consults team members and uses facts to decide on solutions	3%	0%	4%	47%	46%
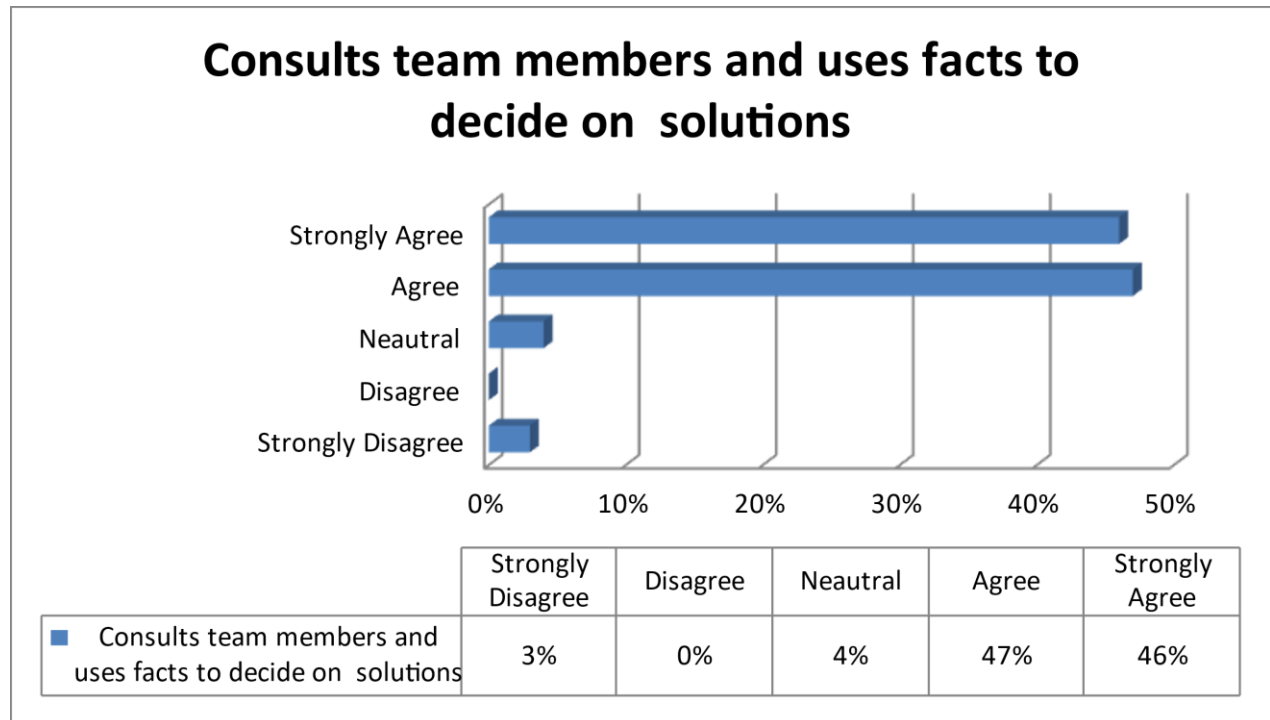
Source: Author's own construct

RESPONSE: According to figure 6.30 above, 47% of respondents agreed that PMs consults team members and uses facts to decide on solutions, the respondents at 46% agreed with the statement. Moreover, the respondents at 4% remained neutral, meanwhile at 3% respondents strongly disagreed with the statement and no one at (0%) disagreed to the assertion. It can be difficult to manage projects when the best solution has positive results for the PM but negatives for the project team, especially when it infringes their rights. As a result, the PM is always expected to have the support of the project team when making decisions at the beginning and the end of the project. The result of the majority of respondents at (93%) supporting statement 19 Therefore, it can be concluded that an efficient PM should consult team members and utilize facts to decide on solutions when resolving problems.

STATEMENT 20: Calculates risk factors and use them to try and solve problems: Risk management enables a PM to forecast possible threats, but also to take appropriate actions to reduce or even avoid losses. Effective risk management techniques make it possible to pinpoint the advantages, threats and weaknesses of the projects (Yang et al.,

2012:182-191). Probability and impact are often multiplied to determine project risk ratings, while other variables, such as weighting may also be considered. Risk scores are often produced for qualitative risk assessment utilizing variables based on likelihood and impact ranges. This statement seeks to establish the significance of a PM to calculates risk factors and use them to try solving problems; the result for statement 20 is shown in figure 6.31 below:

Figure 6.31: Calculates risk factors and use them to try and solve problems.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▨ Calculates risk factors and use them to try and solve problems	3%	0%	2%	50%	45%
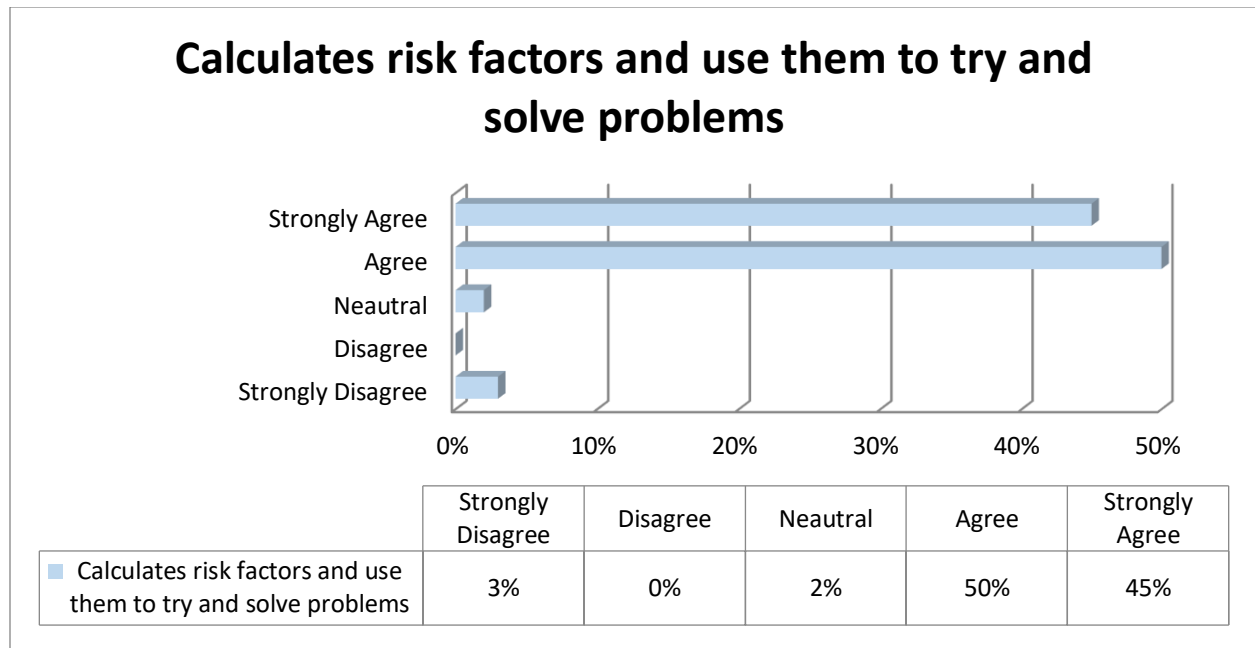
Source: Author's own construct

RESPONSE: According to figure 6.31, the results confirm at 95% (50% agrees and 45% agrees); that project managers should calculates risk factors and use them to try and solve problems. The respondents at 2% remained neutral presuming that they were not sure, or they just do not want to give input on this statement, the respondents at 3% disagreed and no one at 0% disagreed with the statement. Nonetheless, the declaration from the respondents in figure 6.31 advises project managers to assess risk factors and use them to try and address problems.

Statement: 21: Is not hasty to make decisions without gathering relevant data; however, uses confirmed facts not favouritism to solve existing problems: This statement is of the view that it is important to gather enough information to consider all possible options and choose the best course of action. As a result, it is likely to find ignorant PMs who gets their own way in solving problems without gathering the

necessary information, and these PMs can potentially create conflict. Moreover, research typically consider favouritism as something harmful with adverse consequences, such as minimal perception of confidence and fairness (Jiang, Chen, and Shi, 2013:513-536). Favouritism among team members or project participants can harm the workplace atmosphere. Additionally, it frequently results in poorer project outcomes compared to when project responsibilities are determined based upon more quantifiable performance characteristics. The unfavourable team members could also perform less effectively and become demoralized, which can cause problems with the project's cost, time and quality (Sage et al., 2014:548). PMs are expected to put together correlated information concerning the problem and use confirmed facts to resolve existing problems. Therefore, the respondent's views on statement 21 are recorded in figure 6.32 below:

Figure 6.32: Is not hasty to make decisions without gathering relevant data, however, uses confirmed facts not favouritism to solve existing problems.

Is not hasty to make decisions without gathering relevant data; however uses confirmed facts, not favouritism to solve existing problems

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▪ Is not hasty to make decisions without gathering relevant data; however uses confirmed facts, not favouritism to solve existing problems	3%	0%	5%	53%	39%
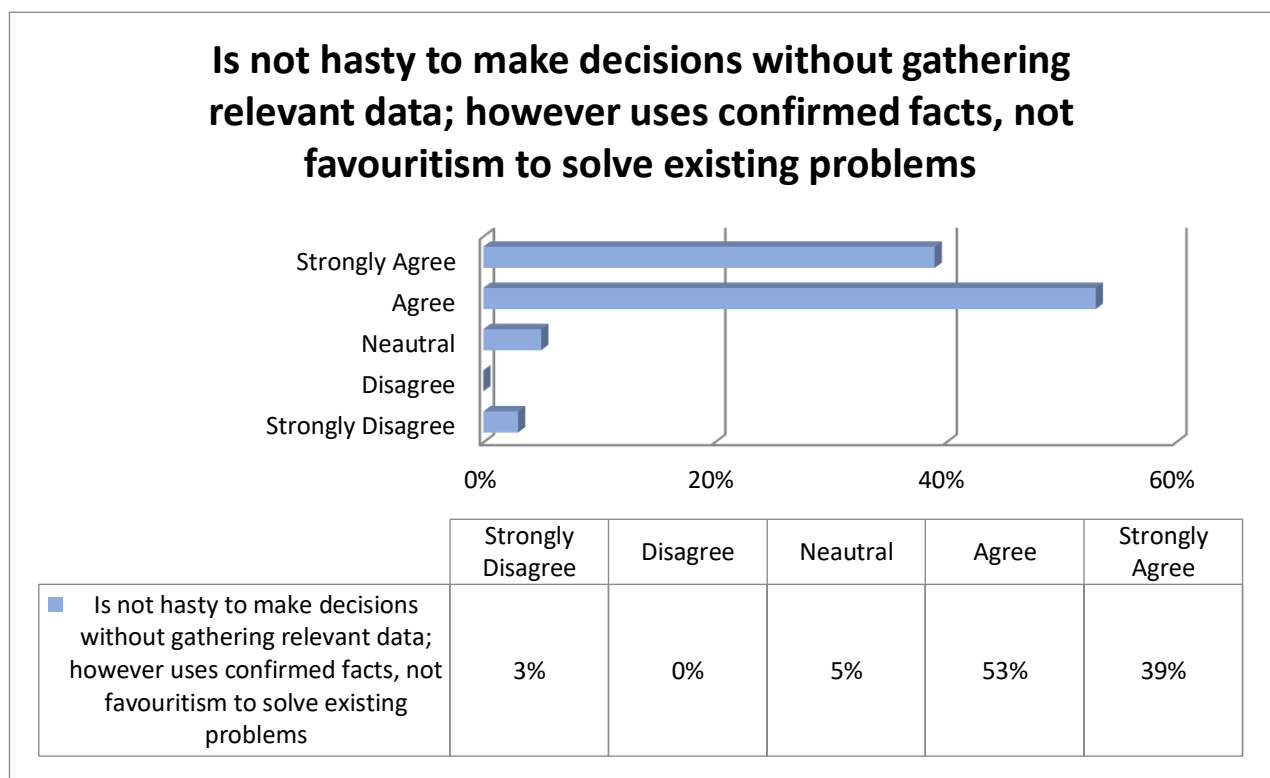
Source: Author's own construct

