



Success factors in the digitalization of logistics projects at a selected Fast Moving Consumer Goods firm in Cape Town.

by

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Dissertation submitted in fulfilment of the requirements for the degree Master of Technology: Business Administration in Project Management

in the Faculty of Business and Management Sciences at the Cape Peninsula University of Technology

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Cape Town

June 2022

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ABSTRACT

The purpose of this research is to determine the importance of the strategic selection of projects and successfully implementing logistics projects in an FCMG organization in Cape Town. The process of designing and executing efficient transportation and storage of goods from point of origin to point of consumption is known as logistics. Logistics' purpose is to meet client needs in a timely and cost-effective manner. This study investigates the measures of success factors in the digitalization of logistics projects. According to the research, digitalization is altering the world of work, and acquiring digital skills has now become a must for personal, industry, and geographical success. People's way of working is changing as organizations deploy digital technologies, which in this sense means computers and other information technology. In practice, as the enterprise becomes customer-driven end-to-end, digital transformation necessitates the organization's ability to cope effectively with change in general, ultimately making change a core skill. Continuous digitization initiatives will benefit from such agility and organizations will have a competitive advantage in this way. The research utilized descriptive and correlation research techniques, and the study sample was taken from a large organization under the Supply chain and Logistics departments in Cape Town. The sample size was 100 employees, and the study used a simple random sampling technique. Questionnaires were utilized to collect data for the study. Quantitative data were analysed using an excel data analysis program, and data was displayed utilizing geometric techniques such as line graphs, bar graphs, and pie charts.

ACKNOWLEDGEMENT

I would like to thank:

- Dr Larry E Jowah for not giving up on his students, for the support, guidance, commitment and sharing of his knowledge.
- Mr Yanga Gwebityala for the support and assistance in the completion of the paper.
- Family and friends for all the support and words of encouragement to complete my master's degree.
- Employees who have assisted with responding to questionnaires.

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CHAPTER 1

RESEARCH PROPOSAL: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1. Introduction

Digital transformation has been the new game-changer in many supply chain industries. As the revolution era has brought new and better strategic working ways, many digital systems are introduced in industries. (Hirt and Willmott 2014:1) claim that the previous decade, sometimes known as "the digital era," has fundamentally changed the competitive dynamics in businesses, including logistics. A few supply chain industries have introduced these systems to improve the business by rethinking supply chain strategies. Logistics is the most critical and demanding in the supply chain among other imperative departments for several industries; this is critical as customer satisfaction is crucial. Logistics is defined by (Ailawadi, Singh 2012:22) as a response to customer demand, the action of making plans, implementing, and coordinating the structured, cost-effective flow and storage of raw materials, in-process inventory, and final product/services, and information flow from the point of consumption. These changes introduce temporary endeavours in organisations; as stated by (Jeffrey 2019:25), projects are the opposite of day-to-day activities and have a beginning and an end.

Depending on the business structure, change is one of the problems many industries face. When innovative improvements are implemented, the daily operations' comfortability creates a significant issue in adaptation and openness to introducing new and different projects in the working environment. Despite the widespread panic that traditional operating ways are being phased out, digital transformation in the supply chain (logistics) through innovations that assist in customer satisfaction is the way for many of these industries.

Grant, Wong, & Trautrim (2017:9) stated that logistics in the supply chain consists of planning, packaging and utilisation, inventory control, transportation, information flow, and control. These elements need to be strategically aligned with the organisation. Although there are various core assets required for organisational growth, the human asset in the current century is considered one of the most imperative assets of an organisation (Hafiza, Shah, Jamsheed, and Zamaan 2011:327-329). Furthermore, the alignment of all the assets with the organisational strategy plays a huge role in successfully executing a project. The competitive advantage for organisations in the FCMG industry through digital transformation is the new game-changer in logistics for any business.

1.2. Research Background

What is logistics?

In theory and understanding, Moons, Waeyenbergh, and Pintelon (2019: 205) refer to logistics as managing how resources are received, stored, and moved to their various destinations. Speranza (2018: 830), Transportation and logistics had problems long before computers and operational research were available to help make decisions. As years went by, optimisation models were developed. Operational research has substantially contributed to transportation system efficiency, giving organisations with complex transportation and logistics concerns a competitive advantage. Operational Research is used as a problem-solving method used by organisations for analysing and developing strategies and techniques for decision making.

Humans have always needed a way to get from one place to another, whether for relocation or to find food and shelter. The need to find new ways to move around and transport goods has grown significantly over time. In Nikitas, Michalakopoulou, Njoya, and Karampatzakis (2020:2789), using technological advancements gives the ability to establish new modes of transportation and networks to move across have greatly improved. During the ancestral ages, the movement of stock(s) from one place to another was through animals like horses, donkeys, cows, camels, and other alternatives like carts and human beings. Today, there are many modes of transport, namely airways, railways, roadways, pipelines, cargo, and systems, to help with tracking, data storage, planning, and coordination from the initial to final stages of the product movements.

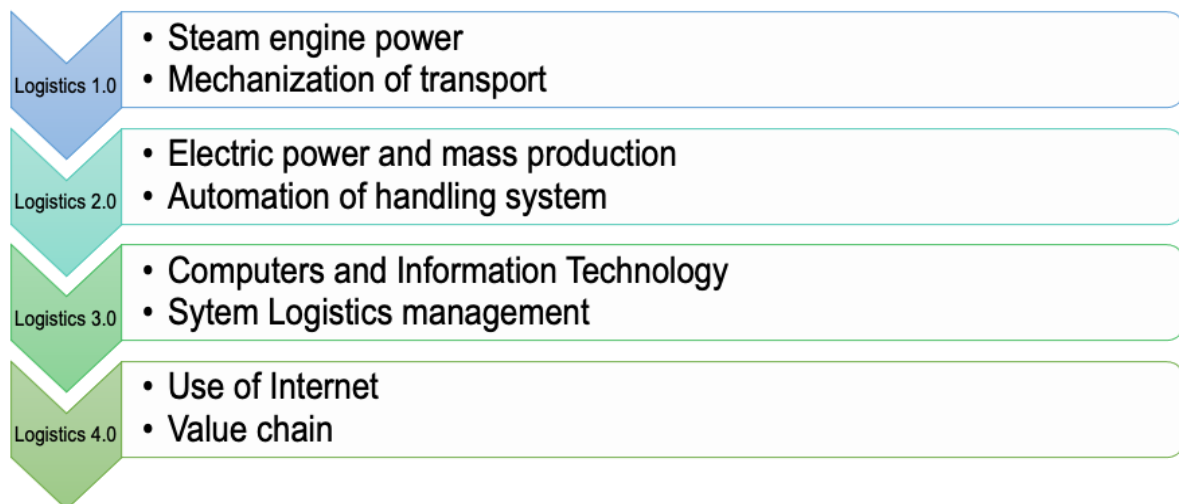


Figure 1.2.1 Evolution of Logistics

Source: Domingo Galindo, (2016:37)

Logistics have evolved from previous revolutions rapidly over the past centuries, and several logistics projects have been implemented in most organisations. The establishment of these projects has brought enormous change in how people work in FCMG organisations. However,

implementing these projects like WMS and replacing the older systems created issues as people of a certain age are no longer open to change after working a certain way for years/decades. Nasiri, Ukko, Saunila, and Rantala (2020:102121), highlight that digital transformation in supply chain industries creates significantly big problems in managing the extensive supply chain and how a business responds by giving total solutions, not a partial response, is imperative for survival. He further emphasised taking your time to follow a pragmatic approach in building a 'New Operating Model' alternative. He mentioned that change management is imperative and needs time in the organisation alongside its culture, processes, and work systems are essential before the change. Paying attention to data (master/transactional data to avoid going live will lead to a failure known as GIGO (Garbage in, Garbage Out)).

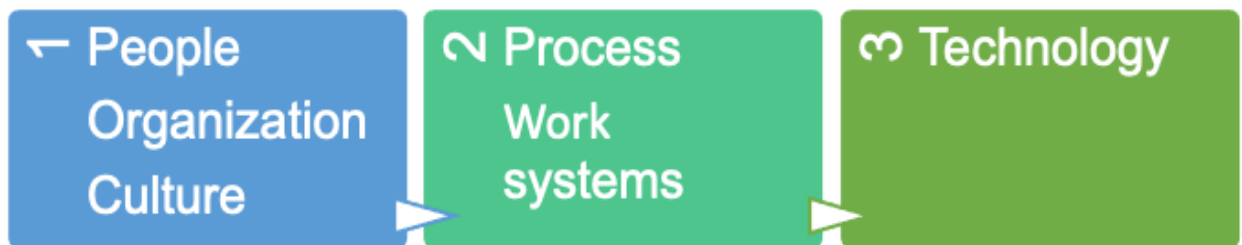


Figure 1.2.2 Building the "New Operating Model" alternatives

Source: Atul Tandon, 2016

Although digital transformation has commenced in the supply chain industry, introducing these new endeavours influences various aspects of the project's success. Project management success factors include PM competencies, PM "emotional intelligence," organisational structure, organisational culture, project management tools and techniques, and the application of PM and project team knowledge and abilities and their synchronisation. On the other side, Abylova and Salykova (2019:4) have a different view of critical project success shown in the figure below.



Figure 1.2.3 Projects Success Factors

Source: Abylova and Salykova (2019:4)

Logistics consist of several operations in the warehouse. By implementing the warehouse management systems (WMS), this research will investigate how that has helped the business and people at the distribution sites. In the opinion of Anđelković and Radosavljević (2018:1), logistics systems in the warehouse can be located anywhere along the supply chain between suppliers and customers. It entails optimising and controlling complex warehouse and distribution systems. In cutting costs and achieving operational efficacy without compromising the quality of the product and service, warehouse management and warehouse operation are areas of study that improve processes within the distribution centres (Richards, 2017:392).

Planning systems in the logistics department in an organisation are paramount as they are used for creating and planning loads from production plants, mega distribution warehouses, and, more significantly, medium and smaller distribution warehouses to the customer. Amrbar, Badrlou, and Shiani Kalhori (2020:108), most organisations' implementation of enterprise planning (ERP) is the most complex, and decision making is imperative. ERP systems stand for enterprise resource planning, and it is a modular software system that integrates critical organisational operations into a single system for a specific company. Most organisations use SAP Advanced Planning and Optimization (SAP APO) for supply planning. In the FCMG organisation SAP, APO has been faced out, and during the pandemic, a new planning system was introduced. In the beginning stages of the implementation stage, many changes were created to accommodate all the planners working in the system from demand planning, supply planning, and deployment.

ERP systems assist an organisation with the following supply chain process:

- supply chain planning
- inventory management
- warehouse management
- materials management
- purchasing and procurement
- monitoring and maintenance
- measurement, and assessment

Each process is explained below,

1.2.1. Supply chain planning

Differentiation planning is critical for organisations with extensive product portfolios working in dynamic marketplaces. However, supply chain planning is more complicated due to the complexity of the market, channel, and supply networks. The instance company demonstrates how the framework for rough segmentation can be used to distinguish planning. Esmaeilikia, Fahimnia, Sarkis, Govindan, Kumar, and Mo (2016: 407) defined correctly arranging a material or product path from the raw material stage to the final consumer is known as supply chain planning. Supply planning, demand planning, production planning, distribution planning, operations planning, and sales planning are all part of this process (Oliva and Watson 2011:434).

1.2.2. Inventory management

The raw materials, components, and finished commodities that a company sells or consumes in production are referred to as inventory. According to (Deveshwar and Dhawa 2013:5), inventory management assists organisations in selecting which commodities, when, and how to order them. It tracks products from when they are purchased to when they are sold. The practice monitors trends and adjusts as needed to ensure that there is always enough stock to fulfil client orders and that shortages are identified early (Lee 2004:102). Inventory management is essential to a company's performance because it ensures that there are never too many or too few goods on hand, reducing the risk of stockouts and incorrect inventory levels (Chebet, and Kitheka, 2019:92).

Inventory management has two significant benefits: it ensures that incoming or open orders are filled and increases earnings. Inventory management also entails:

Saves Money: Understanding stock patterns lets you see how much and where you have on hand, allowing you to use it better. In addition, because you can fulfil orders from anywhere,

you can keep less stock at each location (store, warehouse) - all this lowers inventory costs and reduces the amount of inventory that goes unsold before it becomes obsolete.

Improves Cash Flow: Effective inventory management allows you to spend money on inventory that sells, allowing cash to flow freely throughout your organisation.

Customers are happy: Making sure customers get what they want without waiting is critical to customer retention.

1.2.3. Warehouse management

warehouse management refers to the concepts and practices involved in the day-to-day operations of a warehouse. This includes receiving and organising warehouse space, staffing, inventory management, and order fulfilment. (Mahroof, 2019:176)

Fast, high-quality service at a fair cost is one of the advantages of warehouse management, which can broaden throughout the supply chain, forming ties with suppliers and customers.

What is a Warehouse Management System?

Pagano and Liotine (2019:7) a warehouse management system (WMS) is a software program that improves warehouse management. A warehouse management system, which is typically incorporated as a component of a business suite of integrated enterprise resource planning (ERP) software, may assist and support warehouse management in all aspects. For example, a WMS can:

- To undertake demand assessments, anticipate sales, establish efficient daily operational plans, and use data and automation.
- Provide inventory location and amount information in real-time.
- To improve the efficiency of business operations, share data with other ERP modules or standalone software products, such as accounting software and transportation management systems.
- Monitor and report productivity to better understand your warehouse's productivity and where improvements in warehouse geography and space optimisation can be made.
- Based on pre-defined rules, provide step-by-step instructions to assist users with daily chores such as receiving, selecting, and packing orders.

Warehouse Management Processes include:

Receiving: Keep track of the products that arrive by checking in and tracking them. Ascertain that you are receiving the appropriate amount at the appropriate time and in the appropriate condition.

Put away: Move items from the receiving dock to their designated storage spaces during put-away.

Storage: keep inventory safe and organised to be picked quickly and accurately.

Picking: is the process of gathering the items needed to complete sales orders.

Packing: prepare the stock orders for dispatch. Created stock orders must be packed correctly in the appropriate container and accompanied by a complete packing slip.

Shipping: Send out finalised sales orders, ensuring that stock movement plans are on the appropriate vehicle, at the right time, and with all necessary documentation, ensuring that customers receive their goods on time.

1.2.4. Materials management

Monczka, Handfield, Giunipero, and Patterson (2015:16) define material management as "the planning and regulation of all material and equipment so that they are requested in advance, purchased at a reasonable cost, and available when needed." This definition encompasses the materials used directly in the product, the manufacturing equipment, and the replacement components needed for maintenance to keep operations running smoothly.

Even though poor execution can have serious consequences, the material management process is frequently overlooked. To grasp this, one must first comprehend the magnitude of a material manager's responsibilities. The material manager, as per (Ibrahim, Mohammed, and Varouqa, 2020:1575), must ensure the following:

- Appropriate materials
- In the proper proportions
- On time and in the right location
- Trustworthy source
- For the modest price

Failure to achieve any of these objectives may result in operational disruptions, cost overruns, material losses, and a loss of earnings, market share, and reputation.

1.2.5. Purchasing and procurement

The process of obtaining products or services at the lowest possible cost from selected vendors (Kuo, and Lin, 2012:2852). Procurement procedures and processes differ from organisation to organisation, with delivery timelines, product quality, and profit margins playing a role in the procurement cycle. The procurement department begins by researching appropriate suppliers and negotiating terms to obtain the company's best possible purchase cost price.

Procurement and purchasing are two distinct corporate processes that deal with sourcing and acquiring goods and services. They are frequently combined under the procurement department. Here is a quick rundown of the distinctions between procurement and purchasing:

Procurement: Strategic process

- > Identify needs and requirements
- > Source and evaluate local, national or international supplier(s)
- > Negotiate terms, conditions and contracts
- > Build and manage supplier relationships
- > Perform cost savings and profit margin analysis

Purchasing: Transactional activities

- > Receive purchase requisitions
- > Evaluate quotes from suppliers
- > Raise and process purchase orders (PO)
- > Receive goods/services and warehouse management
- > Process and organise payment with supplier

Figure 1.2.4 Differences between procurement and purchasing

Procurement is critical to an organisation's success in business. It obtains products or services from selected vendors at the lowest possible cost. Procurement procedures and processes differ from organisation to organisation, with delivery timelines, product quality, and profit margins playing a role in the procurement cycle. The procurement process begins in the procurement department by researching suitable suppliers and negotiating terms to obtain the company's best possible purchase cost price. Then, when a company needs a specific product or service, it will issue a request for proposals, which will be handled directly or through an auction.