Figure 6.32 shows that participants at (53% agreed and 39% strongly agreed) with the statement that an effective PM should not make hasty decisions without gathering relevant data but use confirmed facts and not favouritism to solve existing problems. The respondents at 5% remained neutral, whereas no one at 0% disagreed and 3% strongly

disagreed with the statement. The responses at 92% positively declared that an effective PM should not make decisions without collecting relevant data and should use confirmed facts, not favouritism to solve existing problems.

STATEMENT 23: Applies risk management to mitigate hitherto unseen problems:
According to PMBOK (2018:47-48) one of the critical competency or knowledge area for a successful project team leader is resource management. The success of a project could be at risk due to improper resource management, whether in terms of quality or timeliness. Therefore, the project completion could be delayed as a result of material shortage, which suggests project cost overruns. The findings of this statement are displayed in figure 6.33 below:

Figure 6.33: Applies risk management to mitigate hitherto unseen problems.

Applies risk management to mitigate hitherto unseen problems

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Applies risk management to mitigate hitherto unseen problems	3%	1%	4%	49%	43%
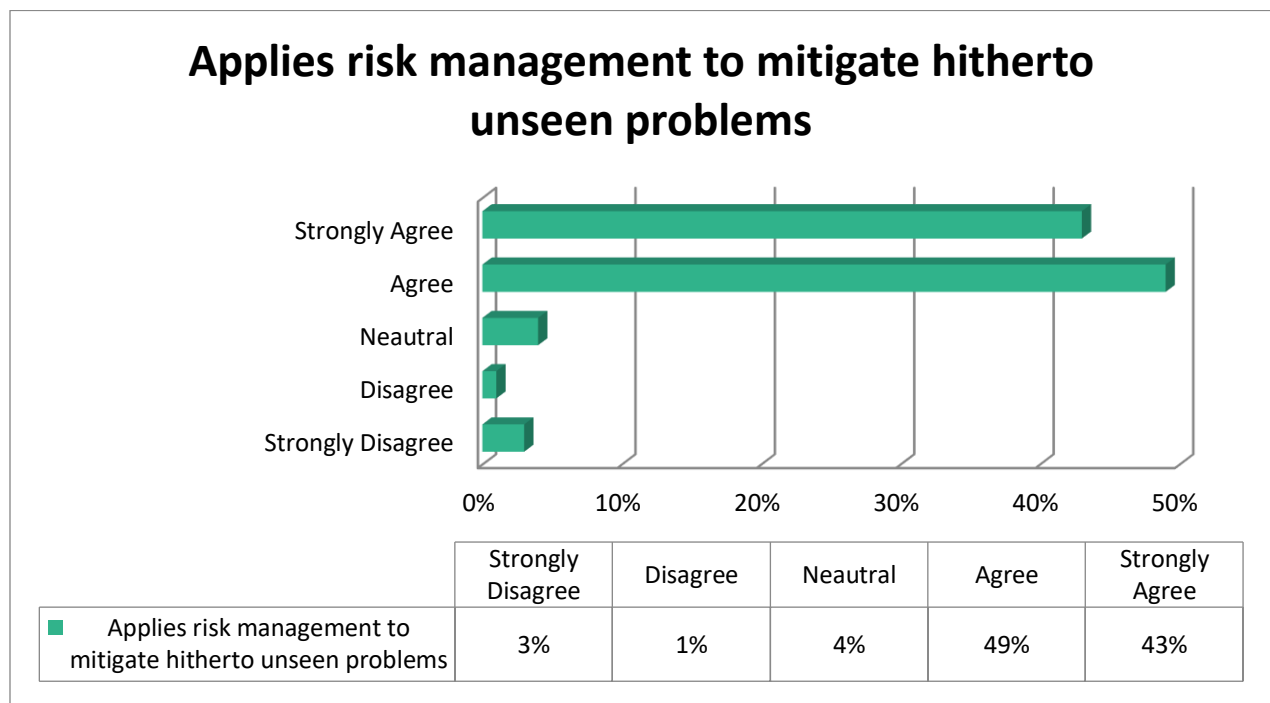
Source: Author's own construct

Figure 6.33 illustrates the total number of respondents at 92% (49% agreeing and 43% strongly agreeing), that an effective project manager should apply risk management to mitigate hitherto unseen problems; The respondents at 4% stayed neutral, meanwhile respondents at 3% disagreed and 1% disagreed with the statement. The majority of 92% agreed with this matter, therefore this statement concludes that an effective project manager should apply risk management to mitigate hitherto unseen problems. As a

result, the researcher perceived risk management as one of the critical aspects of leadership that could determine whether or not the project would succeed.

DECISION-MAKING COMPETENCIES

Meng (2012:195), asserts that active communication of PMs and the project team is critical as it allows them to communicate more liberally in the decision-making process and it improves the overall project performance. Moreover, PMs should have the ability to make crucial decisions. As a result, inaccurate decisions made at the wrong time could lead to project failure, whereas good decisions made at the right time is likely to affect a project to success. In a project environment, PMs should understand and adhere to the decision-making processes. PMs should be aware that effective decision-making process design generally strengthens the likelihood of project success. Therefore, PMs should acknowledge that there will be consequences resulting from their decisions whether negative or positive. Figure 6.34 demonstrates the decision-making competencies.

Figure 6.34: DECISION-MAKING COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ A leader makes decisions based on data gathered objectively	3%	2%	3%	45%	47%
■ A leader weighs options and takes the most beneficial decision	4%	0%	4%	41%	51%
■ Consults existing knowledge from peers on the best for the firm	3%	0%	4%	44%	49%
■ Leader asks team members on issues that impact performance	3%	0%	5%	40%	52%
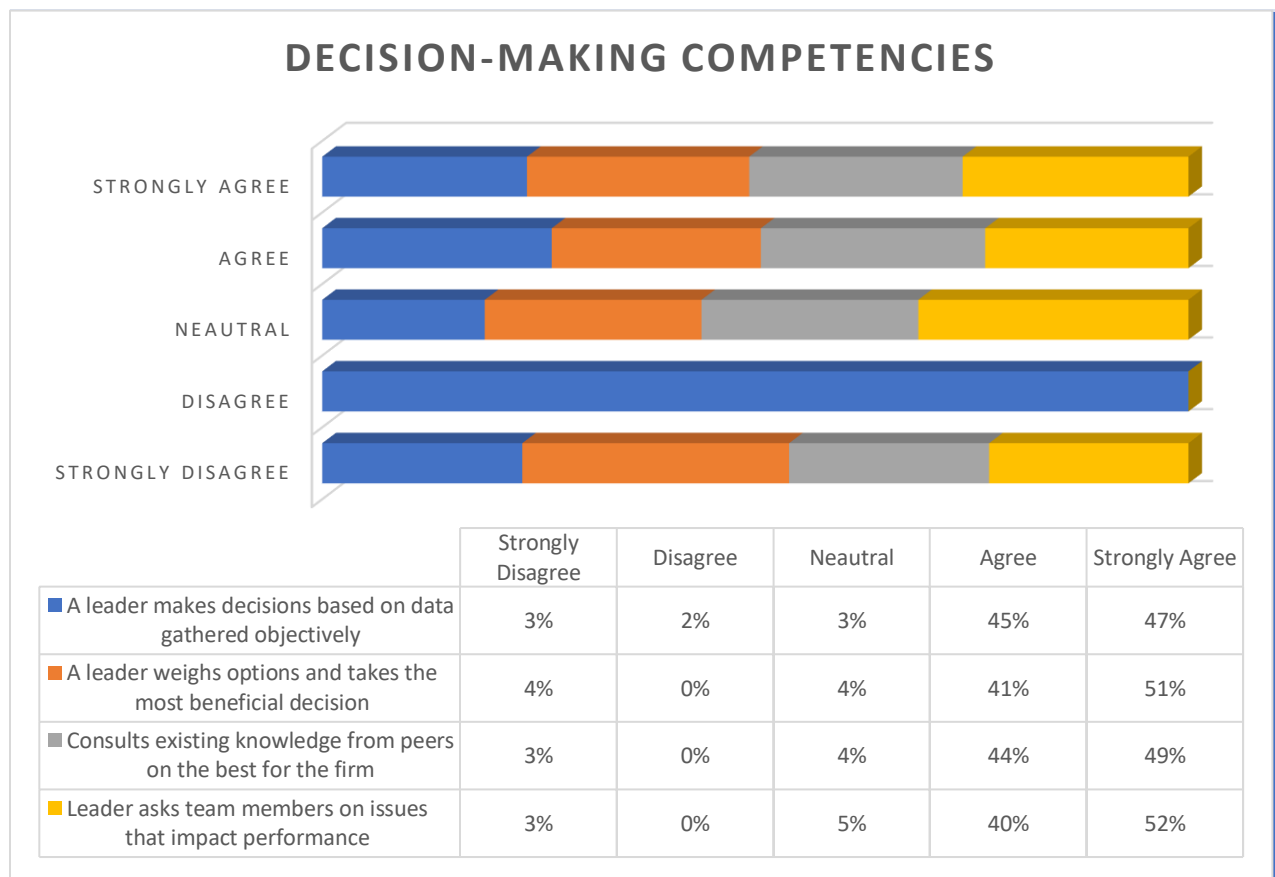
Source: Author's own construct

There are four statements in this section, all of which are intended to determine whether PMs should consult with their teams before making important decisions. The researcher noted that it is crucial to have PMs who are capable of making decisions in crucial situations. As a result, the statements for this competency are presented below.

STATEMENT 24: A leader makes decisions based on data gathered objectively: PMs tend to ignore important information as they believe they know everything from their work experience. As a result, poor decision-making could cause project delays, and uninformed decisions leading to bad decisions. The intent of this question is to establish whether PMs need to make decisions based on objectively collected data for the project to be a success. PMs need to thoroughly review information before making informed decisions. The answer to this statement is shown in figure 6.35 below.

Figure 6.35: A leader makes decisions based on data gathered objectively.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
A leader makes decisions based on data gathered objectively	3%	2%	3%	45%	47%
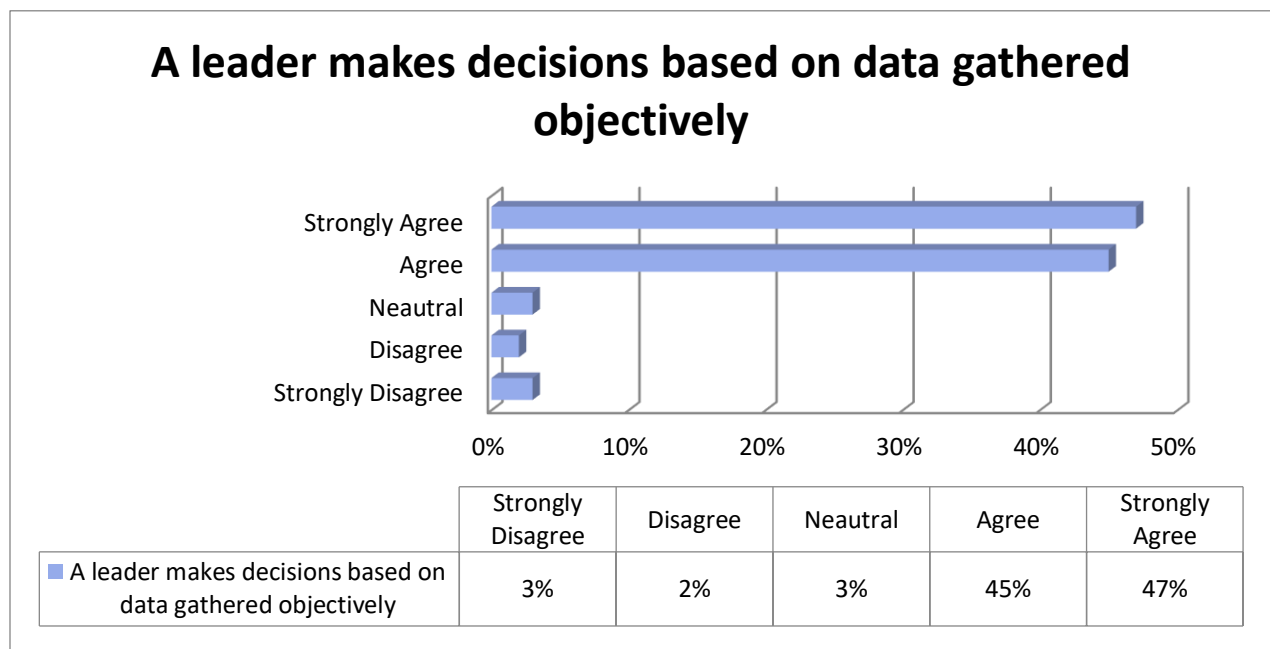
Source: Author's own construct

RESPONSE: Figure 6.35 demonstrates the total number of respondents at 92% (45% agreeing and 47% strongly agreeing), that PMs should make decisions based on data gathered objectively. The respondents at 3% were neutral to this report. Meanwhile the participants at 2% disagreed and at 3% strongly disagreed with the statement. This statement concludes that an effective PM should make decisions based on the relevant information at hand before making any crucial decision, it may sometimes take long to gather data objectively however, it is important that the information is available. In the

project environment PMs tend to make decisions haphazardly to avoid loss of time that can hinder the progress of the project. However, an informed decision should always be supported by research and documentation.

STATEMENT 25: A leader weighs options and takes the most beneficial decision: This question is intended to ascertain whether PMs should weigh options and take the most beneficial decision when managing projects in the ICT sector. PMs require information at their disposal to consider all options and come to a well-informed decision. The respondent's views on statement 25 are given in figure 6.36 below.

Figure 6.36: A leader weighs options and takes the most beneficial decision.

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
A leader weighs options and takes the most beneficial decision	4%	0%	4%	41%	51%
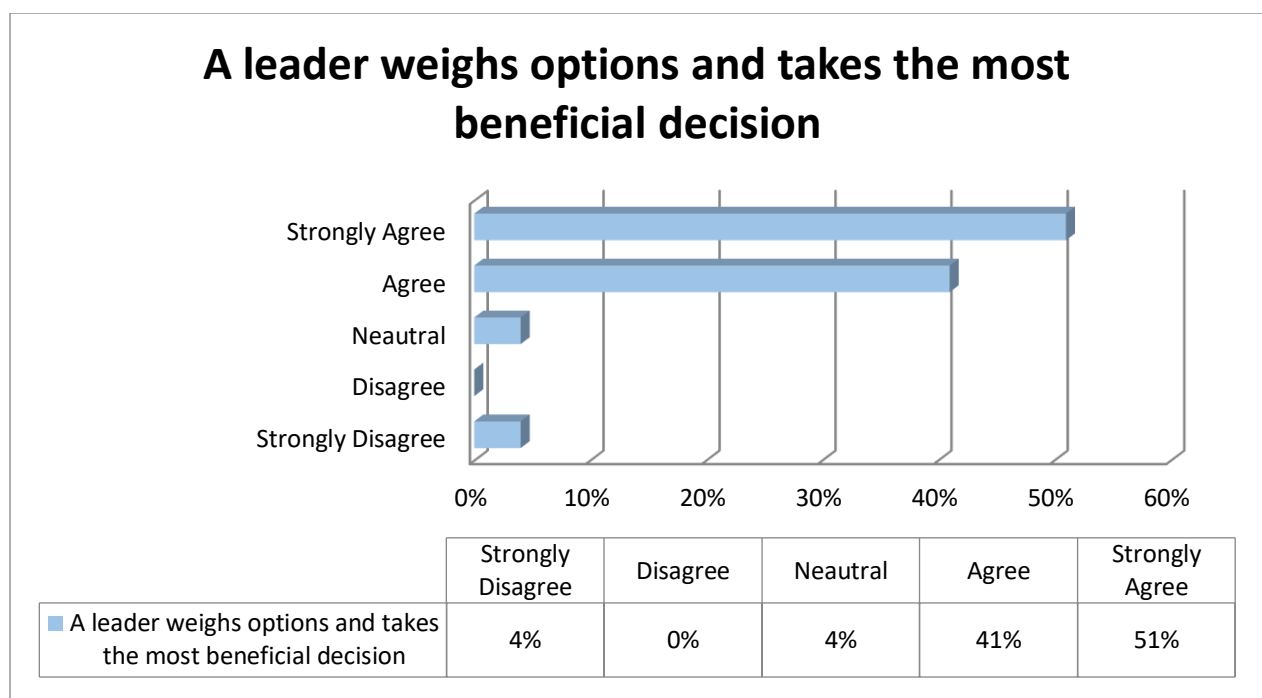
Source: Author's own construct

RESPONSE: Figure 6.36 shows that participants at (41% agreed and 51% strongly agreed) thereby suggesting that PMs should weigh options and take the most beneficial decision. However, a neutral value of 4% is recorded with 4% strongly disagreeing and no one at (0)% disagreeing with the statement The PMs ability to make positive decisions is crucial for the project and the project team.

STATEMENT 26: Consults existing knowledge from peers on the best solution for the firm – According to PMI (2013:38-39) knowledge is information that aids individuals achieve a goal. Knowledge is archiving, document management, methodology creation and maintenance, standards and procedures, training and competency development,

knowledge taxonomies, search strategies, collaboration tools, groups of practice, and social computation. The goal of this statement is to ascertain whether PMs should consult existing knowledge from peers on the best solution for the firm. The outcome of the statement is shown in figure 6.37 below**.**

Figure: 6.37: Consults existing knowledge from peers on the best solution for the firm

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
▨ Consults existing knowledge and peers on the best for the firm	3%	0%	4%	44%	49%
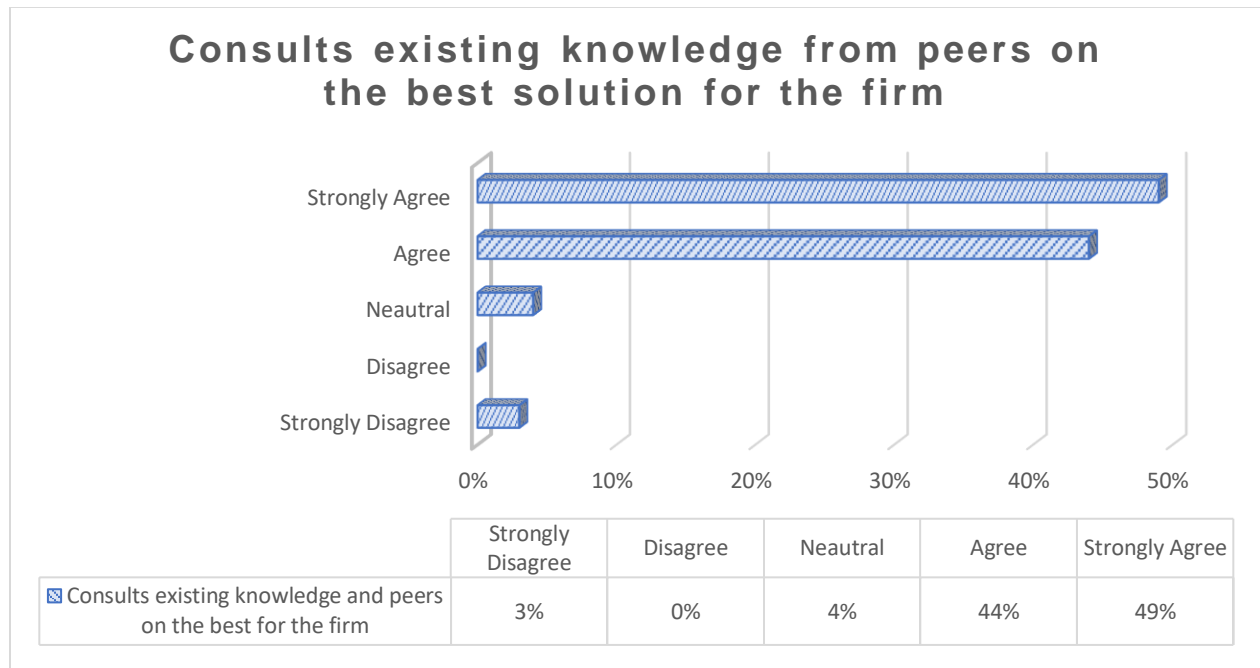
Source: Author's own construct

RESPONSE: Figure 6.37 demonstrates that participants at 49% strongly agreed and at 44% agreed that PMs should consult existing knowledge from peers on the best solution for the firm. The respondents at 4% were neutral, 0% disagreed and 4% strongly agreed with the statement. Therefore, the project management team should contribute their knowledge, skills, and experience through knowledge management techniques.