- A typical procurement procedure includes the following steps:
- Identifying product and service requirements
- Finding vendors
- Request for proposals and quotes
- Dealing with vendor
- Negotiating terms with vendors
- Receiving and organising products and services
- Performing quality control
- Examining results and margins

The most data-driven activity in the supply chain is planning. (Alicke, Glatzel, Hoberg, and Karlsson 2017:2), With a wide range of inputs from Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) planning systems. Real-time demand and supply shaping now has the potential to completely reinvent the planning process by combining new internal

and external data sources. Several retailers, including FCMG, are already using the Blue Yonder (BY) system, which has developed data-intensive forecasting algorithms that are already in use in retail, where 150,000,000 probability distributions are generated per day from 130,000 SKUs (stock-keeping units) and 200 influencing variables.

1.3. Project Management

The triple constraint in Project Management, the magnitude of completing a project, should always be considered in any project (time), with a clearly defined scope and budget for the project cost. The figure below shows the project management trade-offs:

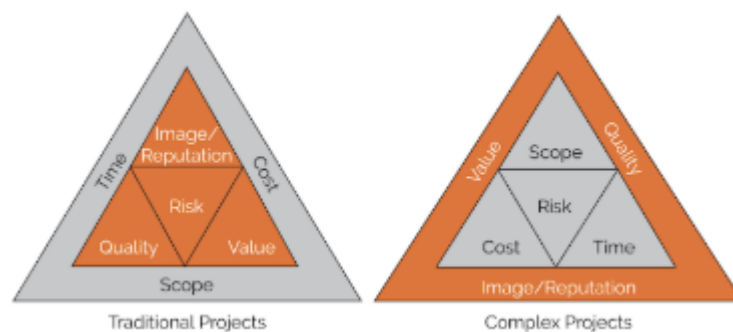


Figure 1.3.1 Triple constraints and competing constraints by Kerzner (2017:7)

Projects are categorised into different aspects, traditional and complex. In the period of execution of projects, they are decisions to be considered in the three constraints. These are the trade-offs. The trade-off is when deciding to choose one aspect of the constraints for the benefit of another. In most logistics projects, the way they are designed is considered complex because of the period it takes to complete them.

There are nine knowledge areas in project management and different phases or stages in the project's life cycle; these are grouped from stage 1, the initiation, pass-through planning, execution, monitoring, control, and closeout. Figure 5 illustrates the execution stage practically occurring in almost every project stage.

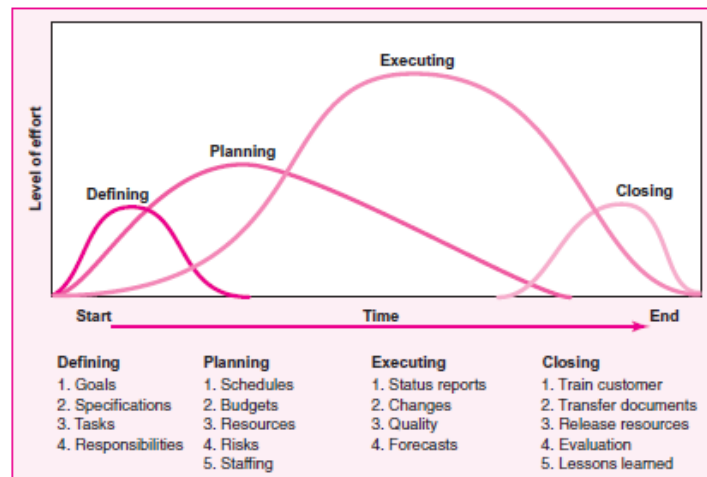


Figure 1.3.2 Project life cycle

Source: Burke (2013:7)

Each of the nine knowledge areas is part of the stages in the project life cycle. Therefore, it is important to consider effective leadership in any project. These knowledge areas include:

Project integration: Project selection methods and methodologies, stakeholder analysis, project charter, project management plans, project management software, review meetings, and lessons-learned reports are all covered.

Project scope: During the planning stage, every project should establish and document a list of project objectives, deliverables, milestones, technical requirements, limits and exclusions, and customer review. Examples include scope statements, work breakdown structures, mind maps, statements of work, requirements analysis, scope management plans, scope verification methodologies, and scope change controls.

Time management: the time it takes to finish a job or task is very critical. What is expected and needed at any project stage must always be available to avoid unnecessary delays. Some of the tools used include Gantt charts, project network diagrams, critical-path analysis, crashes, and schedule performance metrics.

Cost management: Cost is significant for the completion of projects. Payback analysis, earned value management, project portfolio management, cost estimations, cost management plans, and cost baselines demonstrate the present net return on investment.

Quality management: Quality is subjective, according to (Evans and Lindsay 2017:6) and may be characterised by six distinct viewpoints: transcendent, product, value, user, manufacturing, and customer. Quality management is all about controlling, guiding, and directing the execution process to match the specifications and expectations.

HR management: Recruitment, training, motivational techniques, emotionally intelligent I, project priority matrices, project organisational charts, resource scatter plot, and team-building exercises are all examples.

Communication management: (Burgoon, Guerrero, and Floyd 2016: 66). define communication as the reception and comprehension of information, whereas effective communication is the desirable reception, comprehension, and subsequent actions. One of the most important aspects of teamwork, project management, and project success is efficient communication (Chiocchio 2007:97). The following are some of the most common hurdles to effective communication that lead to project failure:

- Physical Obstacles
- Perceptual Obstacles
- Emotional Roadblocks
- Cultural divides.
- Communication barriers.
- Discrimination based on gender.
- Obstacles in interpersonal relationships.

Project risk management: Projects are a scientific breakthrough process that frequently uncovers new client needs and identifies previously unknown vital issues. Risk management tools include risk management plans, risk registers, probability/impact matrices, and risk rankings.

Procurement management: includes make-or-buy analyses, contracts, requests for proposals or quotes, source selections, and supplier evaluation matrices. In addition, there is a requirement to manage how vendors are selected and managed within the project life cycle.

1.3.1. Flow process of the nine knowledge areas

The process flow diagram shows the importance of each criterion in the projects. For example, logistics projects consider all the knowledge areas because for a project to be completed and successful, all the areas are part of the critical parts; they need to make sure. In addition, knowledge influences the organisational characteristics of Leadership, communication, trust, and the terms used in a logistics industry project (Berry, Verster, and Zulch 2009: 12).

The overall planning, coordination, and control of a project from start to finish are called logistic project management (Niittymaki and Ilveskoski 2015:8).

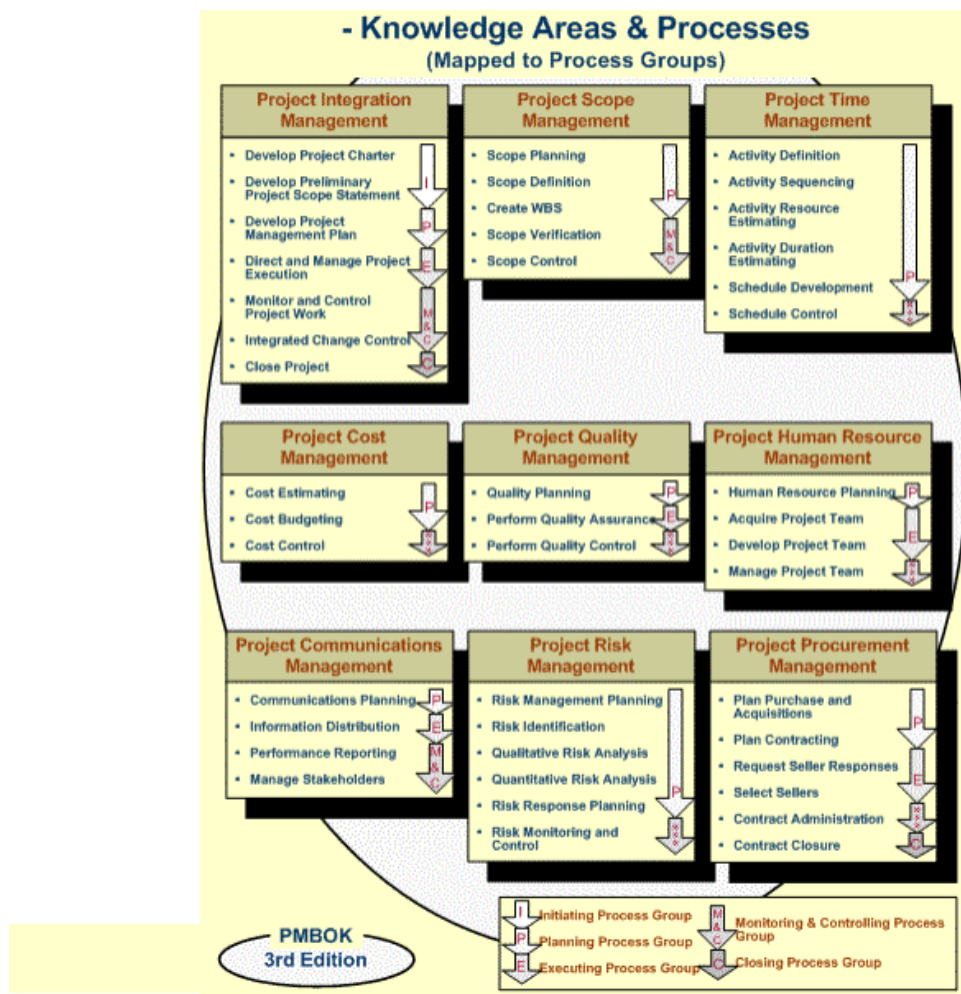


Figure 1.3.3 Flow process of the nine Knowledge areas

Source: Ahlemann (2009:19-30).

1.3.2. Improving project performance

What needs to be done to improve project performance has been an ever-changing and complex problem (Edwards, Love, and Wood 2011:50). Lessing, Thurnell, and Durdyev (2017:63) explained that these delays are caused by a lack of human resources skills, poor supervision, poor site management, ineffective leadership, a lack of resources, and equipment breakdown.

The factors mentioned above, amongst others, affect the performance of projects. Hubbard (2009:177) claims that time, cost, quality, client satisfaction, scope changes, business performance, health, and safety are all performance indicators that can be used to assess project performance. In a recent study, they mentioned that some of the significant traits that affect a project are success in several projects because of changes in design, which will result in scope creep, low budgeting, delay of approval and permits, lack of communication, and poor coordination. The table below shows the causes of delays.

Table 1.3.1 Causes of Problems

Categories	Causes of problems
Customer	Owner's failure to make progress payments Scope creep Customer and stakeholder communication and coordination are lacking.
Contractor	Disputes between subcontractor's schedule for implementation of the project Rework due to errors Ineffective planning and scheduling of project
The Project	The duration of the project is short Legal disputes
Design	Complex project designs Inadequate design-team experience Misunderstanding of customer's requirements Problems with the software Insufficient data collection
Material	Shortage of materials Delays on delivery Ruined or damaged material Changes in the bill of material and specifications Late procurement of materials
Equipment	Machine breakdown Shortage Low productivity
Labour	Unqualified Shortage of labour

Source: Own construction

The table above shows some severe groups that cause project delays. All the stakeholders, equipment, and material needed for completing a project cause delays in finishing the project at the expected completion. In many cases, projects will be put to stop because the client/customer did not budget enough for the project.

The following points would help minimise delays and improve performance (Rummler and Brache 2012:180):

- Customers must budget enough for the completion of a project.
- Minimise changing the scope of the project to avoid scope creep.
- Avoid choosing a contractor based on a lower bid; check resources and capabilities.
- Employ enough labourers for the project and motivate them to improve productivity.
- Manage finance and cash flow
- Priorities Planning and scheduling to avoid running out of time, cost overrun, and resources.
- Complete the project on time, to the desired quality, and at the estimated cost.
- The design must be reviewed and approved before the execution phase to avoid delaying the work in progress.
- Plan to finish design documents on time.
- Rework designs and drawings as little as possible; making necessary changes can take longer.

Change management guides organisational change through various stages, beginning with conception and planning and ending with a resolution. Change starts with a set of circumstances (point A) and ends with a functional goal (point B). The intermediate process has several stages and is dynamic. The critical steps in the change management process are outlined below.

1.4. Problem Statement

Bryman and Bell (2015:13), define a research challenge as "narrowing down the overall interest in a study topic to focus on a question." The increase and advancement of technology has impacted tremendously on the operations in many organizations with very little exception if ever. The industries are involved in extensive digitization of their operations which is intended to improve on the efficiency and effectiveness of the firm's operations. Consequently, organizations are moving from the traditional manually operated systems to digitization of their operations with intentions of improving on operations and contribution margins. The rate at which advancement in technology is moving creates numerous problems for the organization including among other things need for adequate training. Whilst project management or management by projects has gained momentum as an effective way of doing business in all industries, there is a high project failure rate. Effective (successful) execution of projects has

become the focus of all business operations regardless of the high failure rate in projects. The study is focused on the digitization of logistical systems at a selected retail organization in the Cape Metropolis. The competition in the industry calls for more efficient and effective ways of dealing with customers if the organization is to keep abreast of its competition. The study seeks to identify the critical aspects of digitization of the operations in view of the high failure rate of information technology projects.

1.5. Aim of the Study

The study's goal is to study and expand knowledge on how the introduction of new systems and projects were received and their success. The research will not only broaden the researcher's knowledge and promote a deeper understanding of project success in logistics projects, but it will also contribute to the method and importance of understanding project success in logistics projects. To also understand how successful projects are influenced by how stakeholders implement these projects.

1.6. Research Objective

1.6.1. Primary objective

The primary goal of this study is to identify and quantify the success elements in digitalising logistics initiatives in a Fast-Moving Consumer Goods company's supply chain from suppliers to customers.

1.6.2. Secondary objectives

- For Identifying success factors of digitalisation.
- To understand the importance of change management as one of the significant factors for the implementation of projects
- For analysing the uniqueness of the logistics project.
- To identify the influence of leaders for effectively executing projects.

1.7. Research Questions

- What challenges have been reported in digital transformations?
- How effective are project/program managers in aligning strategy in an organisation?
- Will improving project performance help in successfully implementing projects?
- What measures can be taken to avoid communication barriers?

1.8. Research Hypothesis

Amanchukwa et al. (2015:8) define a hypothesis as an assertion made by a researcher indicating the relationships between variables under studies. A hypothesis should be

researchable to prove the existence of the relationship between the variable as stated in the hypothesis. In this study the hypothesis is.

- Identification of risk factors and managing them will mitigate the failure of the digitalization of operational systems in supply chain logistics projects.

1.9. Research Design and Methodology

The design and methods of research are more similar than dissimilar. Research methodology refers to the steps that researchers must take to conduct their research (Sileyew 2019:10).). A research design, according to Creswell (2015:41), is the overall strategy you select to integrate the various components of the study coherently and logically, ensuring that the research problem is effectively addressed; it serves as the blueprint for data collection, measurement, and analysis. The difference in the study demonstrates that methodology is a component of research design. Jowah (2011:73) explains that the research design is currently in use and is attempting to correctly implement the master plan to get the intended results. The distinction between research design and research technique is seen in the Table below:

Table 1.9.1 Difference between Research Design and Research Methodology

Research design	Research Methodology
Master strategic plan	An operational or implementation plan
Focuses on the path to be walked	The way the walking is done is highlighted.
The emphasis is on the intended outcomes.	For best outcomes, focus on tools/techniques.
Using a research challenge or question as a guide	Tasks and job packages serve as a guide.
The rationality of inquiry is emphasised.	The emphasis is on procedures and processes.
The emphasis is on "what should be done."	The emphasis is on "how should it be done."

Source: Jowah (2014:77)

In the opinion of Christensen, Johnson, Turner, and Christensen (2011:50), Research Methodology examine and discusses the logic behind research methods and approaches. The systematic implementation of a study strategy is referred to as research methodology. Both qualitative and quantitative research approaches will be used based on the investigation's findings. They are using quantitative research to evaluate the objective data to get the number

of respondents. On the other hand, qualitative research evaluates subjective data and face-to-face interviews.

1.10. Research Processes

1.10.1. Target population

The objective population for a study involves a group of individuals for which the survey data is used to conclude. Thus, a target population selects a sample from the population to study. The target population for this study comprises of employees the FCMG firm. A population is a set or collection of things of interest in their entirety.

1.10.2. Sampling method

Convenience sampling is one of the other methods used because of the large population; the sample size chosen will be biased, and further research may be required. Other methods utilised include stratified sampling and random sampling, as discussed above. A sample is a subset of the population of objects (Buckland, Anderson, Burnham, and Laake 2012:48). Sampling is selecting samples from a group or population to serve as the foundation for estimating and forecasting the population's outcome (Meeker and Hahn 2011:57). A random sample of 30 people involved in the project's completion will be chosen.

1.10.3. Sampling size

The number of people that the survey will be conducted to is the FCMG firm. This firm employs approximately 4 400 people and is a leading producer and marketer. Since the organisation employs a few people in South Africa, Africa, and internationally the sampling will help select the relevant people. The sample size is 100 employees infirm will be selected, which means only 2.27% of its population.

1.11. Data Collection

Data collection is the systematic gathering and measurement of information on variables of interest to answer research questions, test hypotheses, and evaluate outcomes (Taguchi and Dörnyei 2009:3). For research purposes, information will be gathered through qualitative and quantitative data collected through questionnaires. A questionnaire is a series of questions posed to a random sample of people from a specific industry. The FCMG industry will be used in this case to conduct a survey.

1.12. Data Analysis

SPSS software will be used to analyse the collected data. The software is used for analysing statistical data. Because the data will be collected using a questionnaire and analysed using the SPSS software, descriptive statistics will be used to summarise the information. Descriptive statistics is defined by Evans and Lindsay (2017:253) as methods of visually and numerically presenting data, such as organising and presenting data, measures of tendency, and

dispersion, using charts, frequency distributions, and histograms. In the questionnaire, logistics participants are expected to answer the questions. The analysis is conducted open-ended, consisting of both qualitative and quantitative research.

1.13. Delimitations of the Study

This research will be conducted in some parts of Cape Town, where customers can come to the production, distribution centres, and customer outlets. Participants include members of the FCMG firm. The area selected is convenient for the study, and the cost of travel is not high.

1.14. The Conceptual Framework.

A conceptual model is defined as a photographic depiction that depicts the niche area to be researched in a pictorial format (Schwamborn, Thillmann, Opfermann, & Leutner, 2011:27, 89–93) and it also displays the variables that are related to the research issue. It is (conceptual model) commonly used in conjunction with a conceptual graph to develop professional and knowledge-based schemes in which curriculum designers (Rajangam & Annamalai, 2016:14-22) take reality as it is without adding or diluting it with what they perceive to be true.



Basic Conceptual Model (Author Own Construction).

The model above is based on the 10 project knowledge management areas, including the 5 project processes that underly the life cycle of a project. The success of these different aspects

will result in successful execution for a project generically. The use of theory in problem-solving in applied research focuses on how theory, in combination with practice (applicable behavior) and procedures (functional approach), frames vision, thinking, and action in the direction of problem resolution. The purpose of including theory in a conceptual framework is not to validate or devalue applied theories. The conceptual framework can be thought of as a collection of well-understood fact-based conditions that present the researcher's prescribed reasoning for resolving the problem. A lot of studies have discovered a wide range of essential project management success criteria that contribute to project success. Project management, human, organizational, process/technical, complexity, quality, and top management are the prerequisites for essential success aspects that cause project success. In addition to cost, schedule, and performance, (Ofori 2013:14) established a conceptual model that takes into account social, cultural, political, and economic issues, as well as communication, stakeholder involvement, leadership, and competency. Endogenous environmental elements influence the different essential factors and, as a result, the project's outcome. Political, sociocultural, economic, governmental, technical, and operational environments, he said, are among these factors. These elements operate as filters, with the more widespread they are, the greater their impact on the project's success.

1.15. Conclusion

This research aims to understand the need successfully execute projects. Change management is an imperative process that needs to be carefully investigated when introducing these new projects. In its broadest sense, organisational change refers to a company's actions to change or adjust a significant component of its organisation. This could be the company culture, internal processes, underlying technology or infrastructure, corporate hierarchy, or another critical factor. Not only will that create a healthy working environment, but it will increase the performance of productivity in strategy implementations and aligning projects within the organisation's strategy. Most organisations are diverse, therefore is a need to align strategy with the organisation's culture and behaviour, leadership, resources, and governance ethics. Aligning strategy with strategy also eliminates the causes of misalignment in the implementation stage. According to Heracleous and Werres (2016:491), strategic alignment links an organisation's structure and resources with its strategy and business environment.

1.16. Chapter Classification

Chapter 1: Research Proposal: this chapter presents the study, reviews previous research and conclusions on the topic, produces the problem statement, and briefly examines the

objectives, research questions, methodology, and data collection instrument, technique, and analysis.

Chapter 2: This chapter discusses technology, information technology, and SAP planning systems and their applications.

Chapter 3: This chapter discusses the competition, competitive advantage, and competitive analysis.

Chapter 4: This chapter discusses the research methods that the researcher will employ when carrying out the investigation. The study strategy, research design, data gathering methods, sampling, and data analysis methodologies are all covered in this chapter.

Chapter 5: This chapter focuses on results; the data and interpretation are presented in the questionnaire's question and response format. Detailed information is supplied in the diagrams' explanations and their links.

Chapter 6: Conclusions, recommendations, and limits of the study are summarised, and the findings are given a final interpretation. The thesis concludes with recommendations for future research.

1.17 Summary

This chapter introduces the study and reviews the literature. It also states the study objectives, research questions, design and methodology, population, sampling, data collection instrument, and analysis. Furthermore, this chapter provides an overview of what the other chapters entail. The role of a project manager in the success of a logistics project, or any project for that matter, is critical and should never be underestimated. As a result, evaluating the competencies of an effective project manager is critical for the success of a logistics project. A logistics project is a complex, unique, and one-of-a-kind set of activities that can be described by technical and economic parameters and are determined by cost, time, and scope to aid logistics management in enterprise/supply chain operations (Pisz 2011: 107).

CHAPTER 2

TECHNOLOGY, INFORMATION TECHNOLOGY, DATA STORAGE TECHNOLOGY, AND PLANNING SAP

2.1. Introduction

Schreiner, Beltran, Lockwood, and Takacs (2020:1862) technology is the ever-changing outcome of accumulated knowledge and application in all techniques, skills, methods, and processes used in industrial production and research. Technology is embedded in the operation of all machines, with or without detailed knowledge of their function, for an organisation's intended purpose. You, Pollack, and Long (2005:804) explain that files and documents are digitally recorded and saved in a storage system for future use, which is what data storage entails. Data storage makes it simple to backup files for safekeeping and quick recovery in the event of a computer crash or cyberattack. Storage is the first step in big data analytics for real-world applications in organisations like scientific experiments, healthcare, social networks, and e-commerce. In the organisation, the planning phase is where fundamental decisions are made about how and with what materials the described challenges will be addressed and solved. While planning will never be an exact science because it usually involves making assumptions about the future, it makes sense to optimise it as much as possible because the execution's quality depends on the quality of the planning.

2.2. Technology

In previous studies and research, defining technology has been complicated as it varies amongst its departments. For example, how people in the marketing department view and understand technology is entirely different from how the supply chain is characterised (Kahn, 2018:453). Stark, Tracht, Takata, and Mori (2016: 667) classified technology into two concepts of understanding functional areas, management, skill labour, quality control, marketing, production, and reliability. It consists of products, processes, tools and techniques, planning, and resources as a physical component. Technology is used for problem-solving, obtaining results, and completing tasks.

The continuous change in technology for many industries has created both threats and opportunities in their business models. Firms constantly must develop and adapt to the new changes because that will assist them in having a competitive advantage over other firms, and technology will assist in completing tasks in time, thus improving service delivery and customer satisfaction, (Wirtz, Schilke, Ullrich, 2010:272). On the other hand, threats of these new innovative technologies resulted in most firms that fear change which in later stages they reach a stagnant stage rapidly, leading to the liquidation of these organisations and the unemployment rate rises, on the other side leading firms to use technologies and create opportunities to change the ways of working and adapting these new innovative working.

Technology encompasses all techniques, skills, methods, and procedures used in the construction of goods or services, and technology is imperative in scientific research for achieving goals.

Technology has transformed several companies through automation of processes and encoding of information in computers with the assistance of information technology. In the opinion of Bloomberg (2018:2019), this process of change consists of three primary operations, digitisation, digitalisation, and digital transformation, which in most instances, their meanings are mostly confused. Bloomberg explains that digitisation can be moved from paper forms to using computers to type digital forms. On the other hand, Ritter, and Pedersen (2020:180), explain digitalisation as data in the organisation and its valuables are transformed into advanced digital technologies; this may result in changes in their business models. A business's survival is by acquiring innovations and adapting to digital change to increase efficacy and improve performance. Change management is also critical when these latest technologies are introduced and implemented. How people receive these new changes and understand their reasons creates an easy crowd to implement projects.

The process of digitisation and digitalisation in organisations is called digitalisation transformation. Kutzschenbach, and Daub (2021:179), digital transformation involves the integration of technologies and problem-solving in the organisation. While not the only factor in the success or failure of any transformation effort, digital transformation is a critical component of an overall business transformation strategy. These changes in technologies in the organisation improve customer experiences, organisation models, and operations. In addition, it improves areas such as effective efficiency and value and increases revenue.

2.3. Background of Technology

The knowledge and understanding of technology have changed over the past centuries. This term 'technology' became prominent in the second industrial revolution; its meaning also has evolved or changed in the 20th century, with social scientist Thorstein Veblen mentioned (Papageorgiou and Michaelides 2016:30). The social scientist Thorstein used German expressions such as Technik and converted its ideas to Technology. Potkonjak, Gardner, Callaghan, Mattila, Guetl, Petrović, and Jovanović (2016:309) described technology as tools, machinery, utensils, weapons, instruments, housing, clothing, communication, and movement of devices and the skills people pose to create products. Bains's comprehension of the term technology has since been used in school to explain its meaning, especially in the social sciences field. On the same note, engineers and scientists believe that this definition is far-fetched and believe that technology is applied to science.

It is not always easy to tell the difference between science, engineering, and technology. Thomas, Nelson, and Silverman (2015:18), science is the systematic acquisition of knowledge

about the physical or material through observation and experimentation. Because they must meet utility, usability, and safety requirements, technologies are not always solely the result of science. Engineering is the process of designing and fabricating tools and systems to use natural events for practical human purposes, frequently utilising scientific findings and techniques with an end goal (Hossain, 2018:10). Therefore, technology is made of science and engineering. Science studies what can be proven, e.g., the study of electrons by using available tools and knowledge, engineering builds more tools and machinery, and advanced technology.

Technology advancement in industries like agriculture, production, mining, and logistics was introduced during the industrial revolution. It evolved, and new industrial revolutions began over the centuries. In the second revolution, electricity was introduced, and innovations related to electricity were created. In the 20th century, inventions in transportation like aeroplanes and automobiles were made, and other innovations in physics and information technology introduced the internet (Tinmaz 2020:26). In the opinion of Rajaraman (2018:1), Information Technology (IT) is considered one of the major industries in the majority, if not all countries. Information technology is centred around the acquisition, storage, processing, and organisation of data. Today, information technology is crucial because people in offices had to work from home because of the pandemic. There are many issues when working in and out of offices, and technicians need to be a call away. If systems and laptops/desktops start acting up, technicians assist. IT also deals with such problems whenever there are cyber-attacks or phishing from persons outside the organisation to protect clientele information and the business.

Mohammed (2017:7), building communication networks for a company, safeguarding data and information, creating, and administering databases, assisting employees with computer or mobile device problems, or performing a variety of other tasks to ensure the efficiency and security of business information systems are all examples of information technology. This department is imperative for any organisation if problems occur for employees where systems are down or problems with access. Computer breakdown etc. may lead to an unproductive day or from the time they experience these problems.

2.4. Data Storage Technology

In the past decades, relational databases have been used for data management technology. Data management is one of the most imperative organisational drivers to ensure that data is a critical business driver used to ensure data is obtained, validated, stored, and protected in a standardised way. For reliable, accessible, and up-to-date data, it is crucial to develop and deploy the proper process and procedures for employees (Jha, Agi, and Ngai, 2020:113382). To ensure that data is managed most effectively and efficiently, there are seven practices a business should consider (Ferris, 2017: 309)

2.4.1. Building strong file naming and cataloguing conventions

When reports and files are created in the reporting systems, they need to be user-friendly, descriptive and have standardised file names that are easily accessible. The file formats must allow users to search and discover data sets in the long term. Dates must be set in a standard format.

2.4.2. Carefully consider metadata for data sets

Metadata is the descriptive information about the data you are using; it contains information about the data's content, structure, and who is permitted. All this information is essential, and if the information is not accessible, the system is not user-friendly. Having all this information also assists with creating and understanding a data lineage as the data flow and tracking becomes easy. This, in turn, assists with mapping relevant data and documenting data relationships.

2.4.3. Data storage

Data creation needs storage plans which are an essential part of the process. Every organisation needs to have a plan for backup and significantly ample storage for all to keep the vital information. A larger organisation may need a different storage type than a small project; therefore, specifications are imperative. The storage locations consist of desktops/laptops, network drives, optical storage, external hard drives, cloud storage, and flash drives.

2.4.4. Documentation

Documentation is also one of the paramount data management practices. To ensure a healthy workflow, it is essential to have multiple levels of documentation that will have explanations as to why the data exists and how to make use of it. Types of levels include project level, file level, software used, and context.

2.4.5. Commitment to data culture

Ensuring that a department or organisation's leadership prioritises data evaluation and analytics is part of committing to data culture. This is important when leadership and strategy are required and when a budget or time commitment is required to ensure appropriate training is conducted and received. Furthermore, executive sponsorship and lateral buy-in will enable stronger data collaboration across your organisation's teams.

2.4.6. Data quality trust in security and privacy

Creating a culture dedicated to data quality necessitates a commitment to creating a secure environment with strict privacy standards. When you are working to provide secure data for internal communications and strategy, or when you are working to build a relationship of trust with a client that you are protecting the privacy of their data and information, security matters.

Management processes must be in place to demonstrate that your networks are secure and that your employees understand the importance of data privacy. Data security has been identified as one of the most important decision-making factors in today's digital market when companies and consumers make purchasing decisions. One breach of data privacy is one too many.

2.4.7. Invest in quality data-management software

It is recommended, if not required, that you invest in quality data-management software when considering these best practices together. Organising all your data into a manageable working business tool will assist you in finding the information you require. Then you can create the appropriate data sets and data-extract scheduling for your business requirements. Data management software will work with internal and external data assets to help you create the best governance plan for your organisation. Tableau has a Data Management Add-On that can assist you in creating a robust analytics environment using these best practices. Using dependable software to help you build, catalogue, and govern your data will increase trust in the quality of your data and may lead to self-service adoption.

In this era of new technology and industrial revolution, big data is amongst many other technologies that have taken the world by storm (Oussous, Benjelloun, Lahcen, Belfkih 2018:431); big data refers to the growing data sets; it is complex and requires solid technologies and advanced algorithms. Siddiqa, Karim, and Gani (2017:1040) conducted a study by identifying the strengths, weaknesses, threats, and opportunities in the figure below on traditional and extensive data storage systems.

Table 2.4.1 SWOT analysis of relational databases and extensive data storage systems

	Traditional database systems	Big data storage systems
Strengths	<ul style="list-style-type: none"> Support highly structured data stored and processed over an auxiliary server Vertical scalability with extendible processing on a server Specialized data manipulation languages Specialized schema 	<ul style="list-style-type: none"> Support heterogeneous structured data Horizontal scalability with extendible commodity servers Support data-intensive applications Simultaneous accessibility Reliability and high availability High fault tolerance Eventual consistency
Weaknesses	<ul style="list-style-type: none"> Performance bottleneck Processing delays Increased deadlocks with growth of data Limited storage and processing capacity Co-relations which hinder scalability Expensive join operations for multidimensional data 	<ul style="list-style-type: none"> No compliance with ACID due to scalability and performance
Opportunities	<ul style="list-style-type: none"> Support complex queries Atomicity in complex transactions Built-in deployment support 	<ul style="list-style-type: none"> Improved query response times Simplicity in storage structures Data-intensive
Threats	<ul style="list-style-type: none"> Extensive volume of data for storage with dynamic growth Frequently changing schema Complex data structures More concurrent access needs Frequent I/O needs Real-time processing needs Consistency of a large number of storage servers 	<ul style="list-style-type: none"> Large number of small files Deployment may need community support

Source: Siddiqa, Karim, and Gani (2017:1040)

In today’s world, big data through the industrial revolution has been introduced as global digital data is growing at an incredible rate. Oussous, Benjelloun, Lahcen, and Belfkih (2018:1177) explained some of the different big data storage technologies as illustrated in the table below.