STATEMENT 27: Leader asks team members on issues that impact project performance – This statement sought to ascertain whether PMs should consult with the project team on matters affecting the success of the project in order to assess how well a project is progressing towards its objectives. PMI, (2013:38-41) asserts that performance indicator evaluates how effectively the project is progressing toward its objectives. Additionally, they are also used later to determine whether a project is a success. The findings on this statement are displayed in Figure 6.38 below.

Figure 6.38: Leader asks team members on issues that impact project performance.

Leader asks team members on issues that impact performance

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Leader asks team members on issues that impact performance	3%	0%	5%	40%	52%
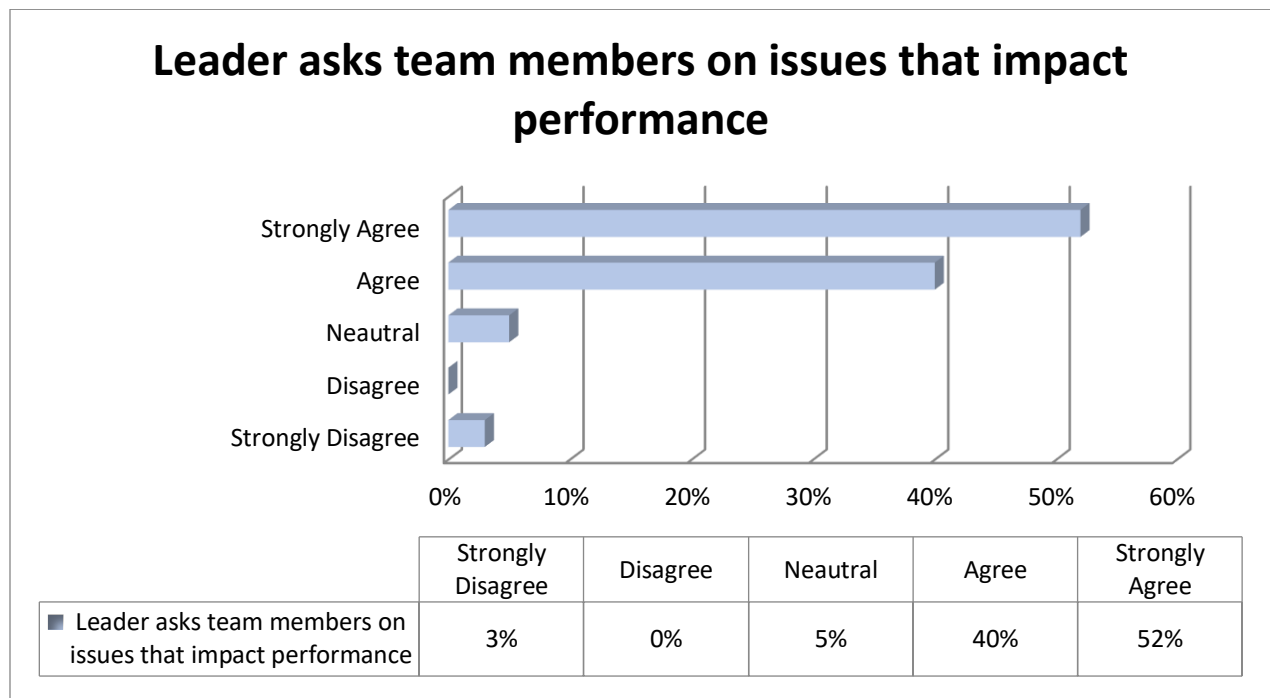
Source: Author's own construct

RESPONSE: Figure 6.38 demonstrate that the majority of participants at 92% are in agreement with the statement (52% strongly agreed and 40% agreed) confirming that the leader should ask team members on issues that impact project performance. Although other participants seemingly in disagreement at (0% disagreed and 3% strongly disagreed), interestingly neutrality is low at (5%) implying that the respondents were not certain whether to agree or disagree with the statement. It can be generalized based on the majority of participants at 92%, confirming that leaders should ask team members on issues that impact project performance to improve project success. Therefore, this competency should be subsequently utilized to assess the success of a project.

KNOWLEDGE COMPETENCIES:

PMBOK (2013: 344-346) cited that the foundation of knowledge, skills and expertise is industrial competence and PMs should understand administrative procedures, software methods and the standards of practice to achieve positive project results. Furthermore, for project managers to fully comprehend the technological designs of the project from the beginning, they must have a solid understanding of the industry in which they operate. Therefore, this research aims to ascertain whether knowledge competencies

are necessary for the success of ICT projects. Figure 6.40 demonstrates the results for knowledge competency.

Figure 6.39: KNOWLEDGE COMPETENCIES

KNOWLEDGE COMPETENCIES

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Good leadership entails adequate knowledge of stakeholders	2%	1%	7%	46%	44%
■ Knowledge of followership is the most critical aspect of leading	2%	2%	7%	45%	44%
■ Knowledge and clarity on projects goals, objectives and milestones	3%	1%	3%	47%	46%
■ Knowledge of likely risks and how to mitigate them is crucial	3%	0%	3%	45%	49%
■ Task scheduling and use of the Gantt chart is indispensable	2%	0%	8%	51%	39%

Source: Author's own construct

The purpose of this section is to determine whether PMs knowledge skills could improve the outcome of projects. This competency comprises of five statements, each of which verifies whether the manager has the knowledge and skills necessary to successfully manage ICT projects. The responses to this statement are demonstrated below.

STATEMENT 28: Good leadership entails adequate knowledge of stakeholders: Larson and Gray (2011:5:7) stipulated that it takes a focused and organized PM who can work with a dedicated team and win the support of all stakeholders to accomplish project goals. Therefore, prior to making important decisions that impact stakeholders, PMs should familiarize themselves with the decision-making process, adhere to it, and seek input from the project team. As a result, the quality of relationships established with the project stakeholders can make or disrupt a project. The purpose of this statement is to

determine whether good leadership entails adequate knowledge of stakeholders. Figure 6.40 below displays the responses to this statement.

Figure: 6.40: Good leadership entails adequate knowledge of stakeholders

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Good leadership entails adequate knowledge of stakeholders	2%	1%	7%	46%	44%
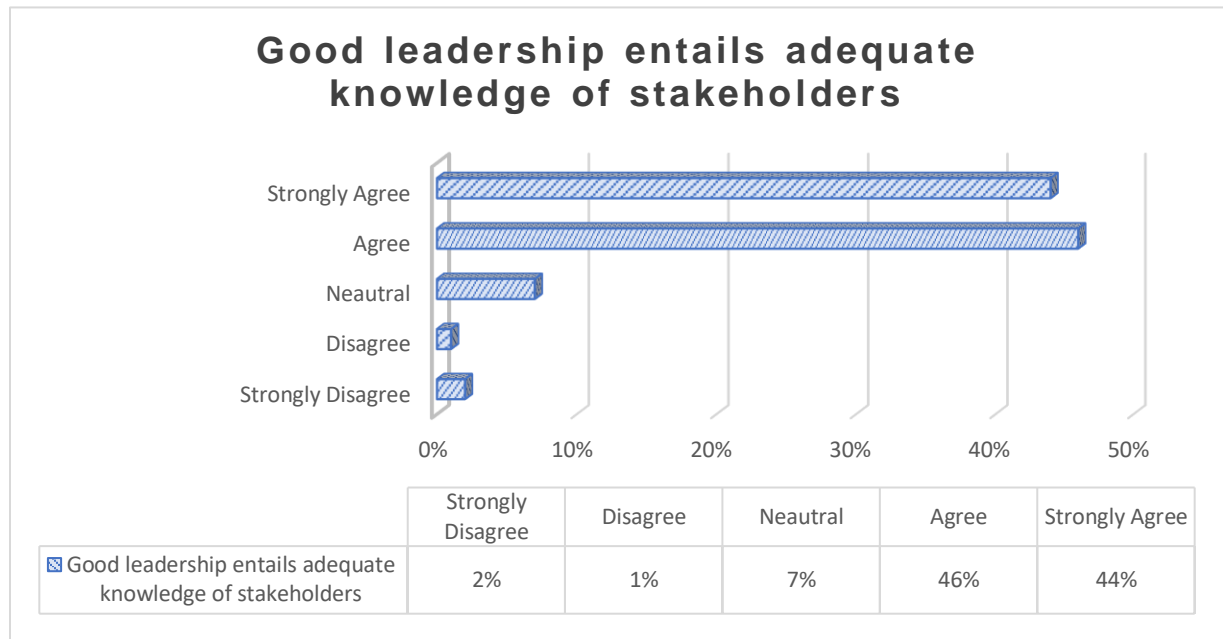
Source: Author's own construct

RESPONSE: According to the figure 6.40 respondents who are strongly agreeing with the statement are at (44%) and those agreeing at (46%) giving a total positive response of (90%). The remainder of the respondents were neutral at a low of (7%) and yet a total of (2%) strongly disagreed with the statement and (1%) disagreed. Therefore, it can be generalized that PMs should have adequate knowledge of stakeholders due to the 90% that agreed to the statement.

STATEMENT 29: Knowledge of followership is the most critical aspect of leading: Zulch, (2014: 176) referred to followership as the ability to perform tasks under the guidance of PMs. Followership is crucial since it fosters a good and harmonious working environment, as a result the project team will be willing to take initiatives and take control of project activities, since they are aware of the benefits of change in the long run. Therefore, the intent of this statement is to determine whether project leaders should always have knowledge of followership as the most critical aspect of leading. The outcome of this statement is shown in figure 6.41 below.

Figure 6.41: Knowledge of followership is the most critical aspect of leading.