Table 2.4.2 Big Data Storage Technologies

Technology	Vendor	Design goals
BigTable	Google	Chang, Dean, Ghemawat (2008) designed this technology for distribution in highly scalable and structured data
HBase	Apache	Read/write requests for consistent, real-time, and random access to BigTables
Hypertable	Zvents	Iordanov (2010) designed for parallel, high-performance, scalable databases for large data. It also supports query performance

MongoDB	MongoDB, Inc.	Montag (2013) provided relational data model facilities for documentation to support quick access to data from various applications.
Terrastore (in-memory)	Terracotta, Inc.	Tudorica, Bucur (2011) accomplished consistency for documentation data through distribution.
HyperGraphDB	Kobrix software, Inc	Iordanov (2010) designed a memory model for Artificial Intelligence (AI) and semantic web projects to produce relational and object-oriented data management.
InfiniteGraph	Objectivity, Inc	InfiniteGraph (2014) provides distributed data storage to support complex scepticism over data to obtain higher values.
Rocket U2	Rocket Software	RocketSoftware (2015) offers a configurable and stable performance for growing data volume. Provides cost-effective and continuous improvement in evolving requirements.
Scalaris	Zuse Institute Berlin and Scale solutions	accomplish consistency for reading/write-intensive transactions; to build configurable online services
BerkeleyDB	Sleepycat, Oracle	configurable, embedded, key-value databases with high performance; to support transparently flexible and configurable data management over applications.
DynamoDB	Amazon	Sivasubramanian (2012) supports distributed storage of scalable size of data to improve search inquiry performance
Qizx	Qualcomm Technologies, Inc.	Qualcomm (2014) provides an enterprise-ready solution for XML data manipulation to support text-intensive, large-volume data applications for fast data retrieval
Neo4j	Neo Technology	It provides relational graph databases for relating data and supports data relationship manipulation and decision making
RethinkDB	RethinkDB	RethinkDB (2015) facilitates the creation of real-time web applications and provides an append-only document-based storage structure.

Aerospike (in-memory)	Aerospike, Inc.	Aerospike (2015) creates a scalable and adaptable platform for web-scale applications; supports reliability and consistency in the same way traditional databases do.
OrientDB	Orient Technologies	Orient (2015) provides graphs, document-oriented model characteristics, and multi-model, scalable storage.
AllegroGraph	Franz, Inc.	AllegroGraph (2015) develop a scalable graph solution that is memory and disk efficient
Redis (in-memory)	Salvatore Sanfilippo	Carlson (2013), in a master-slave architecture, efficiently enables query operations and replication with an emphasis on update performance.
Voldemort	LinkedIn	Sumbaly, Kreps, Gao (2012) provide large-scale read-only data with distributed and consistent storage; to support distribution transparency, failure transparency, and versioning to maintain data integrity
KAI	Slashdot Media	SourceForge (2015), by utilising Amazon's DynamoDB, we were able to deliver a highly scalable and reliable solution.
Cassandra	Apache	Provides data storage that is distributed, highly available, and fault-tolerant; it also increases access performance by using data replication and row distribution.
SimpleDB	Amazon	Ensures data availability and durability by automatically replicating data across geographic boundaries.
MemcacheDB	Danga Interactive	To ensure that data is stored and retrieved in a timely and trustworthy manner.
CouchDB	Apache	Provides a self-contained and dynamic structure for web documents.
Riak	Basho Technologies	Ensure that applications and platforms are always available.

SciDB	Paradigm4	Support for N-dimensional data storage and manipulation
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Source: Own construction

The table above provides summaries of data storage technologies, which could be that these technologies are designed to measure computer processing and consistency. Instead, however, these systems assist with features like intensive workload, availability, data access performance, and complex operations. For example, Siddiqa, Karim, and Gani (2017:1040) provide a table where they survey and come up with comparison and application areas of storage technologies. These technologies are focused on comparing different applications in memory, on disk, persistence, intensive read/write, data partitioning, shared-nothing, scalability, and application.

2.5. Information Technology

Rajaraman (2013:1) defines information technology (IT) as the technology used to acquire, store, organise, process, and disseminate data in specific applications. Information is processed data that may be used to make decisions and conduct actions. It also boosts our knowledge, allowing us to perform better at work. Because of the enormous drop in computing prices, information technology has been widely implemented across industries since the 1970s. Firm IT expenditure has migrated more to software, particularly custom applications, as the cost of computers has decreased.

Leviäkangas (2016:1), most IT technologies and tools have been launched due to digitalisation. They had had a significant impact in many if not all departments in firms when they were implemented. Organisations have benefited from the rapid advancement of information technology, but it has also faced several obstacles. A significant challenge is how firms effectively employ information technology and incorporate it into their strategy to fully utilise its possibilities as an enabler (Sibanda, Ramrathan, 2017:191). Because of the fast-paced nature of information technology, there is little empirical evidence on how it affects business strategy.

2.5.1. Importance of information technology

Information technology assists in the development and expansion of the commerce and commercial sectors and increases productivity for most organisations. With the advancements in information technology, the time it takes for diverse industries to produce business is now reduced. In addition, it offers electronic security, storage, and communication efficiency.

Information technology requires computer software to carry out the work. Computers create that link through IT and reconnect companies around the world. It aids staff in keeping track of

their numerous customers for various businesses. For example, it allows patients to communicate with doctors through the internet and receive advice on their health issues. In addition, the system can correctly maintain patient records.

Information technology, Programming/coding, data conversion, data communications retrieval and storage, and system analysis are all utilised to acquire data. With the emergence of Information Technology, even the many industries have been drastically improved. Computers, software, and the internet all aid in the proper operation of a business and the production of expected results.

The IT department has put a solid communication infrastructure to communicate effectively. Virtual vaults, a new storage system that allows users to keep or withdraw their papers, are already being used by businesses.

Students are more willing to learn utilising current technology and are placing a greater emphasis on online learning. The teaching methods rely on live interaction/recording with teachers.

Students are not confined to the old traditional learning methods. All of this is made possible by introducing Information Technology in education, demonstrating the significance of technology.

2.5.2. Benefits of information technology

Our lives have been substantially changed by information technology. Everything is just a simple click away. Below is the list of the advantages of information technology in our lives and that it is required in every area.

Because of technological advancements, employees can now access the company's system through remote access. Employees now do not have to be restricted in the office environment. They can also submit work from the comfort of their own homes. The person's actual presence in the office and easy access to the system has unquestionably enhanced productivity, which was proved during the drastic changes after the world was affected by COVID-19.

IT specialists are in high demand in a variety of fields. The demand creates a massive opportunity for IT experts to learn more about the sector and demonstrate their abilities. Computer programming, system analysis, testing, software and hardware development, and web application design, are some of the needed professions today.

The education field has changed its vision and embraced a modern manner of teaching and learning due to the advent of information technology. Students benefit from having access to a computer with an internet connection because it allows them to learn new things and understand topics more simply and thoroughly.

Thanks to information technology, communication between people has never been cheaper, easier, or faster than now. Texting, video chatting, and emailing are all so simple nowadays. Moreover, many apps are accessible to deliver these services on the internet.

We have seen and comprehended the significance of globalisation thanks to information technology. There are no physical barriers between states today since the world is on one platform. Many companies worked virtually to implement projects, unlike in the older days when they would travel around the world. This also has reduced travel costs as work can be done virtually with other project stakeholders.

Thanks to information technology, the disadvantages of time and distance in economic activities have been eliminated in the technological world. As a result, buying and selling have become far too simple. Moreover, customers can shop online from both domestic and international providers.

News transmissions have gotten more accessible because of wireless communication methods. As a result, it only takes a few seconds to get the latest news.

2.6. Planning in SAP

SAP, formerly known as Systems Application and Product, is a multinational software organisation that uses enterprise software to control business and customer relations operations. It is famous for its enterprise resource planning (ERP) software. Apart from ERP software, they have other database software and technology. The ERP system has evolved and been around for decades, and the systems have diverse focuses. Blackstone, and Cox (2005:38) defines enterprise resource planning as the “framework for organising, defining, and standardising the business processes necessary to effectively plan and control an organisation so the organisation can use its internal knowledge to seek external advantage”. The definition helps us understand the overall need and application in the ERP structure.

ERP systems assist an organisation with the following supply chain process: supply chain planning, inventory management, warehouse management, materials management, purchasing and procurement, monitoring and maintenance, measurement, and assessment.

In the past decades’ most manufacturing organisations were mainly focused on product-based strategies, and in turn, their competitive advantage was driven by cost. Therefore, they investigated drivers based on high volume production and minimising cost while hoping for economic stability. As a result, most of these firms implemented computerised reorder points (ROP) systems, which included economic order quantity and economic reorder points. This is the essential manufacturing planning and control (MOP) of these firms (Jacobs 2007:357). However, the figure below illustrates departments in organisations that were ERP; in the past, no system integrated all these business functions using one system.



Figure 2.6.1 Functional areas in ERP systems.

Source: (Haddara 2018:43)

ERP systems heavily influence the quality and efficiency of logistic procedures. They allow for the planning, coordination, and management of logistic flows in the supply chain, including the transfer of goods, financing, and information flow. (Angolia, Pagliari 2018:104) mentioned that an additional exercise is proposed for deeper learning of transportation and logistics components of supply chain management, based on a team-based logistics simulation running on a live commercial-software application (SAP ERP). Detailed procurement strategies and logistics plans are developed using sales and operations planning over time to improve the fundamental supply chain management (SCM) concepts of inventory control and forecasting in a distribution network (Olhager, Wikner, 2000:210).

When dealing with warehousing or distribution trades, enterprise resource planning (ERP) is a helpful tool for effectively managing your logistics (Baharudin and Prasetio, 2021:2). Rushton, Croucher, and Baker (2022:28) explains that logistics management entails planning and executing commodities transfers. These commodities are transported from suppliers to customers or even to storage facilities. These operations can be streamlined and automated using ERP solutions for the logistics business. They can help with a variety of logistical and distribution management issues. The following are the primary areas where ERP may assist with logistics:

- **Inventory management:** by providing precise inventory data, ERP assists firms in making better decisions. ERP inventory management solutions allow companies to manage their logistics, operations, finance, and inventory all from one place, minimising errors and increasing efficiency. Inventory management enables you to organise your replenishment orders properly.
- **Distribution:** one of the most significant components of a logistics company's operation is distribution, which entails careful management of distribution flows and control over product transportation. It brings all the relevant data together in one single location. An ERP system can effectively manage the movement and distribution of goods.
- **Cost Reductions:** companies can lower their monthly expenses by using an ERP system's reliable, real-time data to make educated decisions faster and more accurately. Business decision-makers can address problems or adjust before they become a major expense because they do not have to wait for information and comments. The ERP system allows the organisation to develop customised interactions with customers by providing a complete analysis of each client and record all their information. The real-time data also lowers the chance of errors, late deliveries, and missed client commitments. Customer satisfaction is essential.
- **Supply Chain Management:** one of the most critical and complicated components of a business is the supply chain. Supply chain management (SCM) is essential for attaining corporate growth in a highly dynamic market since it involves an extensive network of manufacturers, suppliers, distributors, retailers, and customers. The following are some of the primary benefits of the ERP-Supply Chain.
- **Analytics and forecasting:** the world is becoming more and more data-driven. Integrating an ERP system into SCM activities is another way to obtain essential data and scale up business operations. It acquires meaningful data from various sources using enterprise resource planning and supply chain management solutions. For example, you may create demand projections for consumers, goods, location, and seasons using ERP. Knowing what is coming up gives your managers the information to make strategic, profitable procurement, scheduling, and labour management decisions.
- **Automation:** business functions can be automated using modern ERP and supply chain management technologies. For example, if inventory is low, the system can immediately contact the supplier to request restocking. By handling supply requests on the fly, the organisation can satisfy the demands of our increasingly fast-paced world.
- **Data Sharing and Decision-Making:** supply chain ERP software integrates several parts, from inventory to logistics. Whether the business is small, medium, or huge, or whether it is expanding across broad geographic areas or is condensed into a small

region, the ERP program is a decision support system. The availability of meaningful data during decision-making is a significant benefit, and ERP programs provide this.

- **Streamlined Procedures:** Finance, accounting, human resources, production, material management, quality management, distribution, and sales are just a few departments and tasks that ERP helps firms streamline. Modern ERP solutions improve efficiency across departments and important stakeholders such as suppliers and partners, adding value to every stage of the supply chain.

Implementing the planning ERP system in the supply chain assists in some of the challenges organisations face. Supply chain efficiency measures how an organisation supports meeting the requirements in cost savings and process optimisation with the available resources. The challenges in the supply chain are:

- **Shortage of materials:** this means that the quantity demanded is greater than the amount supplied, e.g., organisations during the pandemic suffered a lot when it came to demand and supply. When demand hiked because of panic buying in most organisations resulted in much shortage. The previous forecasts and expected demands were no longer valid as the economy was exposed to a different situation. No organisation was prepared for a pandemic.
- **Increase in freight cost:** the rate at which stock can be moved has risen over the past two years as the pandemic disrupted supply chains and trade channels. As a result, prices have increased in the freight industry, including parcels, trucks, ocean shipping, and warehousing.
- **Demand and Forecasting:** This uses historical sales data to estimate projected consumer demand forecasting. It provides an estimate of the goods and services that customers will be buying in the future, and it forms an imperative component in the supply chain process. Demand and forecasting are critical in budgeting, financial planning, sales and marketing plans, raw material planning, production planning, risk management, and mitigation plans.
- **Customer's requirement:** customer satisfaction is an essential aspect of any organisation; this consists of on-time delivery, production-on-demand, and updates on the availability of the order.
- **Digitalisation:** supply chain digitalisation has impacted the success of organisations in many industries. Digital transformation in the supply chain is the process of turning analogue processes in the supply chain and turning them into digitisation through master data which consists of all the information in the entire supply chain and external information from sources like customer data.

In most organisations they change strategies to accelerate growth through digital transformation with a customer-centric strategy; in the process of digital transformation, five main approaches are investigated:

- **Change management approach:** investigate the change impact on employees by implementing the new strategy, target operating model (TOM) and technology solutions to manage the transition.
- **In-field execution:** replace the interim system's present functionality with a more capable and advanced system that allows for more agile and flexible resource allocation, in-order capturing, customer analytics, and investment emphasis.
- **Market redesign:** a new technology-enabled, simplified concept-to-market approach that will promote agile decision-making and improve firms' speed-to-market while also giving data on campaign effectiveness.
- **Sales operating model:** a technology-enabled sale and merchandising operating model that will transform the way customers are served and engaged with them.
- **Go-to-market strategy:** Customer-centric approach with optimal customer coverage will help businesses succeed in the post-COVID environment.

2.7. Theoretical Framework

2.7.1. Enterprise Resource Planning (ERP) system

To build a stronger business relationship, as complex as the business is enterprise understands the significance of having the correct information at the right time. In Simunovic, Šimunović, Havrišan, Pezer, and Svalina (2013:711), cost reduction and improvement of services through enterprise management need an effective information system, thus increasing the competitiveness. Sarno, Djani, Mukhlas, and Sunaryono (2015:412), the instabilities in organisations need ERP systems that respond instantly and adjusts applications in the revision of organisational structure and process in standard, which will therefore link processes in the format and supports decision making with set goals to achieve by the integrated Enterprise system.