Knowledge of followership is the most critical aspect of leading

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
Knowledge of followership is the most critical aspect of leading	2%	2%	7%	45%	44%
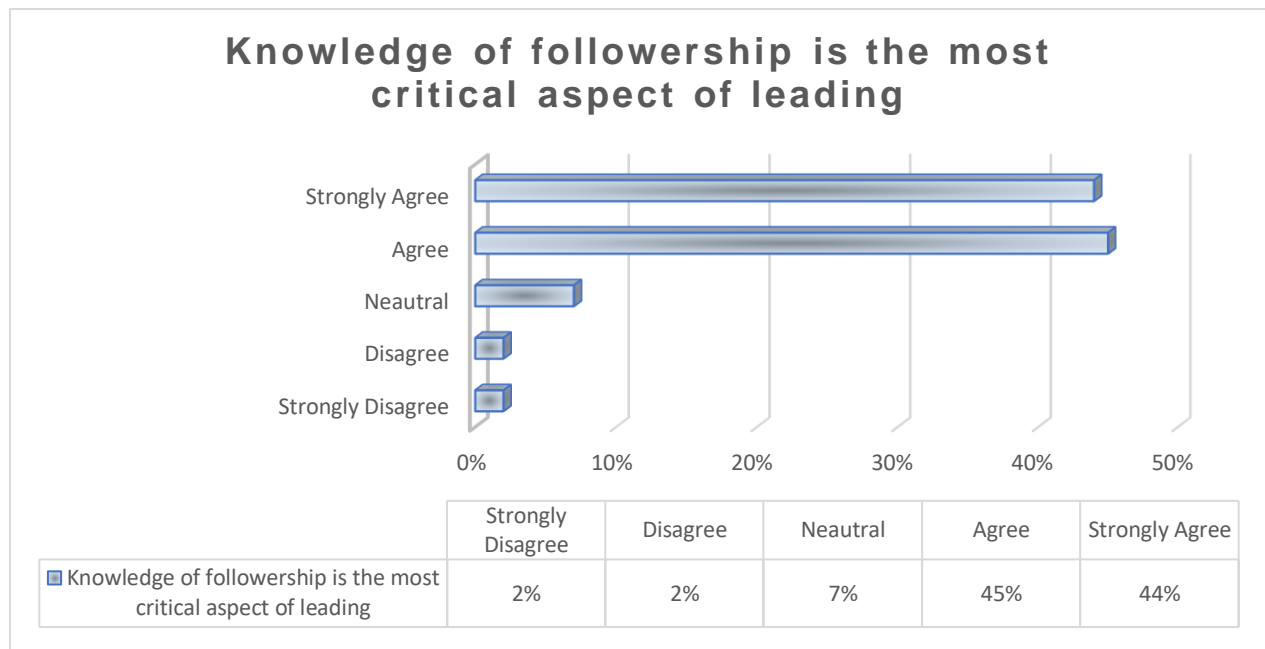
Source: Author's own construct

RESPONSE: The percentage of respondents who agreed that PMs should be knowledgeable about followership as the most important aspect of leading is 89% (45% agreed and 44% strongly agreed). Those in disagreement to the statement combined makes a total of 4% made up of respondents at (2% agreed and 2% strongly disagreed). Therefore, according to results generalization can be made suggesting that knowledge of followership is the most critical aspect of leading as approved by the respondents at 89%.

STATEMENT 30: Knowledge and clarity on projects goals, objectives and milestones: Project goals, objectives, and milestones are crucial components of project management as they are usually prominent during the course of the project, highlighting the significant changes and demonstrating how the project is progressing (Schwalbe,2010:40-43). As a result, defining project goals and objectives assists project managers in planning, coordinating, and controlling the sequence, time, resources, and costs of activities required to ensure project success. The results of statement 30 is shown in figure 6.42 below.

Figure 6.42: Knowledge and clarity on projects goals, objectives, and milestones

Knowledge and clarity on projects goals, objectives and milestones

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Knowledge and clarity on projects goals, objectives and milestones	3%	1%	3%	47%	46%
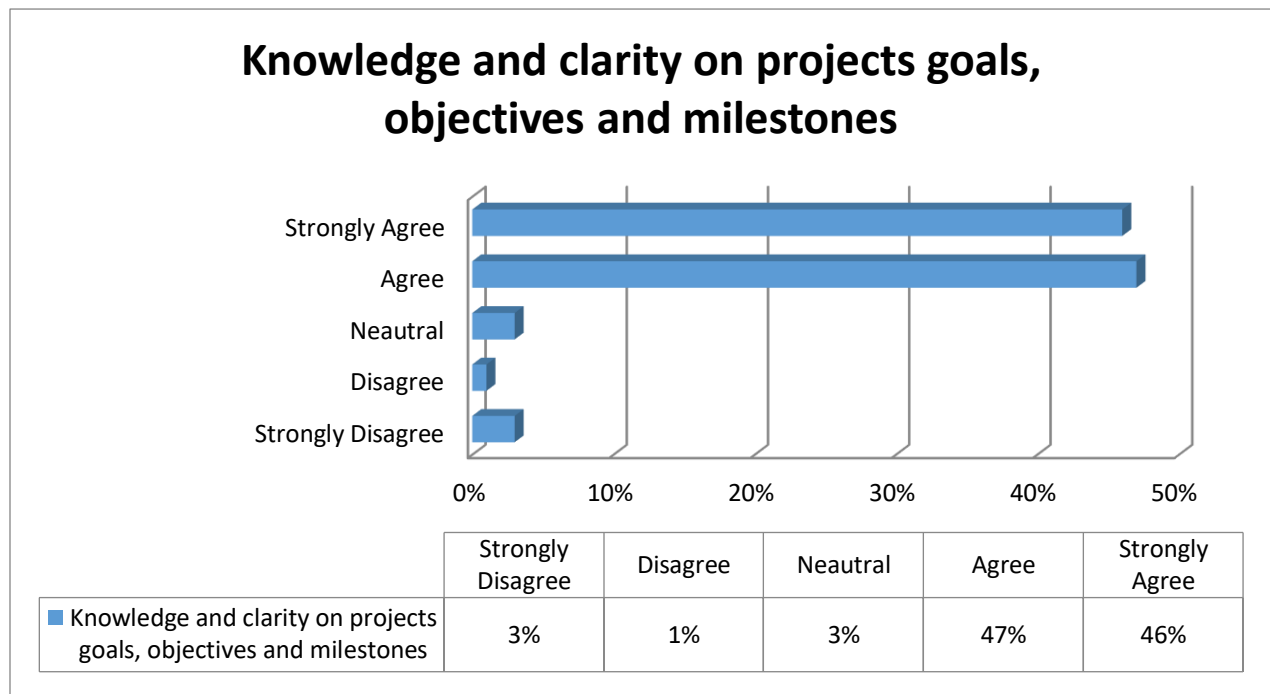
Source: Author's own construct

RESPONSE: Figure 6.42 depicts that the respondents at (46% strongly agreed and 47% agreed) with the statement that PMs should have knowledge and clarity on projects goals, objectives and milestones. The respondents at 3% were neutral and could not decide whether to agree or disagree with this report, whereas respondents at 3% strongly disagreed with 1% that disagreed. Therefore, it can be concluded that PMs should have knowledge and clarity on projects goals, objectives, and milestones for greater project results as indicated by the majority of respondents at 93% approving to this statement.

STATEMENT 31: Knowledge of likely risks and how to mitigate them is crucial: Sumner et al., (2013:2) concurs that effective risk management is proactive rather than reactive, demonstrating that potential risks can be controlled by using effective risk management techniques to identify the benefits, drawbacks, opportunities, and threats of the project. The purpose of this question is to determine how critical it is for project managers to understand potential risks and how to mitigate them. As a result, project managers recognize the significance of risk management since achieving project objectives is dependent on planning, preparation, monitoring results, and assessing how well these outcomes align with overall objectives. The results for statement 31 are depicted in figure 6.43 below.

Figure 6.43: Knowledge of likely risks and how to mitigate them is crucial.

Knowledge of likely risks and how to mitigate them is crucial

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
⊠ Knowledge of likely risks and how to mitigate them is crucial	3%	0%	3%	45%	49%
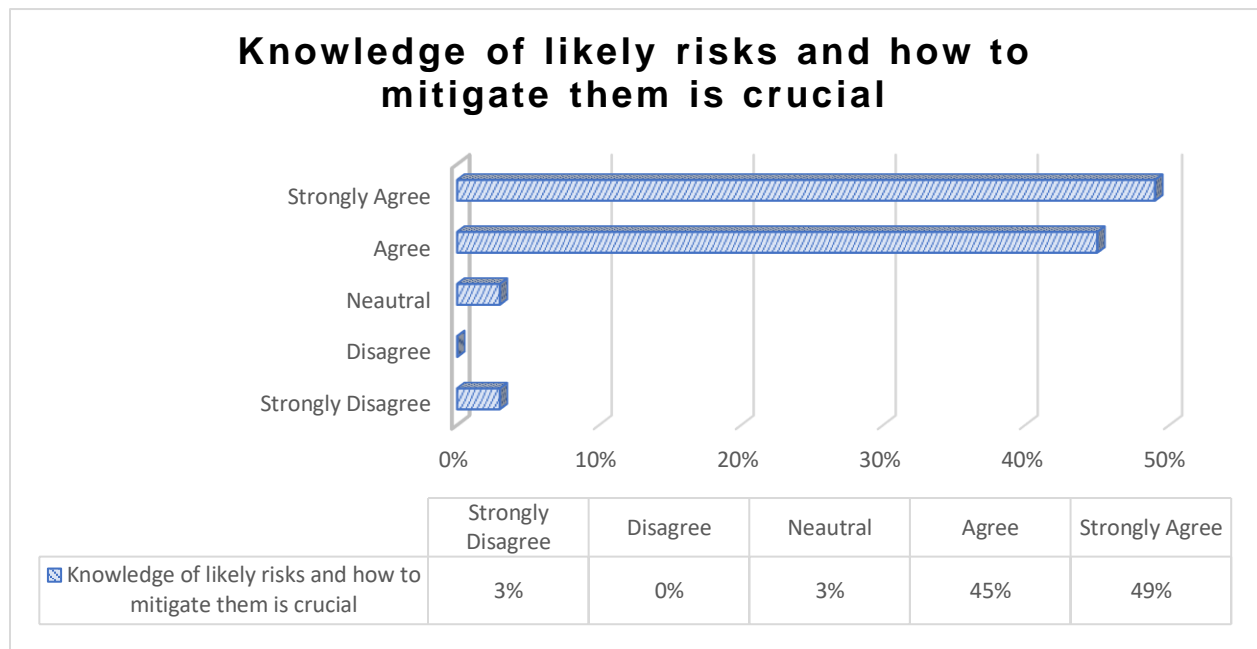
Source: Author's own construct

RESPONSE: Figure 6.43 demonstrates that participants at (49% agreed and 45% strongly agreed) thereby suggesting that PMs should have knowledge of likely risks and how to mitigate them. However, a neutral value of 3% is recorded, at 3% respondents strongly disagreed and no one at 0% disagreed with the statement. The affirmative result enables for generalization, and it can be claimed that PMs should be aware of the potential risks and know to mitigate them to avoid project failure.