2.7.2. The concept of ERP systems

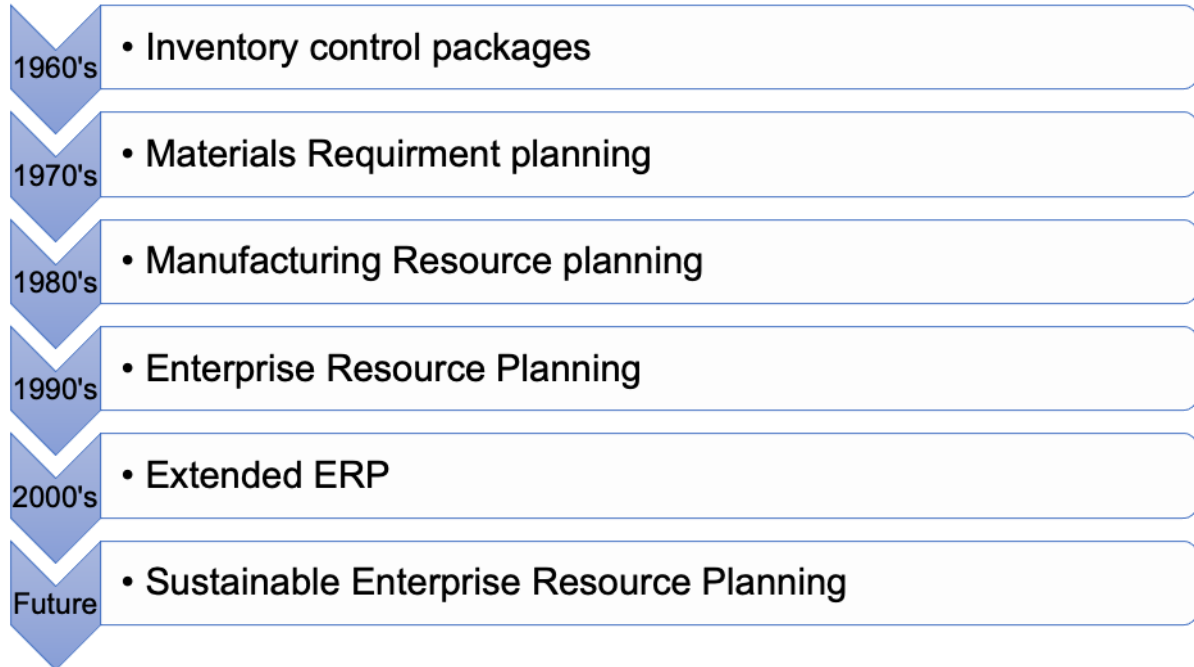
When computers were first brought to the corporate world in the twentieth century, information systems were only utilised for a restricted range of tasks, such as accounting or sales. Therefore, businesses require many systems to satisfy their various needs. This process resulted in duplicate data and focused on administration rather than data sharing. Organisations began developing ERP systems in the mid-1990s to computerise, combine, and integrate corporate processes. Organisations began to create applications to track inventory, assist in ordering materials, and produce finished goods (Goldston 2020:14). A set of

procedures for achieving successful planning and control of employees from all levels of administration were offered ERP systems the ability to find needed information from a range of designs and use it from the same source of information (Bradford and Henderson 2017:40).

ERP stands for Enterprise Resource Planning, and according to (Haddara and Constantini, 2017:950), it is a standardised software package that integrates an organisation's internal value chain. The foundation system for domestic and global operations supports most functional areas in their day-to-day operations. An ERP system is made up of numerous modules that are targeted at specific business functions and are based on an integrated database. Enterprise applications are systems that help a company's various roles, levels, and business units coordinate actions, decisions, and knowledge. ERP systems are often regarded as the most influential business program globally.

2.7.3. Evolution of ERP

Table 2.7.1 Evolution of ERP



Source: Bjelland and Haddara, (2018:22)

In the 1960s, the focus was on producing as much as needed without demand and forecasting; most software was only created for material handling. The focus during that era was on finding effective ways for the management and storage of inventories.

During 1970 the focus shifted again, and having large quantities of inventory was not ideal, and MRP systems were introduced. A Material Requirements Planning (MRP) system is a production planning and decision-making tool that compares current inventory levels to production capacity and the need to make goods based on projections. MRP plans output according to bills of materials while reducing inventory. The method is computerised and examines criteria over a set period.

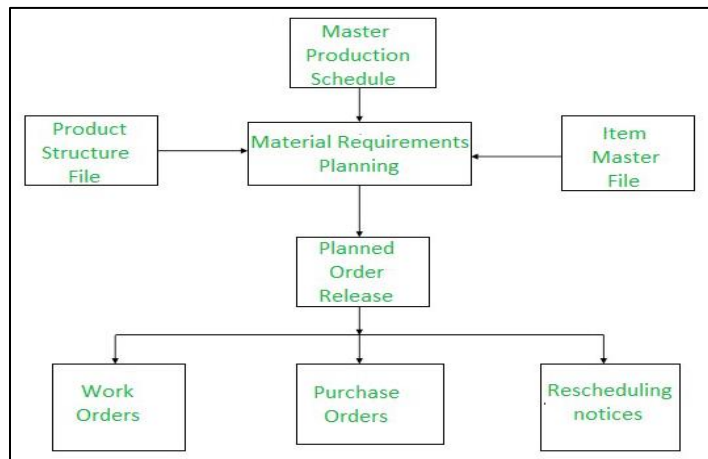


Figure 2.7.1 Material Requirements Planning

Source: Kortabarria, Apaolaza, Lizarralde, and Amorrortu, 2018: 632

In the 1980s, more developments in MRP 1 were created, resulting in Manufacturing Resource Planning (MRP 2), a technology that assists organisations in more efficiently and correctly planning their manufacturing processes. Manufacturers use MRP systems to estimate demand, schedule production operations such as assembly lines, and keep track of inventory levels across various channels such as warehouses and stores.

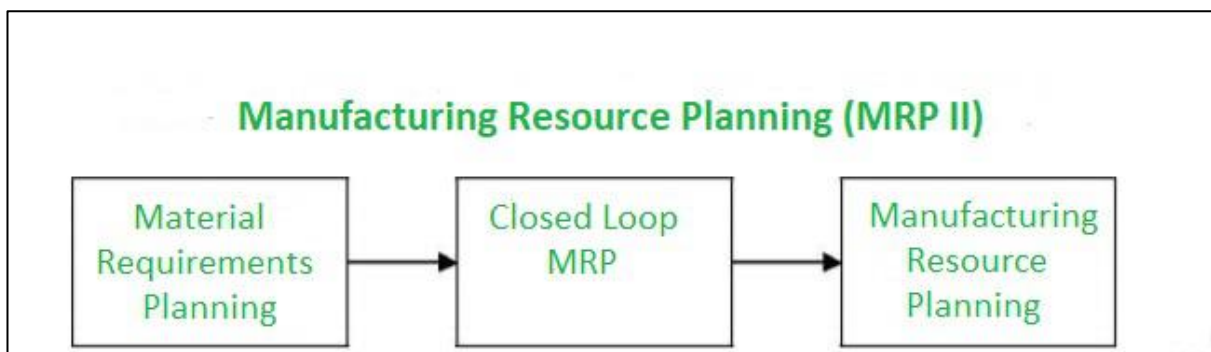


Figure 2.7.2 Manufacturing Resource Planning

Source: Kortabarria, Apaolaza, Lizarralde, and Amorrortu, 2018: 632

With the market becoming more competitive in the 1990s, the major players sought a competitive advantage. They began to release applications that integrated the operational portion of the organisation with the firm (Bhuiyan, Chowdhury, and Ferdous 2014:75). Jacobs and Weston (2007:357) this new technological advancement fuelled tremendous growth among the core six business application vendors. ERP is a popular type of business software, particularly among large corporations. It is a business strategy and industry-domain-specific application that optimise enterprise and inter-enterprise collaborative operational and financial processes to build value network systems for customer and shareholder communities. At its

core, ERP is a powerful tool for centralising information and workflow processes through data management because ERP centralises all your workflow data.

ERP systems were integrated business processes that included all functions such as manufacturing, distribution, accounting, financial, human resource management, project management, inventory management, service and maintenance, and transportation in the early 2000s, based on the technological foundations of MRP and MRP II. It enabled enterprise-wide visibility, accessibility, and consistency. More modules and functionalities were added to the core modules in the 1990s, resulting in the emergence of extended ERP. Advanced planning and scheduling (APS), e-business solutions such as customer relationship management (CRM), and supply chain management are examples of these developments (SCM). According to (Holyson, 2019:385), the ERP system is anticipated to simultaneously improve the foundation and front-end operations.

In the future, leaders are embracing technology to integrate sustainable operations, procedures, and information through knowledge sharing across their organisations as they become more inventive and socially conscious. Jones, Wynn, Hillier, and Comfort (2017:1) defined sustainable development and production as instigation that meets people's current needs without jeopardising their future needs. As a result, environmental sustainability for many organisations has become an imperative factor in their supply chain.

2.8. Conclusion

In conclusion, technology is vital for organisations during this era. It tries to make life easier in terms of reducing analogue, but it also is a game-changer for many organisations. To have a competitive advantage and rank higher with competitors, organisations are now introducing these technologies. Furthermore, this research paper focuses more on digital transformation in organisations; this paper adds insight into how technology has influenced significant changes in how work is done. Information technologies have drastically changed how things are done in today's era, where virtual interactions are more popular. The ERP systems have drastically improved from inventory packages back in the 1960s to the new future where sustainability in ERP has commenced and creating better changes in the supply chain.

2.9. Summary

Chapter two covers information technology, data storage technology, and Planning systems, mainly in SAP. Several companies have been transformed by technology through the automation of processes and the encoding of information in computers with the assistance of information technology. In many industries, technological advancement was introduced during the industrial revolution. Since then, it has evolved, and new industrial revolutions over centuries were introduced. Things like electricity were part of these innovations, which created more opportunities for growth in most industries. Data acquisition, storage, organisation,

processing, and dissemination technology is the information technology used to acquire, store, organise, process, and disseminate data in specific applications. SAP is a digital solutions business that provides enterprise software to control business and customer relations operations. It is well-known for its ERP (enterprise resource planning) software. In addition, they have other database software and technology and ERP software, which has assisted a vast number of organisations in planning and other operations.

CHAPTER 3

COMPETITION, COMPETITIVE ADVANTAGE, COMPETITIVE ANALYSIS.

3.1. Introduction

Companies must produce fresh ideas, new goods, and innovative tactics and manage them properly to succeed in global competition. The ability to develop and manage inventive and creative qualities systematically improves the competitiveness of organisations. Innovation management has become critical to a company's economic success and long-term viability. It can successfully use resources, satisfy changing market needs, and maintain a competitive advantage by creating compatible strategies with organisational structure, logic, and culture to create inventive abilities and manage the innovation process efficiently.

Every company understands the unique effects, benefits, and implications of information technology (IT) on corporate performance and its ability to provide long-term competitive advantages. The main goal of this chapter is to look at how IT can help a company get a competitive edge. The impact of IT application is a significant aspect of optimising the value chain and the organisation's efficiency.

3.2. Competition

Innovation is crucial for companies to survive in global competition, sustain competitiveness, enhance economic performance and growth, and contribute to national economic development. Competitive advantage-driven economic growth boosts employment and production, resulting in economic development and increased social welfare. When firms achieve long-term success, they are pushed to innovate and improve their ability to fulfil new demands by developing new goods, services, and processes. Creativity and innovation have become the principal capital of businesses; innovation is the only way to achieve success in indefinite and flexible market conditions (Dereli 2015:1365).

Forces are inadequate to propel businesses and economies into a more favourable position in the market. As a result, new ideas should be developed and implemented. Organisations are now producing fresh ideas, new goods, and innovative tactics and managing them properly to succeed in global competition. In theory, the competition promotes dynamism, growth, and innovation.

Husain, Dayan, and Benedetto (2016:15) state that the ability to develop and manage inventive and creative qualities systematically improves organisations' competitiveness. Therefore, innovation management is becoming increasingly important for an organisation's economic success and long-term viability. It can successfully use resources, satisfy changing market needs, and maintain a competitive advantage by creating compatible strategies with

organisational structure, logic, and culture to create inventive abilities and efficiently manage innovation.

Competition definitions are particularly difficult to come up with because it is a ubiquitous occurrence that occurs under various circumstances. Keddy (2001:5) defines competition as the detrimental impact that one organism has on another due to consuming or controlling access to a scarce resource in biology.

Competition is a battle between businesses that sell identical goods and services to increase revenue, profit, and market share. The goal of competing with one another is to boost the company's revenue by growing sales and market share. Market rivalry pushes businesses to use the four marketing mix components, commonly known as the four P's, to improve sales volume. Product, place, promotion, and price are the four Ps. Typically, there are three sorts of competitions and three types of competitors, as follows:

- **Direct Competition:**
as the name implies, refers to competitors in the same field of business as you and offer the same product or service (Eldor, 2020:177). When we think of business or competition, direct competition is the first thing that comes to mind. Your competitor's competition could be about anything: price, service, unique features, point of sale, and so on.
- **Indirect Competition:**
occurs when your competitors offer the same product or service as you, but they have different marketing and business goals and use different marketing techniques to reach their target market. Put another way; they employ various content marketing strategies to promote their product or service, regardless of what you have to offer.
- **Replacement Competition:**
because they employ the same resources as your product or service but offer something different, replacement competition is the most difficult to spot among competitors. Customers define the competition for us; thus, a businessperson must remember that (Kucuk, 2016:77)

3.2.1. Benefits of Competition in Business

- **Awareness:**
more market competition concerning a particular product would increase awareness. Customers will be better informed because of the competition. Because of the demand produced by the information and awareness, the product's sales would likewise increase.
- **Price:**

The product's price is critical in attracting new customers. Competition pushes rivals to seek economies of scale, lowering product prices.

- **Choice:**

Every rival would try to set itself out from the pack by adding value to the product. As a result, shoppers would have more options in the marketplace.

- **Productivity and Innovation:**

Companies allocate a distinct budget for research and development in the quest to compete and stand out from the crowd. As a result, rivals create unique items to stay competitive.

3.2.2. Disadvantages of Competition in Business

- **A decrease in market share:**

due to competition, the entire consumer market is divided into a few small segments, making it extremely difficult for a single firm owner to obtain the maximum market share, regardless of how fantastic a product it is putting out.

- **Businesses are under duress:**

The competition puts much pressure on firms since it is difficult to survive in a business environment where you must focus on being more effective. As a result, every day would feel like a new day.

- **Employees are under duress:**

When a company's survival is in peril, management demands that employees achieve results.

- **Businesses spend more money:**

Competition is no longer a competition; it has evolved into a battle for market survival. As a result, competitors invest more resources in the market; business expenses have risen dramatically in recent years.

- **Customers are perplexed:**

Because there are so many comparable products on the market, clients are perplexed when choosing and deciding on one product. Unfortunately, amid their uncertainty, customers frequently make the wrong selection.

3.3. Competitive Intelligence

The corporate environment is fast-paced and unpredictably unexpected. Competitive intelligence (CI) is the most influential business tool of the twenty-first century that will aid decision-makers in an ever-increasing competitive market. It can be used for offensive and defensive purposes. Köseoglu, Ross, and Okumus (2016:161) define the term "competitive"

as a process in which at least two persons, groups, teams, organisations, or corporations compete against one another. "A business competence to predict change in time to do something about it" is what intelligence refers to. Dey, Haque, Khurdiya, Shroff, (2011:1). Competitive intelligence is defined as "the art of defining, gathering, and interpreting intelligence from external sources regarding a competitor's products, promotions, and sales." The capability entails foresight and insight, and it is designed to spot imminent change, either positive or negative, indicating an opportunity or a threat. In business management and practice, competitive intelligence is essential. Companies have relied on competitive intelligence data to help them make decisions that offer them an advantage over their competitors. Intelligence information is used by businesses to stay current and in tune with the business environment.

3.3.1. Benefits of competitive intelligence

Ezenwa, Stella, and Agu (2018:28), many organisations have failed to use market knowledge freely available to them. Because competing organisations have access to the same intelligence, this issue has resulted in a greater emphasis on competitive intelligence. The foundation of good intelligence is to provide the necessary intelligence to the decision-maker in time to make a difference and take the correct action.

Competitive intelligence is becoming a more essential and mandatory component of each organisation's overall strategy and functioning. This is because competitive intelligence can increase an organisation's bottom line if used and developed correctly, based on the organisation's needs, internal organisation, and competitive environment (Du Plessis and Gulwa 2016:1). As a result, competitive intelligence has earned its rightful place as a recognised business discipline. It has evolved into a critical strategy for gaining a competitive advantage and improving company performance (Reinmoeller and Ansari 2016:116). Competitive intelligence, which includes competitor intelligence and intelligence gathered on customers, suppliers, technologies, environments, and business relationships, is used to gain a strategic advantage and allows managers to predict movements in competitive environments, reducing managerial uncertainty.

3.4. Innovation

Kogabayev and Maziliauskas (2017:62) define Innovation as a one-of-a-kind entrepreneurial instrument and an action that generates new resources for increased profitability. It is the process of turning a new concept into a viable product or service. It is critical to understand the difference between invention and innovation. While invention can be defined as the generation of an idea for a new product or process, innovation implements that idea (Walsh, Lee, and Nagaoka, 2016:1660-1671). There is a time lag between invention and innovation due to the differing requirements for developing new ideas and putting them into practice. Various

knowledge, skills, and resources are required to develop an idea into an innovation. To succeed in the innovation stage, multiple complementary inventions may be necessary.

One of the significant distinctions between invention and innovation at the marketing level may be seen. When an idea is turned into a product and put on the market, it is called innovation. Otherwise, innovation is impossible to achieve without commercialisation. Abu-Abdoun, Alsyouf, Mushtaha, Ibrahim, and Al-Ali, (2022:1), Innovation is never a one-time occurrence but rather a protracted and cumulative process involving many organisational decision-making processes, spanning the stages of idea development to implementation. Improved, innovation, and, to some extent, invention are all terms that can describe innovation. However, the difference between these terminologies should be explicitly understood in scientific and legislative practice. The distinction between these definitions is explained in (Fig. 1), provided below.

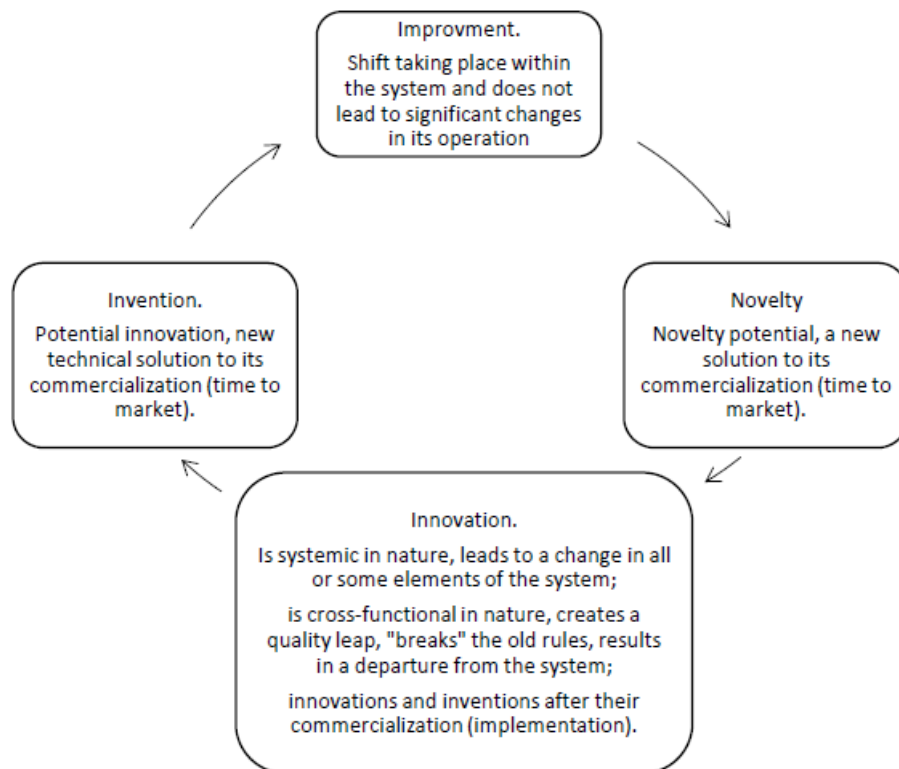


Figure 3.4.1 The concepts of "improvement", "novelty", "invention", "innovation"

Source: Kogabayev, and Maziliauskas, (2017:59)

In general, innovation is the transition of an idea into a marketable product or service or developed manufacturing or distribution technique. It expresses the transformation of science and technology into an economic and social benefit.

Companies must take on new items regularly to stay competitive, survive, and expand. Therefore, certain difficulties should be examined to compete in market conditions dictated by creative approaches (Nagy, Oláh, Erdei, Máté, and Popp, 2018: 3491):

- To develop creative strategies, scientific, technological, and administrative changes should be continuously followed.
- Innovation should be viewed as a way of life, and the environment that fosters it should be a strategic focus. However, due to a lack of larger organisational resources, small business owners and managers must recognise the need to explore new prospects and search for new sources inside their structure.
- In research-intensive sectors, innovation is dependent on research and development investments.
- Innovation might start with a product, a process, or a service idea.
- Investments in research and development should be enhanced.
- The innovation process must be designed and carried out with the client.
- An innovative structure must be built within the organisation to undertake creative operations.
- Because commercial products have a shorter lifespan, the timing and implementation of innovation are critical.
- Other systems include compensations and compensation systems and sales, information, accounting, and financial systems.
- Bureaucracy, approval power, and a lack of personal independence are all barriers to creativity.
- Rewarding creativity is a good thing.
- Having thorough examination and appropriate solutions developed.
- Innovation does not have to be costly, but it must be novel to be effective.
- A viable business must be able to sustain itself and give superior service to its clients.
- The creation and maintenance of cooperative networks between organisations that exchange know-how and ideas provide a foundation for accumulating common knowledge and making it easier to meet their innovation goals.
- If innovation results from a collaborative effort, the chances of success are higher.
- Internal rivalry generates innovative ideas.
- Domestic activities do not stifle but rather encourage creativity.
- Researching the location and manner of innovation is critical to innovation success in technology-based industries.
- Technological failure is an innovation risk. Conversely, countries with many creative enterprises make better use of trained human resources.

- The company's primary goal is to be successful in all sectors. Nonetheless, rather than burying their failures, businesses can exploit them as a source of innovation.
- It is difficult, but not impossible, for small businesses to create an environment conducive to innovation.

For most businesses, the capacity to comprehend and react to market developments is more important than technology. Technology is a crucial instrument for responding to market changes, and technological advancements should be closely followed.

3.5. The Relationship Between Innovation and Competition

Many academic studies on economic growth and development have centred on the relationship between innovation and competitiveness. Although the demand for distinction in a competitive context drives innovation, each invention further differs from the competition circumstances, making achieving a competitive advantage more difficult. In a nutshell, competition and creativity are mutually influencing. Competition motivates people to try new things. On the other hand, innovation fosters competition while intensifying it. Therefore, companies must closely watch and adapt developments or be innovative to survive in a competitive market.

The companies that offer innovation will be able to gain a competitive advantage. The need to find new resources is pushed by changing competitive conditions and a dynamic market structure. Obtaining an advantage through low-cost labour or scale economics, according to (Bashir and Verma, 2017:7), is a thing of the past. Innovation is the essential variable nowadays. Modern ideas of international commerce are founded on a country's ability to innovate and its investment in the invention. Innovation is the key to gaining and maintaining a competitive advantage throughout time. Companies generate growth by boosting productivity and profit margins. It also acts as a mediator to improve the satisfaction of essential factors in the environment, encouraging innovation. Companies are under pressure to find new sources due to depleted markets. Inventing new things has become a need. In a changing market system, the only way to gain an advantage over competitors is to create new values.

3.5.1. Competition and technology

One of the primary causes of competition is technological change. It has a significant impact on both industry structural change and the creation of new industries. It is also a terrific equaliser, weakening even the most well-established enterprises' competitive advantage and bringing others to the fore. Competing in "high-technology" businesses is commonly regarded as a path to profitability, whereas "low-technology" industries are regarded with indifference (Triguero, Moreno-Mondéjar, and Davia, 2016: 28). The recent success of the foreign competition, based mainly on technological innovation, has prompted businesses to invest

even more in technology. In most organisations, technologies can have a substantial impact on competition. If technology significantly impacts a firm's competitive advantage or industry structure, it is vital for competition.

As previously noted, distinguishing scientific, technological, economic, and cultural creativity is essential for some purposes (Gladden, 2019:148). However, it is also worth noting that various domains are frequently intertwined, and that action in one may depend on simultaneous activities in others.

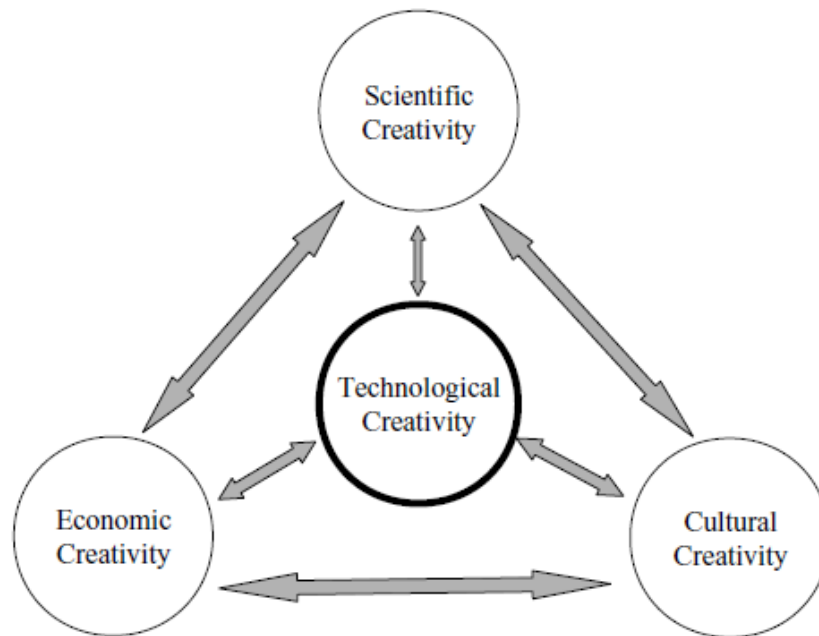


Figure 3.5.1 Domains of creative activity

Source: King, Stark, and Cooke, 2016:76

The approximate nature of that connection is depicted in Figure 2, which shows each broad sphere of creative practice in two-way interaction.

3.6. Management of Innovation and Competitive Advantage

Organisations take out innovation under a controlled process of irregular and complicated structures to respond to internal and external environment changes, known as innovation management. On the other hand, competitive advantage refers to an organisation's ability to gain an edge over its competitors by providing superior value to its customers (Ford, 2020:141). There are various ways to achieve a competitive advantage over competitors, including achieving pricing and quality advantages and promptly responding to changing client needs. Creating and implementing innovation is the only method to develop new market opportunities and produce new goods and services.

3.7. Competitive Advantage

Competitive advantage refers to an organisation's capacity to meet the needs of its customers or the value that they want to derive from a product, such as high quality and cheap price, to distinguish its products and services from those of its competitors. For organisations, one of the strategic management goals is to gain and keep a competitive edge over its competitors. On the other hand, a competitive advantage can be acquired when a company's profit is higher than the industry's average profit. Furthermore, this profit should be sustained for a minimum of ten years.

Ford (2020: 141) explains that competitive advantage refers to an organisation's ability to gain an edge over its competitors by providing superior value to its customers. CA is defined as a company's possible values for customers compared to competitors, where these values are higher than the customer's costs. The difference between organisations is no longer determined by the data they collect but rather by how they understand, disseminate, and exploit it. The capacity to use this knowledge correctly is the source of a company's competitive advantage. There are various ways to get a competitive edge over competitors, including achieving pricing and quality advantages, promptly responding to changing client demands, and obtaining new market opportunities by putting customer value first.

3.7.1. Importance of competitive advantage

The relevance of competitive advantage was explained by (Khorsheed, Abdulla, Othman, Mohammed, and Sadq, 2020:15952):

The concept of competitive advantage is critical to the work of all types of organisations and production because it serves as the foundation for formulating competitive strategy and all other variables that interact to support this advantage and the emergence of the organisation's overall competitive strategy.

A competitive advantage is a tool for overcoming challenges that the organisation faces from competing organisations in relevant sectors. It is achieved by standardising technologies and production skills in capacities that enable them to adapt to rapidly changing opportunities and by developing the organisation's competitive knowledge and ability to meet future customers' needs.

Because successful firms are the ones that constantly produce new models, competitive advantage is one of the essential criteria for the resulting organisations. Competitors are fully aware of the previous models if they are widely known and available.

3.7.2. Types of competitive advantage

Product excellence: For organisations to provide unique products and services that receive customer satisfaction (high quality, after-sales services), they must understand and analyse

the sources of the value chain to exploit highly technological competencies, skills, and technologies to adopt effective price and promotional policies that allow them to increase their market share. On the other hand, quality relies on the realisation of customers' criteria and is appropriate for usage (Méndez Simón, 2018:105). The design, use, and degree of conformity of the final product to the design parameters all influence the product's quality.

Lowest cost: This is an organisation's capacity to design, manufacture, and market items at a lower cost than its competitors, allowing it to make a respectable profit. Low cost allows businesses to choose from a variety of pricing options. To obtain the lowest cost, firms should employ an efficient production system and test the actual location marked by the presence of facilities.

Time abbreviation advantage (JIT): It aims to gain a competitive edge by minimising the time component in the customer's favour through numerous factors (Qiu, Jie, Wang, and Zhao, 2020:146). The most crucial is to incorporate. To begin, shorten the time it takes to launch new products to the market. Second, lowering product processing life reduces storage and production costs. Third, shorten the time it takes for consumers to receive their merchandise. Finally, commit to precise timelines in interacting with customers by reducing turnaround time or modifying the production process.

On the other hand, the market sector considers delivery time a factor in its purchase choice. As a result, for a company to provide reliability and delivery as part of its service, it must charge a premium price for its goods. Delivery, once again, entails dependability and quickness. However, delivery reliability requires that deliveries are made on time, and that delivery speed is met. This is contingent on the organisation's ability to complete production processes rapidly to please customers, which can be accomplished using technology.

Flexibility: The flexibility of a corporation refers to its strategic vision and capacity to supply a diverse range of products to clients (Um, Lyons, Lam, Cheng, Dominguez-Pery, 2017: 15). It also serves as a vital component capable of supplying products when the business is expected to develop new items and then assess the size and diversification required. Again, flexibility may be defined as an organisation's capacity to offer a diverse range of products and make modifications in a market that relies on design and size originality. Flexibility can also be used to respond quickly to changes in customer demand and improve customer satisfaction by lowering delivery time. As a result, flexibility has evolved into a competitive dimension that comprises. Flexibility can also be used to respond quickly to changes in customer demand and improve customer satisfaction by lowering delivery time. As a result, flexibility has emerged as a competitive advantage, encompassing the ability to mass-produce new items and quickly adapt existing products and respond to client demands.

3.7.3. Forms of generic competitive strategy

Whether an organisation's profitability is above or below the industry average is determined by its relative position within the industry. A sustained competitive advantage is a foundation for above-average profitability in the long run. A corporation can have one of two competitive advantages: low cost or differentiation. (Omwoyo, 2016:10), Cost leadership, differentiation, and focus are three generic techniques for generating above-average performance in the industry, based on the two primary categories of competitive advantage and the scope of activities a firm aspires to accomplish.

Cost leadership strategy: A company's goal in cost leadership is to become the low-cost producer in its industry. Cost advantages can come from various places, depending on the industry's structure. The quest for economies of scale, proprietary technology, privileged access to raw materials, and other considerations may be among them. A low-cost producer must identify and use all cost advantages available. If a company can attain and maintain overall cost leadership, it will outperform the industry average, assuming it can command pricing at or near the industry average.

A company aims to be distinctive in its business with a differentiation strategy on a few key aspects that buyers value. It chooses one or more traits that many buyers in a given industry consider vital and positions itself to address those demands distinctively. It is compensated for its rarity with a premium price.

A focus strategy aims to get organisations to focus on a few target markets rather than trying to reach out to everyone. Smaller firms generally utilise this method since they may not have the finances or skills to target everyone. Customers' requirements and how their products or services can better their daily lives are usually the focus of businesses that adopt this strategy. Some companies may even allow customers to provide feedback on their product or service using this manner.