STATEMENT 32: Task scheduling and use of the Gantt chart is indispensable – Braude and Bernstein (2016:52) posit that Gantt charts can be useful in project planning and scheduling, helping the project team determine how long a project will take, the resources needed and the order in which tasks should be completed. The use of Gantt charts aids PMs to uncover problems and identify risks within a project framework. The charts consist of a task list with a progress bar for each activity and thus, it can be a valuable visual aid for planning, controlling and tracking the progress of the project. The rationale of this statement is to determine whether task scheduling and use of the Gantt chart is indispensable. The results for statement 31 are shown in figure 6.44 below:

Figure 6.44: Task scheduling and use of the Gantt chart is indispensable.

Task scheduling and use of the Gantt chart is indispensable

	Strongly Disagree	Disagree	Neautral	Agree	Strongly Agree
■ Task scheduling and use of the Gantt chart is indispensable	2%	0%	8%	51%	39%
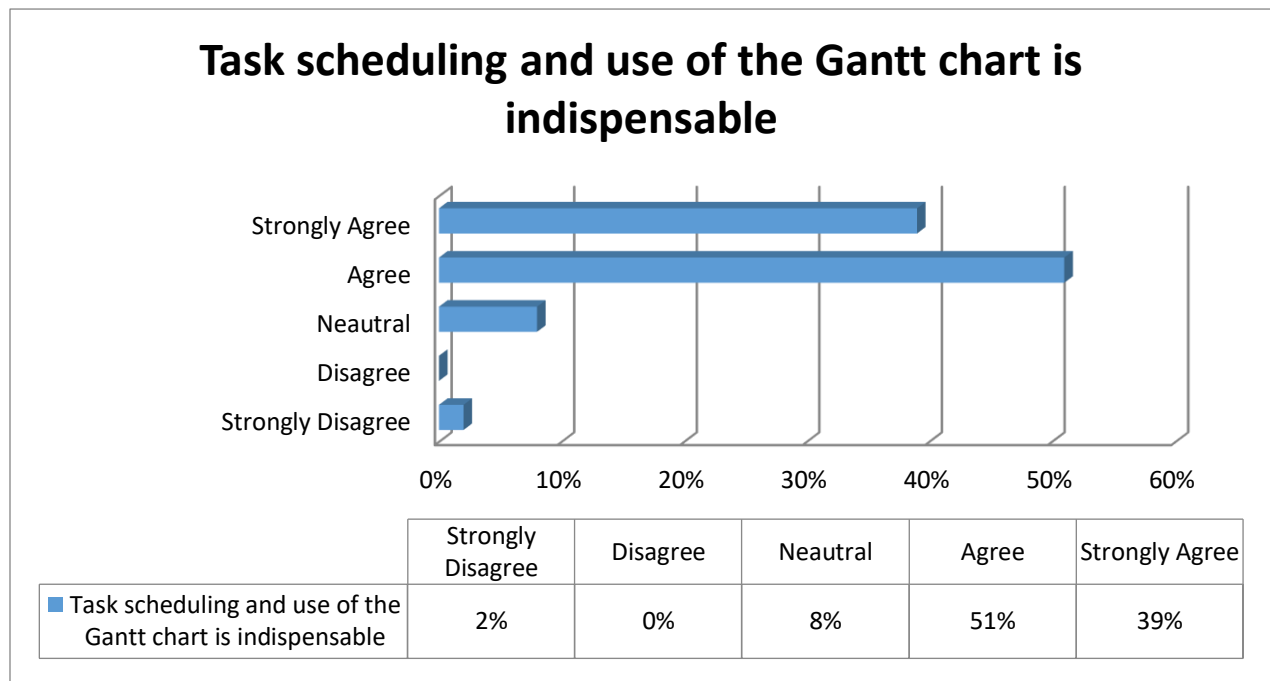
Source: Author's own construct

Figure 6.44 demonstrates the total number of respondents at 90% (51% agreeing and 39% strongly agreeing), that task scheduling and use of the Gantt chart is indispensable. The respondents at 8% remained neutral, whereas 0% disagreed and 2% strongly disagreed with the statement. Therefore, this allows for a generalization that Gantt chart and task scheduling are essential tools for PMs and should be utilized frequently to ensure project success. According to Colin (2015:65-76) understanding the use of a Gantt chart as a project management tool is crucial as it allows project managers to plan, execute and monitor all projects, thus improving the performance of the project team.

SECTION C: OPEN-ENDED QUESTIONS

Section C is intentionally designed to encourage open discussion with respondents, allowing them to voice additional concerns or issues that they deem important relating to this study. The section acknowledges that despite careful planning, there would be unavoidably details missed during the creation of the questionnaire. Additionally, the information pertaining to the research topic is requested from respondents and the questions in this case have the statement and response format. Therefore, respondents were requested to discuss and clearly explain any information they wanted to share in this section and the responses for this section are demonstrated below.

REQUEST 1; Please identify at least 5 leader competencies that you think are necessary for a leader to be effective in the ICT industry.

RESPONSE: In this section, all respondents provided answers offering a variety of statements. Therefore, it is not possible to classify all of them. The respondents deemed the following as the leadership competencies required of a leader to be effective in the ICT industry: excellent communication abilities (both verbal and written),problem-solving skills, analytical thinking, managerial, emotional intelligence, intellectual intelligence, expertise on project management, active team involvement, leadership skills, technical knowledge, priority-setting skills, negotiation skills, organization skills, knowledge of Microsoft programs, time management, strategic perspective, decision-making, delegating, industry expertise, social intelligence, conflict management, keeping abreast with electronic and transaction records and management systems, willingness to learn, knowledgeable, organized, well versed in technology (computer literate), knowledge of software's and hardware systems, educated and strong interpersonal competencies.

REQUEST 2; Please identify and list the 5 most important expectations you have as a subordinate from your manager/leader.

RESPONSE: This question is designed to allow respondents to completely express themselves while outlining the most important expectations they have of their PMs. All of the respondents (100%) offered a variety of responses when asked about the skills they believe their PMs should possess. Therefore, in no particular order the participants shared their views on this statem90ent as follows: define specific employees expectations, hold regular reviews and reward success, provide goals that will be achievable and realistic, open to embracing novel concepts, promote internal learning, create and support growth, a strong commitment to ethics that empowers others, to be a problem solver, to be an analytical thinker, to be educated and lead others with integrity, technical ability, effective communication, motivating others, building teamwork, to be knowledgeable about projects, to provide training, excellent ICT skills, improve management, create project specification, plan, organize and converse with the team and stakeholders through various technologies such as email, spreadsheets, word processing, presentation software, knowledge of project management, skills to perform the task, delegate tasks to be performed, communicate clear objectives of the project, provide training and foster team work, excellent project knowledge, being objective,

willingness to help, give others opportunities to grow, provide guidance, supply resources to use for help, open door policy, clear time frames, scope of work is defined, supportive and motivating, providing necessary training and leading by example, building and maintaining relationships, developing others, valuing diversity and difference, problem-solving and making decisions, transparency of the project deliverables, accurate resource allocation, developmental leadership style, clear project goals, support, training, motivation, leadership, offer praise and recognition, foster professional growth and development, place interests of the team first, meaningful communication, clear instructions on tasks, realistic expectations and deadlines, providing constructive feedback on performance and to be well informed about the work.

REQUEST 3; Identify and list top five issues, things that come to your mind about leader competencies.

RESPONSE: The researcher noted that, when one is aware of what the project manager is doing incorrectly, one may certainly suggest what they should change. This question is designed to elicit at least five areas in which respondents thought PMs might improve. However, it was discovered that the respondents at 2% did not clearly respond to the question, whereas the respondents at 98% provided a range of responses. The issues about leader competencies are as follows: project leaders not leading by example, undermining subordinates, overloading subordinates and ending up with little or no work, lack of knowledge on work to be done by subordinates and not growing those under them, lack of communication, lack of guidance, lack of training, lack of coaching, technical and motivational skills, not reasonable and articulate, lack of transparency, not a risk taker, puts profits over performance, poor management skills, cannot analyse data, lack of proper team-building skills, does not reward good work ethics, lacks the ability to manage project teams, lack organizing skills, uneducated and inexperienced, not a good listener, impatient, uninformed, ineffective delegation, lack of clarity on responsibilities and priorities, problems in managing peers, poor communication, lack of change management, lack of motivation, inflexibility, inability to identify risks, lack of guidance, lack of clear goals and objectives on what needs to be done, lack of project management skills, lack of mentoring and coaching skills, inability to prioritize, inability to provide effective leadership, inability to listen to others, lack of problem-solving skills, micromanaging, undermining team members, miscommunication, lack of discipline, lack of training, not developing and growing people, resistance to change, communication

issues, resolves conflict with favouritism, bad attitude, lack of expertise, lack of technical skills, lack of leadership, overloading team members, has unreasonable expectations, lack of project management skills, inability to provide clear communication, inability to motivate others, lack of knowledge, lack of managerial, emotional and intellectual competencies.

REQUEST 4: Do you think a leader competency is a tool for project success?
RESPONSE: The respondents at 92% responded to the question and provided an explanation, compared to 6% who merely gave a brief response and 2% who left out important details. The findings demonstrate that the respondent's replies varied and that their rankings of the various qualities. However, the responses that stood out and were supported by the study and these are listed below in no particular order of importance: Yes, I do think that a leader's capability is very important to a project's success because it will determine whether the project is completed effectively or not. How successfully a project is planned, carried out, and whether it is a success all depend on the level of the leader's ability. Yes, it is important, because a competent leader will be able to motivate their team to be able to achieve or complete projects and tasks effectively, faster and efficiently. Certainly, a leader must be competent for the project to be a success, chances of the project being unsuccessful are more when the leader is incompetent. Yes, if a leader is unable to plan and work with a given budget that will culminate in the failure of the project; Yes, it can be used as a tool to help shape how the PM and the subordinates conduct themselves whilst undertaking a project to ensure it becomes a success; Yes, because while I believe that effective leadership is an open-ended subject and usually tailored to an organization, there are common parameters that are most often taken into consideration when assessing the reliability of leadership and its effectiveness. Yes, I do believe that leader competency plays a large role in project success as this will determine whether the project is completed successfully or finished at all. The level of leader competency determines how well a project is planned, executed and whether it becomes a successful project. Yes, it will put the project manager in a better position to lead, guide and help his team. Yes, as the team leader will be able to steer the team members according to their strengths and remove any impediments from their work and motivate them. Yes, because a project is application of methods, skills, knowledge that will help to complete the project in time and produce good results. Yes, the project management fraternity is evolving, therefore, requires a

project team leader who is equipped with necessary competencies to manage projects successfully. Yes, it is a requirement for project leaders to possess necessary skills for a project to be a success; competencies such as education, experience, leadership, problem solving and project management skills. Yes, because for a project to be a success it requires the manager to get the work done by the team members effectively and efficiently, therefore competencies are important towards the success of a project. I would think that is correct since project managers need to have leadership skills, education, and experience in order to manage projects successfully. Yes, as the variables that contribute most significantly to project success have been examined with a view to identifying them, and the project manager's leadership position is one of them. The success rate of the project increases with the calibre of a project leader. I would respond in the affirmative because project managers need to have relevant experience, education, and the capacity to inspire team members to achieve project success. Yes, it can be used as a tool to assist in directing how the project manager and other team members behave throughout the project to ensure its success; Yes. It is crucial because a capable leader can inspire their team to carry out or finish projects and tasks successfully, rapidly, and efficiently. Undoubtable yes, project leaders are bound to plan, execute, monitor projects if they lack the necessary competencies chances of the project being successful will be non-existent. Therefore, it is necessary for project leaders to have a set of skills that will enable them to execute and manage projects successfully and without a doubt, a project will fail if the leader is unable to plan and execute within the constraints of the money available.

Respondents who disagreed with the statement provided the following feedback: Not necessarily, leader competency does not mean the leader understands the project at hand and how to participate and deliver as expected for a desired outcome, other factors are looked at when determining project success. Not necessarily, when assessing a project's success various elements are considered, a leader's competency does not imply that the leader knows how to contribute and perform as required in order to achieve the intended result and only if it will be instrumental to measure performance.

LEADERSHIP COMPETENCIES RECOMMENDED FOR PRACTICE

Leadership competencies:

The results demonstrates that an effective project manager should be a well-rounded individual with expertise to recognize that hard and soft skills are required for the success of projects, regardless of the tasks nature. According to this analysis, project leaders should provide direction and leadership that inspires team members, encourages opportunities for the project team to collaborate, provides prompt feedback on the performance of both the team and individual members, promotes innovation and new ideas for the project team and empowers the project team through mentoring and coaching. Therefore, PMs should exhibit strong leadership capabilities.

Communication Competencies:

According to the analysis it is noted that PMs effective communication can motivate project teams to work ethically, see value in their work and dedicate themselves to delivering exceptional performance avoiding disappointing the PM. Therefore, it is recommended that effective leaders who can lead ICT projects successfully should provide a clear vision and direction to the project team. Additionally, PMs should effectively communicate project objectives and milestones; clearly communicate the project scope and the deliverables, discuss the project charter regularly with the project team, clearly communicate the project scope, charter and WBSs, communicate as well as engage project stakeholders frequently. Accordingly, communication can only be successful once the sender and the receiver comprehend the same information. This competency means that for a PM to effectively lead, project related communication is crucial that involves planning, information gathering, dissemination, storage and control (Nnamseh, 2019:116). PMs must be honest and open in their dealings with others to build long-term trusting relationships with project team members and stakeholders.

Technical Competencies:

The results concluded that PMs should have technical background and an understanding of the industry's processes. The PM will benefit from understanding the procedures when planning and sequencing the various project management operations. The technical PM will be able to contribute at technical/design meetings and will readily encourage forward-thinking. According to the results, it is therefore noted that PMs should understand the

technical aspects well, should be able to align human skills to the tasks to be performed, should have knowledge of appropriate tools and techniques and lastly should be able to do task scheduling effectively and efficiently.

Operational Competencies:

The overall results demonstrated that PMs should have an operational understanding of the processes in the ICT industry, emphasizing soft skills. Therefore. understanding ICT processes enables project managers schedule and plan various project management operations. PMs with an understanding of operations can make a significant contribution and promote innovative thinking in the company. This analysis indicates that PMs should have a good understanding of the operational aspects, however, match human skills on the tasks to be performed, should have the appropriate tools and technical knowledge, and be able to execute their task plans effectively and efficiently.

Problem-solving competencies:

The finds suggests that a PM should be able to recognize and analyse the nature of problems, consult team members and use facts to make decisions, calculate risk factors and use them to try solving problems, should not be hasty in making decisions without gathering pertinent information but use confirmed facts, not favouritism to solve existing problems and apply risk management to mitigate previously unrecognized problems. Additionally, the results confirmed that PMs should have the ability to identify and solve problems promptly.

Decision-making competencies:

Therefore, it is concluded that a leader should base decisions on information acquired objectively, consider options and select the best course of action, consult with peers and review existing knowledge on what is best for the company, and consult team members on matters that have an impact on performance. Additionally, PMs should be able to make decisions with integrity, follow a decision-making process, ensure that all required information is available before taking decisions, carefully consider the facts at hand and base decisions on pertinent data.

Knowledge competencies:

The findings of this analysis recommends that PMs should know of the resources needed to complete projects successfully, including planning, budgeting, time

management, quality management, and communication management. The findings based upon respondent's recorded perceptions confirm that, effective leadership requires adequate stakeholder knowledge, followership knowledge (which is the most important aspect of leading), knowledge and clarity of project goals and milestones, knowledge of likely risks and how to manage them, task scheduling and the use of the Gantt charts.

6.3.   CHAPTER SUMMARY

The purpose of statements and questions with responses in this chapter is to aid in establishing the study aims and objectives. The researcher noted that the ICT industry is highly diverse, so it is important to understand bibliographies of each participant in terms of age group, education level, gender, years of experience and positions in the organization. This section presented the respondent's answers to the questionnaire assessing the competencies required by PMs in a selected ICT sector in the Cape Metropolis and the results were discussed from a holistic perspective. The collected data is presented in the form of graphs, charts and tables and then analysed, reviewed and discussed. Therefore, the researcher noted that PMs needed to know more about the project than anyone else as their knowledge and competence are essential for the success of the project. Therefore, it emphasized that PMs needed to know more about the project than anyone else as their knowledge and competence are essential for the success of the project. Grimshaw and Barron (2010:79), noted that while good communication ensures project success, however, it is heavily reliant upon how accessible PMs are to the project team. Therefore, the research findings suggest that leadership, communication, operational, technical, decision-making and knowledge competencies are essential characteristics that PMs need to possess to manage projects successfully. The next chapter is based on the conclusion and recommendations for further research.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION TO THE STUDY

7. CONCLUSION

According to the findings, the study determined that PMs are required to possess leadership knowledge and abilities to successfully lead the project team and projects. Jowah and Laphi (2015:15-39) concurs that it is evident that leadership involves dealing with people and the way one deals with them affects the project outcome. As a result, there are other terms used to describe leadership, researchers refer to it as art, some as a skill, and still others as science. Therefore, this study begins to fill the gap alluded in the literature. The literature review conducted in this study clearly revealed that poor management of ICT projects could indeed lead to project failure. Therefore, the objective of this research is to examine the influence of PMs leadership competencies on project success. This study demonstrated that PMs require a high level of leadership competencies such as, communication, technical, operational, problem-solving and decision-making and knowledge to successfully manage ICT projects. The approaches and its applications used in this study were effective as they certainly assisted the researcher in achieving the study objectives. Additionally, it assisted to formulate and produce responses to the study questions posed. The study brought attention to some fascinating aspects of team management that are worth considering, such as the importance of interpersonal connections over technical proficiency. The results support the concept that PMs should prioritize interpersonal competencies to encourage team members to cooperate. Additionally, the results demonstrated that having hard skills is not the main requirement for the project to be a success. However, the study recommends that PMs should be acquainted with skills and attributes necessary for effective project outcomes. Therefore, the function of PMs is rapidly evolving from managing or directing to leading, hence they should have essential knowledge, ability and understanding of newly emerging philosophies pertaining to leadership.

This study indicated that there is no evidence suggesting that technical abilities are less valuable than other competencies, however, it is evident that interpersonal skills are more crucial. The results demonstrated that it may be impossible to successfully complete a project task without adding soft skills to the procedure. It is acknowledged that PMs will work with different people as indicated in the literature review and it should

be noted that an effective PM should have good working relations with the project team. The study findings indicated that without incorporating soft competences into the process, the success of a project may not be possible. In accordance with the study results it can be concluded that PMs should be equipped with the necessary soft skills to be able to lead project teams resulting in the success of projects. Furthermore, the findings indicated that while technical abilities are important, but they are not the only attributes that matters, although practitioners with technical skills are certainly indispensable PMs still requires other competencies. Therefore, the effectiveness of PMs technical expertise should be balanced with soft skills enabling them to manage project teams to projects success.

7.1.   RECOMMENDATIONS FOR FURTHER RESEARCH

This study highlighted the need for additional research on this topic as ICT projects continues to evolve. Therefore, further research should broaden and complete the accounted information to uncover more conventional causes of ICT project failures. Thus, future research should concentrate on a larger sample size of government parastatals both in the public and private sectors in the Western Cape and other South African provinces. The research could be undertaken on the following issues: to establish how leadership styles affect project success, to assess the link between project team's competence and success elements; case study research could be conducted to determine competencies that project leaders lack that could result in project failure in other industries.

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APPENDIX A - QUESTIONNAIRE

RE: LETTER FOR THE COLLECTION OF RESEARCH DATA

Dear Participant,

I am a registered student at the Cape Peninsula University of Technology (CPUT) for master's in business and Information Administration.

You are kindly invited to participate in research titled: Critical Project Leader Competencies a Selected Information Communication Technology (ICT) organisation in the Cape Metropolis. The following questionnaire is intended for academic purposes only. This questionnaire aims at collecting data for the intention of systematic research as part of the prerequisite for completing the master's thesis.

Please complete this questionnaire as accurately as possible. Your response will be used to create a paradigm for the research and your response will be treated with complete confidentiality. The questionnaire should only take approximately 10-25 minutes to complete.

Your participation in this questionnaire is highly appreciated.

Thank you.