3.7.4 Competitive advantage and digitalisation

Earning a sustained competitive advantage, in which a company outperforms its competitors and does not quickly fade, is the ultimate aim of corporate success. Business research is central to understanding the reasons for performance variations among organisations and their stability. The theory is that some positions (or markets) have structural characteristics that protect them from the competition, allowing a firm in such a position to earn higher profits (Lahti, Wincent, and Parida, 2018:2799). If the sunk cost of entering a very successful niche, for example, is high enough in comparison to the niche's size and profitability, a company positioned in that niche could enjoy a long-term above-average profit stream.

Understanding how digitalisation affects the value of current resources and capabilities and how it promotes the production of new and potentially valuable resources, and skills are critical

to understanding how it affects competitive outcomes. One of the defining characteristics of many digital technologies is that they are broad, standardised, and offered as a service to anybody (Saarikko, Westergren, and Blomquist, 2020:825). This means that the more broadly such technologies are used, the more similar enterprises become, and that competitive outcomes will be determined to a greater extent by the complementary assets firms deploy in conjunction with these new technologies.

3.8. Competitive Analysis

The competitor analysis aids in understanding the industry's competitors and highlights their strengths and weaknesses. Competitor analysis, on the other hand, provides more opportunities to outsmart market competitors (Rothaermel, 2016:2). Benchmarking makes it simpler to guarantee that services and goods meet or exceed market expectations. Competitor analysis among businesses aids the development of superior marketing tactics by the team. Furthermore, it discovers market potential that is currently untapped. It takes advantage of competitors' flaws once again to win market share.

Mononen 2020:16), competitor analysis can be utilised to uncover new opportunities in business analyses, such as:

- New patterns have emerged.
- New approaches to developing product and service offerings
- There are more customers.

When organisations conduct competitor analysis regularly, it helps them manage their businesses more efficiently. Competitor analysis done professionally allows you to predict your competitors' upcoming moves and differentiate yourself from them. Competitive analysis identifies and researches competitors in your industry's various marketing techniques.

3.8.1. Method for conducting competition analysis

Defining the analysis challenge: Before you can act on what the customer wants, you must first interpret them and understand their needs. This is frequently the bedrock of a successful analysis procedure. Interaction between analysts and customers is crucial at all phases of the process, but even more so than at the start; as a result, the effort spent here will pay off later.

When competitor analysis is done correctly, it aids in forecasting a competitor's following action and allows organisations to be distinguished from competitors (Adom, Nyarko, and Som, 2016:116). Identifying the top 3 to 5 rivals who pose the greatest danger is the first stage in competitor analysis. Competitors should be chosen carefully; for example, a small computer company with local customers should avoid studying Apple. The competition should be the

one that poses the greatest threat to the company. Once the competitors have been identified, they must be appropriately described.

Analysing a competitor's online presence is a critical stage in competition analysis. Nowadays, most items and services are located on the internet; however, if the website and search engine optimisation are inadequate, the buyer will seek alternative options. There are now tools in place to assist with analysing competition websites. They can detect various things that can give a company a competitive advantage, such as a competitor's website that is not mobile responsive. The SWOT analysis can be carried out once the rivals have been identified.

3.8.2. SWOT Analysis

SWOT analysis is the standard framework that is used to conduct competitor analysis. It helps identify the competitor analysis consisting of strengths and weaknesses, opportunities, and threats (Phadermrod, Crowder, and Wills, 2019: 194). The strengths and weaknesses are the company's internal factors, while opportunity and threats are the company's external factors. Internal factors as identified as follows:

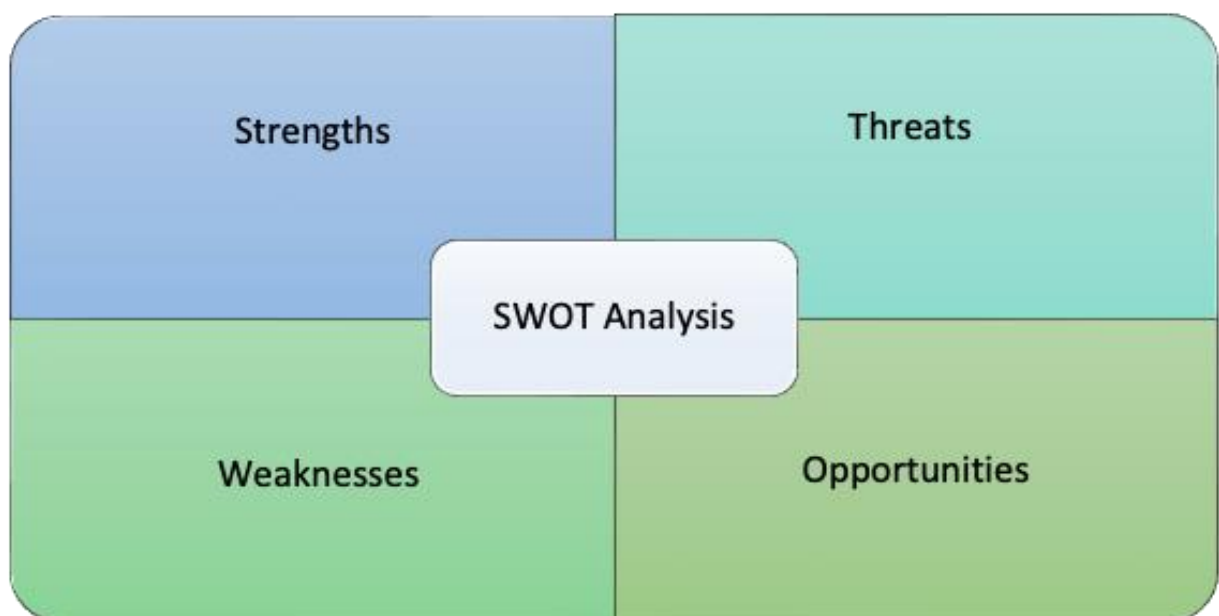


Figure 3.8.1 SWOT Analysis

Source: Stević, Ž., Stjepanović, Ž., Božičković, Z., Das, D.K. and Stanujkić, (2018:586)

A competitor study that includes a SWOT analysis is an intelligent technique to familiarise yourself with the competition. Conducting a SWOT analysis on competitors can be difficult, but it clarifies the company's and its competitors' competitiveness. SWOT can be used; however, it should only be used in the case of a direct competitor who may offer a product or service similar to the company's product or service.

3.8.3. SWOT Factors

Internal factors: This relates to an organisation's ability to develop characteristics unavailable to competitors, such as innovation and creativity, which play a crucial part in gaining a competitive edge. Furthermore, creativity does not just apply to the development of a product or service; it also applies to strategy, work methods, technology, and the creation of new benefits.

External factors: This is owing to a shift in client needs because of technological, economic, or regulatory changes, resulting in a competitive advantage. Importing current technology that is needed in the market earlier than others, for example, will give you a competitive advantage by allowing you to respond rapidly to changing technology and market needs. As a result, the relevance of an organisation's ability to react swiftly to external changes emerges, which depends on the organisation's flexibility and ability to track changes by analysing data and anticipating changes and the presence of an information system.

3.8.4. Five forces of Porter

Pervan, Curak, and Pavic Kramaric (2017:4) by Porter defined and discussed the five forces of competitor analysis as a valuable method for determining industry competitiveness. The plan can be altered once the influencing forces have been discovered. Porter advised businesses to look at their competitors' behaviour and other things that could affect the business climate. As a result, he found five variables that contribute to a competitive environment:

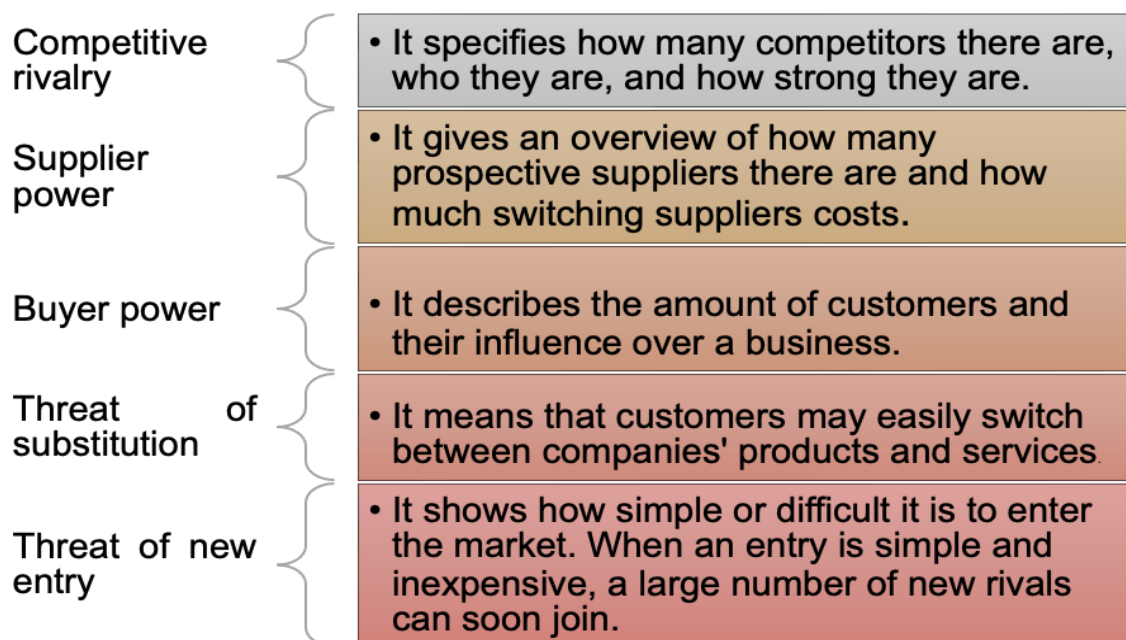


Figure 3.8.2 Competitive Environment Variables

Source: Safari, Farhang, and Rajabzadehyazdi, (2016:72)

Furthermore, a company's position in the market can be assessed using Porter's five forces analysis. This informs the company on how to adapt its strategy to remain competitive in the future.

3.8.5. Information Technology and competitive strategy

Information Technology (IT) has a significant impact on competitive advantages in terms of cost or differentiation in any company. Technology also impacts value-added activities or allows businesses to obtain a competitive edge by taking advantage of shifts in the competitive landscape.

Information Technology has three significant effects on the competition:

- It affects the industrial structure and, as a result, modifies the rules of competition.
- It gives businesses new ways to surpass their competitors, giving them a competitive advantage.
- It creates whole new businesses, frequently from within a current company's activities.

Throughout the research, ways have been identified in IT can be used to gain a competitive edge. A value-added chain study of the firm's operations and Porter's framework for competitive analysis are two general techniques. Porter and Kramer (2019:323) defined Value Chain Analysis as "a firm is a collection of operations conducted to design, create, sell, distribute, and support its products or services." A value chain can be used to depict all these actions. Only in the framework of the business unit can value chains be comprehended.'

The value chain technique first distinguishes between two categories of company activity, as shown in the diagram:

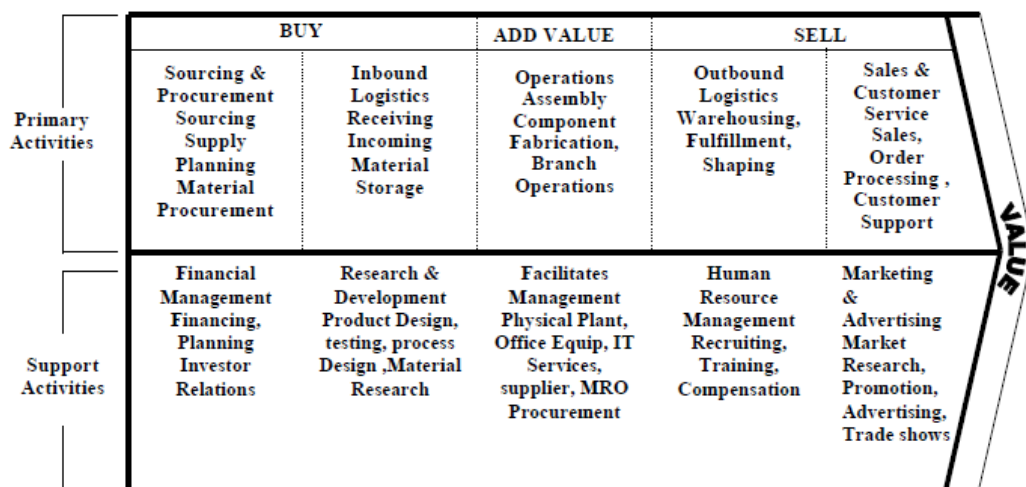


Figure 3.8.3 Categories of Company Activity

Source: Gunasekaran, Subramanian, and Papadopoulos (2017:14).

The essential tool for understanding the impact of IT on enterprises in the value chain - is the set of operations that go into creating and delivering a product or service to customers. The value chain is a framework for recognising and assessing all these operations and how they affect a company's costs and the value supplied to customers.

Under the following conditions, technological change will result in a long-term competitive advantage:

- The technology advancement itself reduces costs or improves distinction, and technological advantage is long-term. Therefore, if a technology improvement leads to lower costs or distinction and can be protected against copying, it improves competitive advantage. The criteria that affect whether a technical lead can be sustained are listed below.
- The cost or distinctiveness drivers are shifted in a firm's favour because of technological advancement. Changing the technology of a value activity or changing the product in ways that affect a value activity might impact the cost or uniqueness drivers. Even if the technology improvement is duplicated, it will result in a competitive advantage if it skews drivers in the firm's favour. A large share corporation that pioneers a new assembly technique that is more scale-sensitive than the existing one, for example, will gain even if competitors subsequently adopt the technology.

Aside from the inherent benefits of the technology, leading the technological shift results in first-mover advantages. Even if innovation is copied, pioneering can contribute to many possible first-mover costs or distinctiveness benefits that last long after the technology advantage has faded. The benefits and drawbacks of being the first to market are listed below.

The general structure of the sector is improved due to technological advancements. Therefore, a technological change that enhances the entire industry structure is valuable even if it is easily imitated.

3.9. Conclusion

Chapter three covers competition and competitive advantage and compares all terms used to describe competition. Companies must be innovative to survive in global competition, maintain competitiveness, improve economic performance and growth, and contribute to national economic development. Economic growth driven by competitive advantage increases employment and output, resulting in economic development and social welfare. When a company achieves long-term success, it is pushed to innovate and improve its ability to meet new demands by creating new goods, services, and processes. In addition, competitive advantage gives organisations the ability to meet their customers' needs or the value they want

to derive from a product, such as high quality and low price, to differentiate their products and services from their competitors.

Organisations that operate in global marketplaces play a critical role in obtaining a competitive advantage. These organisations need innovative talents in inventing, producing, promoting, and managing to get a competitive advantage in today's global markets. Organisations should devise and implement strategies for fostering and maintaining innovative capabilities. Only through the deployment of innovation management will this be possible. Information Technology's strategic importance stems from its capacity to help organisations establish a "value chain" by creating linked generic value activities involving aspects such as suppliers, consumers, manufacturing, and finance (Erol, Schumacher, and Sihn, 2016:495). Through a value chain, IT establishes a link between these operations. It changes the value chain activities and the physical components and processes of the product, either by lowering the cost of value activities or by differentiating the product.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY.

4.1. Introduction

This chapter gives an outline of the research methodology used in this study. The methodology is a method, structure, and design used to acquire the information needed to respond to questions presented in the first chapter. The research methodology chapter focuses on the research methods that the researcher will use when conducting this research. The research approach, research design, data collection methods, sampling, and data analysis method are all covered in this chapter. The section concludes with a note on ethical implications. Research has developed to the extent that we now understand the methods, systems, and methodologies that must be followed to conduct meaningful research. The research process comprises two closely related activities: the research design and research methodology; these activities are often mistakenly mixed up. Pandey (2021:18), a research design is essentially the structure or plan for a study that serves as a guide for data collection and analysis. It is a plan that is followed to complete a study. The research design is the blueprint for data collection, measurement, and analysis. The term "research" refers to a search for information. Research can also be defined as a scientific and methodical search for relevant information on a given topic. Research is a form of scientific inquiry (Kothari, 2019:18).