QUESTIONNAIRE

CRITICAL PROJECT LEADER COMPETENCIES AT A SELECTED INFORMATION COMMUNICATION TECHNOLOGY (ICT) ORGANISATION IN THE CAPE METROPOLIS.

This is a voluntary exercise, and you are not compelled to participate, you are also able to withdraw at any stage during this research. Your information entered herewith is strictly confidential and will not be passed to any authority.

SECTION A: BIOGRAPHY
Please mark the applicable answers with an (X).

1. Gender and age

Gender	Male		2. Age (years)	20-30	30-40	40-50	50-60	60-70
	Female							

3. Highest qualification

Matric		Diploma		Degree		Honours		Post graduate diploma	
If other, please specify:									

4. What is your position in the organization?

Project Manager		Project Administrator		Project team member	
If other, please specify:					

5. How many years in total have you been employed?

0 - 5 years		6 – 10 years		11 – 15 years		16+	

6. How often are you involved in managing projects?

All the time		Sometimes		More often		**If other, please specify below:**

Please mark the applicable answers with an (X).

Size of the project		Small		Intermediate		Large	

SECTION B: LIKERT SCALE

Rank the following by marking the most applicable answer with an (X).

Using the Likert Scales below please rank your answers by crossing the appropriate box. 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree.

	Leadership Competencies	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	Leadership Competencies:					
1	Provides guidance and direction that inspires team members	1	2	3	4	5
2	Creates team-building opportunities for the project team	1	2	3	4	5
3	Gives prompt feedback on individual and team performance	1	2	3	4	5
4	Encourages creativity and innovative ideas from the project team	1	2	3	4	5
5	Empowers the project team through mentoring and coaching	1	2	3	4	5
	Communication competencies:					
6	Effectively communicates project objectives and milestones	1	2	3	4	5
7	Clearly communicates the project scope, WBS and deliverables	1	2	3	4	5
8	Communicates and engages project stakeholders frequently	1	2	3	4	5
9	Discusses the project charter regularly with the project team	1	2	3	4	5
	Technical Competencies:					
10	The project leader should understand the technical aspects well	1	2	3	4	5
11	Must be able to align human skills to the tasks to be performed	1	2	3	4	5
12	Should have knowledge of appropriate tools and techniques	1	2	3	4	5
13	Should be able to do task scheduling effectively and efficiently	1	2	3	4	5
	Operational Competencies:					
14	Focuses on interpersonal skills to motivate member cooperation	1	2	3	4	5

15	Should know how to balance task performance and relationship	1	2	3	4	5
16	A good leader can identify weaknesses and support the weak	1	2	3	4	5
	Problem-Solving competencies:					
17	Has the ability to identify and analyse the nature of a problem	1	2	3	4	5
18	Consults team members and uses facts to decide on solutions	1	2	3	4	5
19	Calculates risk factors and use them to try and solve problems	1	2	3	4	5
20	Is not hasty to make decisions without gathering relevant data; however, uses confirmed facts, not favouritism to solve existing problems.	1	2	3	4	5
21	Applies risk management to mitigate hitherto unseen problems	1	2	3	4	5
	Decision-Making Competencies:					
22	A leader makes decisions based on data gathered objectively	1	2	3	4	5
23	A leader weighs options and takes the most beneficial decision	1	2	3	4	5
24	Consults existing knowledge from peers on the best solution for the firm	1	2	3	4	5
25	Leader asks team members on issues that impact performance	1	2	3	4	5
	Knowledge Competencies:					
26	Good leadership entails adequate knowledge of stakeholders	1	2	3	4	5
27	Knowledge of followership is the most critical aspect of leading	1	2	3	4	5
28	Knowledge and clarity on project goals and milestones is critical	1	2	3	4	5
29	Knowledge of likely risks and how to mitigate them is crucial	1	2	3	4	5
30	Task scheduling and use of the Gantt chart is indispensable	1	2	3	4	5

SECTION C: OPEN-ENDED QUESTIONS

REQUEST 1; Please identify at least 5 leader competencies that you think are necessary for a leader to be effective in the ICT industry.

1. ....
2. ....
3. ....
4. ....
5. ....

REQUEST 2; please identify and list the 5 most important expectations you have as a subordinate from your manager / leader.

1. ....
2. ....
3. ....
4. ....
5. ....

REQUEST 3; Identify and list top five issues, things that come to your mind about leader competencies.

1. ....
2. ....
3. ....
4. ....
5. ....

REQUEST 4: Do you think a leader competency is a tool for project success? [Yes] or [No] Elaborate:

....
....
....
....
....

THANK YOU FOR PARTICIPATING IN THE SURVEY.

APPENDIX B – ETHICAL CLEARANCE CERTIFICATE

Cape Peninsula University of Technology

P.O. Box 1906 | Bellville 7535
Symphony Road Bellville 7535
South Africa
Tel: +27 21 4603291
Email: fbmsethics@cput.ac.za

Office of the Chairperson Research Ethics Committee	FACULTY: BUSINESS AND MANAGEMENT SCIENCES

The Faculty's Research Ethics Committee (FREC) on **14 September 2021**, ethics **APPROVAL** was granted to **Sinazo Mbebe (212143662)** for a research activity for **Master of Business and Information Admin** at the Cape Peninsula University of Technology.

Title of dissertation / thesis / project:	**Leadership competencies required by project managers for ICT project success: A case of a selected ICT project-based industry in Cape Town** Lead Supervisor (s): Dr L E Jowah

Decision: APPROVED

(signature)	20 September 2021
Signed: Chairperson: Research Ethics Committee	Date

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the CPUT Policy on Research Ethics.

2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study requires that the researcher stops the study and immediately informs the chairperson of the relevant Faculty Ethics Committee.

3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.

4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, notably compliance with the Bill of Rights as provided for in the Constitution of the Republic of South Africa, 1996 (the Constitution) and where applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003 and/or other legislations that is relevant.

6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.

7. No field work activities may continue after two (2) years for Masters and Doctorate research project from the date of issue of the Ethics Certificate. Submission of a completed research ethics progress report (REC 6) will constitute an application for renewal of Ethics Research Committee approval.

Clearance Certificate No | 2021_FBMSREC 066

APPENDIX C- CONSENT LETTER

Innovative service delivery through technology

13 August 2021

Dear Cape Peninsula University of Technology Research Ethics Committee

RE: APPROVAL FOR SINAZO MBEBE TO CONDUCT RESEARCH AT ICT-Works (Pty) Ltd

On behalf of ICT-Works, I am writing to formally indicate our awareness of the research proposed by Sinazo Mbebe, a Masters student at Cape Peninsula University of Technology.

We are aware that Sinazo Mbebe intends to conduct her research by administering of questionnaires and interviews with our staff.

As the COO of the company, I grant Sinazo Mbebe the permission to conduct her research at our company.

Thank you

Yours Sincerely

Tony Huynh

Chief Operations Officer: AFC

Cape Town: 1st Floor, Pier Place Building, Heerengracht Street, Cape Town, 8000.

T| +27 21 003 2785 **M** | +27 62 882 3802

Head Office: 2nd Floor, Block F, Mellis Park, cnr Autumn & Mellis Road, Rivonia

T| +27 11 234 7040 **F** | +27 86 718 3420 **M** | +27 82 570 4144

21 July 2021

Dear Cape Peninsula University of Technology Research Ethics Committee

RE: APPROVAL FOR SINAZO MBEBE TO CONDUCT RESEARCH AT Gravit8 Information Technology

On Behalf of Gravit8 Information Technology, I am writing to formally indicate our awareness of the research proposed by Sinazo Mbebe, a Masters student at Cape Peninsula University of Technology.

We are aware that Sinazo Mbebe intends to conduct her research by administering of questionnaires and interviews with our staff.

As the People Relations of the company, I grant Sinazo Mbebe the permission to conduct her research at our company.

Thank you

Yours Sincerely,

Guinivere Botes

Cape Peninsula University of Technology

Research Ethics Committee

Roeland Street

Cape Town

8000

14 July 2021

Dear Ethics Committee

RE: Authorisation for Sinazo Mbebe to conduct research at Research ICT Africa

On behalf of Research ICT Africa, I would like to confirm that Sinazo Mbebe has provided us with a brief on the scope of her research for her Masters' Thesis at CPUT, and we are aware that she will be administering questionnaires and conducting interviews with our staff.

As the Executive Director of Research ICT Africa, I authorise Sinazo to conduct the above mentionedinterviews and questionnaire, and to use the data she collects as part of her Masters' Thesis.

Please don't hesitate to contact me if you have any questions regarding the above.

Sincerely

Alison Gillwald (PhD)

(Executive Director, Research ICT Africa)

APPENDIX D – PLAGIARISM REPORT

Critical Project Leadership Competencies at a Selected Information Communication Technology (ICT) organization In The Cape Metropolis.

ORIGINALITY REPORT

3%	1%	0%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Cape Peninsula University of Technology Student Paper	1%
2	Tammy Lategan, Stanley Fore. "The impact of leadership styles on project success: Case of a telecommunications company", Journal of Governance and Regulation, 2015 Publication	<1%
3	Submitted to University of Witwatersrand Student Paper	<1%
4	library.oapen.org Internet Source	<1%
5	www.atspoke.com Internet Source	<1%
6	Submitted to University of Wolverhampton Student Paper	<1%
7	hdl.handle.net Internet Source	<1%

technology projects in South Africa: An empirical investigation", Acta Commercii, 2009
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32 Pecquerie, L.. "Analyzing variations in life-history traits of Pacific salmon in the context of Dynamic Energy Budget (DEB) theory", Journal of Sea Research, 201111
Publication
<1 %

Exclude quotes   On
Exclude bibliography   On

Exclude matches   < 5 words

APPENDIX D- LANGUAGE EDITING CERTIFICATE

DECLARATION OF LANGUAGE EDITING

A thesis submitted in fulfillment of the requirements for the degree Master of Business and Information Administration in the Faculty of Business and Management Science at the Cape Peninsula University of Technology

entitled

Critical Project Leadership Competencies at a Selected Information Communication Technology (ICT) Organization in the Cape Metropolis

by

Sinazo Mbebe

has been subjected to an English language edit by

Dr Barbara Basel

D.Litt. University of Pretoria,
MA Potchefstroom University,
BA UNISA
Vice President of the Council of English Academy of Southern Africa
Associate Member Professional Editors' Guild
Past Lecturer in English Literature, Linguistics, Communication and Business English for 10 years at Pearson Institute for Higher Education (previously Midrand Graduate Institute), Cape Town Campus.
Academic Editing – PhD, MBA, MComm, MEd, MPM and Master's in Graphic Design Theses, External Examiner for MEd Thesis.

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Barbara Basel

14 September 2022