Furthermore, the definition of design varies depending on the context and can refer to a range of things. The development of an experience is what design is all about. It is also about the creative process and how effectively it can be organised. Additionally, design is the end outcome, i.e., what we see, hear, and feel (Uebernickel, Jiang, Brenner, Pukall, Naef, and Schindlholzer, 2020:16). This is in direct opposition to the research methodology, which governs how the research design activities will be carried out. This is the sequence in which they complement one another.

A **research design** is a study's structure or plan that serves as a guide for gathering and interpreting data. It is a set of instructions for completing a study. The research design is the blueprint for data collecting, measurement, and analysis. It is, in fact, a map that is typically created to guide the investigation. The design process begins with identifying the preliminary research phase. What is now to be studied, what are the objectives of the research, what is the research question, what population is to be researched, what method of sampling is required, what sample selection will be used, what size of the sample will be used, what sort of research it will be, what type of measuring tool will be used, what methods of research will be used, what data collection methods, and what data analysis methods will be used are all included in the map or pathway to be followed.

Mishra and Alok (2017:60) stated that a method for systematically solving a research problem is the research methodology. It is a science that studies how scientific research is carried out. Research methodology focuses on how these research design activities will be carried out, such as how the research subject and objectives will be determined, how the research question will be constructed, how the research population will be identified, how the sample will be selected, how the population will be sampled, how the data will be collected, how the research instrument will be developed, and how the data collection will be coordinated. As a result, the methodology addresses the "how" of the research while the design addresses the "what" of the research.

4.2. Problem Statement

Bryman and Bell (2015:13), define a research challenge as "narrowing down the overall interest in a study topic to focus on a question." The increase and advancement of technology has impacted tremendously on the operations in many organizations with very little exception if ever. The industries are involved in extensive digitization of their operations which is intended to improve on the efficiency and effectiveness of the firm's operations. Consequently, organizations are moving from the traditional manually operated systems to digitization of their operations with intentions of improving on operations and contribution margins. The rate at which advancement in technology is moving creates numerous problems for the organization including among other things need for adequate training. Whilst project management or management by projects has gained momentum as an effective way of doing business in all industries, there is a high project failure rate. Effective (successful) execution of projects has become the focus of all business operations regardless of the high failure rate in projects. The study is focused on the digitization of logistical systems at a selected retail organization in the Cape Metropolis. The competition in the industry calls for more efficient and effective ways of dealing with customers if the organization is to keep abreast of its competition. The study seeks to identify the critical aspects of digitization of the operations in view of the high failure rate of information technology projects.

4.3. Research Design and Methodology

The design and methods of research are more similar than dissimilar. The path that researchers must take to perform their research is research methodology (Almalki, 2016:288). A research design (Sovacool, Axsen, and Sorrell, 2018:12) is the overall strategy you choose to integrate the various components of the study coherently and logically, ensuring that you will effectively address the research problem; it is the blueprint for data collection, measurement, and analysis. The difference in the study demonstrates that methodology is a component of research design. Jowah (2011:97) explains that the study design is currently in

use and is attempting to correctly implement the master plan to get the intended results. The distinction between research design and research technique is seen in the table below:

Table 4.3.1 Distinction between Research Design and Research Technique

Research design	Research Methodology
Master strategic plan	An operational or implementation plan
Focuses on the path to be walked	The way the walking is done is highlighted.
The emphasis is on the intended outcomes.	For best outcomes, focus on tools/techniques.
Using a research challenge or question as a guide	Tasks and job packages serve as a guide.
The rationality of inquiry is emphasised.	The emphasis is on procedures and processes.
The emphasis is on "what should be done."	The emphasis is on "how should it be done."

Source: Jowah, (2014:77)

Source: Own construction

4.4. Types of Research Methodologies

Research Methodology considers and explains the logic behind research methods and techniques Christensen, Johnson, Turner, and Christensen (2011:50). Research methodology is described as the orderly way of implementing a research plan. Based on research, Quantitative research methods will be used. They are using quantitative analysis to evaluate the objective data to get the number of respondents. On the other hand, qualitative research evaluates subjective data and face-to-face interviews. There are significant differences between these two, as seen in the illustration below:

Table 4.4.1 Quantitative vs Qualitative Research

Quantitative [positivist approach]	Qualitative [anti-positivist]
1. Observable behaviour should be emphasised.	1. Concentrate on the laws of relationships
2. place emphasis on universal relationship laws	2. Emphasis on human experience
3. Concentrate on the causes of the phenomenon	3. Concentrate on the experience of phenomena
4. The natural science model is used	4. The experiential model is used
5. Is attained by strict checks and balances	5. There are no strict checks and balances in place.
6. Measurement and evaluation of the importance	6. Emphasise processes of investigation
7. Structures built by natural science	7. Reality has a socially constructed nature
8. Pay attention to causal relationships and variables	8. Concentrate on the object's relationship with the researcher
9. Ideal for numerical data that is objective	9. Employs subjective data derived from opinions
10. Uses methods that are rigidly structured	10. Employs adaptable exploratory methods
11. Tries to comprehend from the outside	11. Attempting to be involved in subjects
12. Requires a stationary environment	12. Deal with non-static situations
13. Applications of a particularistic approach	13. employs a comprehensive [large-scale data] approach
14. Employs a large sample size	14. Makes use of small samples

Source: Jowah, (2015: 103)

Source: Own construction

4.4.1. The research methodology used in the study.

The quantitative method (generally referred to as the scientific method), the qualitative method, and a combination of both methods (mixed methods) are the three most common methodologies used in research. Because of the type of study and information required, the researcher chose to use both methods to capitalise on the strengths of both methodologies.

Wilkinson (2009:122) defined quantitative research methodology as a systematic, objective process that uses numerical data extracted from large samples to make population-level generalisations. Burns and Grove (2005:23), this is an objective, systematic, and formal process in which numerical data is collected and interpreted to generalise to the population. On the other hand, (Bresler and Stake, 2017:112) noted that a case study, field study, ethnographic research, naturalistic, phenomenological, interpretive, symbolic interactionist, or simply descriptive are all names and descriptions for qualitative approaches. Ethnography and sociological fieldwork, literary criticism, biography, and journalism, can all be traced back to the origins of qualitative research methods.

4.5. Target Population

The objective population for a study involves a group of individuals for which the survey data is used to conclude. Thus, a target population selects a sample from the population to study. The target population for this study comprises of employees the FCMG firm. A population is a set or collection of things of interest in their entirety.

The study's population consisted of supply chain and logistics department employees. Therefore, it had to be operational employees and stakeholders involved in the implementation and completion of the projects. The new systems are expected to improve and adapt to the new ways of working.

4.5.1. Sample frame

The sample frame is the total number of objects that qualified for the survey and could be given questionnaires. The FCMG organisation employs about 4400 employees, and out of that population, some work in the supply chain and logistics department.

4.5.2. Sampling size

The number of people that the survey will be conducted to is the FCMG organisation. This organisation in study employs approximately 4400 people and is a leading producer and marketer in the industry. Since the organisation employs a few people in South Africa, Africa, and internationally the sampling will help select the relevant people to complete the research. Unfortunately, the number of respondents who would be available was not known ahead of time, and the sample size was difficult to predict. In total, 100 people were given the questionnaires; the chosen sample size will be 100 employees in the organisation that will be selected, which means only 2.27% of its population.

4.5.3. Sampling method

Convenience sampling is one of the other methods used because of the large population. However, the sample size chosen will be biased, and further research may be required. Other methods utilised include stratified sampling and random sampling, as discussed above.

A sample is a subset of the population of objects (Buckland, Anderson, Burnham, and Laake 2012:48). Sampling is selecting samples from a group or population to serve as the foundation for estimating and forecasting the population's outcome (Meeker and Hahn 2011:57). For example, a random sample of 100 people involved in the project's completion will be chosen. Within the organisation, the researcher chose who best fits and works in these departments at random. There was no specific sequence used, implying that it was a combination of comfortability and randomness.

4.6. The Research Instrument

It was essential to determine how to collect data from the respondents for this research, and the tool was chosen to use as a questionnaire. A decision was made that a structured and semi-structured questionnaire would be appropriate because the research would use both quantitative and qualitative methodologies. A questionnaire (Jowah 2015:163) is a set of questions logically designed and built to obtain from the respondents' data that will assist in answering the selected questions to reach the objectives. Therefore, a structured questionnaire was used in this study, with semi-structured (qualitative) questions interspersed. The questionnaire is divided into Sections A, B, and C.

Section A was a biography, which was used to study and understand more about the respondents and qualify them for participation in the survey. Those who did not meet the standard criteria were excluded, and only the relevant respondents' questionnaires were included in the findings. It was essentially a biography deemed necessary to qualify the respondents; anyone who filled out the form was working in the FCMG organisation under the supply chain and logistics department and was involved in project execution. Therefore, 2 participants had their questionnaires withdrawn because they were deemed unqualified per the requirements for respondents.

The Likert scale was used in Section B to assess the respondents' perspectives, insights, and understanding of the project success of supply chain(logistics) factors. The scale ranged from 1 to 5, with:

- Highly disagree = 1
- Disagree = 2
- Neutral = 3
- Agree = 4
- Highly agree = 5

Section C consists of open-ended questions, allowing respondents to discuss any other issues, experiences, or matters that they deemed important. In this section, respondents were

allowed to express their opinions on any topic related to Logistics projects and the implementation of the digital projects, including issues, problems, and other factors.

The questionnaire was considered adequate since data was collected anonymously and confidentially and recorded for future use. As a result, the whole data collected could be converted to information and re-evaluated if unanswered problems about the research arose. In addition, the three-page questionnaire permitted greater participation and allowed people to express their opinions on the subject without fear of repercussions. Compared to having a few interviews, the use of a questionnaire allowed for targeting a larger audience. Following construction, the questionnaire was given a "pre-run" and reconstructed before being sent for ethics clearance. Following that, it was used to collect data from the respondents.

4.6.1. Advantages of using the questionnaire method

The questionnaire was chosen because of certain advantages that would benefit the survey positively. Krosnick (2018:10) below are some of the advantages of using a questionnaire to collect data:

- **Questionnaires are a quick and easy way to collect information.**
Questionnaires produce responses that are usually simple to tabulate or score, and the resulting data is simple to analyse, especially if the questionnaires primarily contain items with checkboxes, as recommended in this book. Telephone interviews are about as easy to tabulate as questionnaires because they are typically based on the same questions as those used in questionnaires. On the other hand, semi-structured personal interviews generate a large amount of narrative material that can be difficult and time-consuming to summarise and interpret.
- **Questionnaires help gather information about sensitive topics.**
Questionnaires can be given out anonymously. Respondents are more likely to be truthful when they know that their responses will be kept anonymous. Responses to telephone interviews and personal interviews, on the other hand, are not inherently anonymous. Furthermore, interviewers can assure respondents that their responses will be kept private, but many may be sceptical. It should be noted that researchers conducting personal interviews may be able to establish rapport with respondents, leading to a sense of trust and openness in their responses. Even if professional interviewers conduct the interviews, this is far from guaranteed.
- **Questionnaire research is cost-effective.**
The only significant costs will be duplication and postage if the questionnaires are mailed to respondents. Using digital platforms to send questionnaires is a cost-effective way for researchers to reach out to many distant respondents. Telephone interviews also make it simple for researchers to contact geographically distant respondents; however, the interviews must be conducted one at a time, which incurs

personnel costs if assistants are required. There may also be long-distance phone charges. Personal one-on-one interviews are the most expensive, especially if the interviewers must travel to the respondents.

4.6.2. Disadvantages of using a questionnaire method

Although the questionnaire had positive uses that aided in collecting the necessary data, it was necessary to investigate the negative impact of using the questionnaire. These were identified as follows:

- **Questionnaire responses are frequently low.**
This is especially true when links to questionnaires are sent to prospective respondents who do not know the researcher personally. This is a serious issue because extensive research shows that nonrespondents are frequently less educated and from lower socioeconomic status than respondents. As a result, the failure of all those chosen to respond is assumed to skew the survey results conducted using questionnaires.
- **Questionnaires may only provide an overview.**
This disadvantage stems from the fact that questionnaires work best when they include items that can be scored objectively, such as items with choices and short-answer items that require minimal responses, such as responses to the question, "What is your age?" Unfortunately, respondents tend to move quickly through these types of items on questionnaires, giving the first responses that come to mind. As a result, questionnaires typically provide only an overview rather than a rich, in-depth picture of a problem.
- **Questionnaires trigger socially desirable responses.**
Another disadvantage of questionnaires is that social desirability may sway some respondents. They may provide answers that they believe are socially desirable, even if they are not entirely accurate. Although making the responses anonymous may reduce the effects of social desirability, some people's need for approval and desire to seek it is so strong that they will give socially desirable answers even if they are anonymous.

4.6.3. The reliability and the validity of the questionnaire

The guarantee that the same questionnaire used by different people will convey the same information, resulting in a standard answer, is reliability (Muhammad and Safdar, 2018:50). To accomplish this, the questionnaire was subjected to a variety of reliability tests, including:

- Reliability of test-retest
- Internal reliability

- Equivalent form reliability
- Split-halves reliability
- The questionnaire was also tested for validity with the help of a statistician by putting it through the four common validity tests, namely:
 - Content validity
 - Face validity
 - Construct validity
 - Criterion validity

Validation for both was critical because an untrustworthy questionnaire cannot be considered valid. There were no questions requiring a yes or no answer to avoid giving respondents only two options. Because most of the employees in the organisation speak English as a second language, the language was kept simple, short, and easy to understand. This significantly reduced the possibility of being misunderstood, which could have led to unintentional incorrect answers. As a result, the research instrument's reliability and validity improved.

4.7. Data Collection

The questionnaire was the instrument/tool used to collect data, and it was personally administered to the respondents, allowing them to ask clarifying questions as needed. Aside from that, the decision was made with the understanding that the return rate of submitted instruments would undoubtedly be high because the respondents acted on the instrument on the spot. Due to the ethics close informing that the respondents filled out voluntarily, two respondents opted out after starting, and another two refused from the start.

Data collection is gathering and measuring information on variables of interest in a systematic manner to answer stated research questions, test hypotheses, and evaluate outcomes (Taguchi and Dörnyei 2009:3). For research purposes, information will be gathered through qualitative and quantitative data collected through questionnaires. The open-ended sections of the questionnaire managed to draw more debate (concerns) from respondents, allowing them to fill in the blanks with their thoughts. This was the qualitative aspect of the questionnaire, in keeping with the decision to conduct the survey using a mixed-methods approach. The FCMG industry will be used in this case to conduct a survey.

4.8. Data Analysis

The Statistical Package for the Social Sciences (SPSS) software and excel spreadsheet will be used to analyse the collected data. The software is used for analysing statistical data. Because the data will be collected using a questionnaire and analysed using the SPSS software, descriptive statistics will be used to summarise the information. Descriptive statistics is defined by (Evans and Lindsay 2017:268-272) as methods of visually and numerically

presenting data, such as charts, frequency distributions, and histograms to organise and present data, measures of tendency, and dispersion. Supply chain (logistics) employees are expected to answer the questions in the questionnaire. The analysis is conducted open-ended, consisting of both qualitative and quantitative research.

The data collected in google forms was edited and cleaned before being categorised and transferred to an excel spreadsheet for analysis. The excel spreadsheet was used because it was the only software available to the researcher, and it also served the purpose that the researcher required.

4.9. Ethical Considerations

Ethics in social research (Morgan, 2019:151) balances the public good with participants' right to secrecy. In essence, appropriate ethical procedures allow the study to follow specific rules that reduce the risk of harm to the study's participants. All participants must be informed about the study's nature and aim, as well as the fact that participation is entirely voluntary (Kılınc, Fırat, 2017: 17). Invasive methods to privacy, anonymity, and confidentiality will be protected, referring to retaining information that is not intended for others but is kept secret (Lundgren, Möller, 2019:419).

Ethical considerations:

- Participation is voluntary. Participants should never be coerced into taking part in the study.
- Obtaining informed consent. Participants must receive a letter before participating, allowing them to decline if they so desire.
- The possibility of harm. Ethical standards state unequivocally that the researcher must never put the participant in danger while conducting their research.
- The confidentiality of information gathered must be considered and respected at all times.
- Anonymity protects participants' right to privacy, especially if their opinions on a particular subject may cause problems in the workplace, leading to job loss, for example.
- The right to serve. Participants have the right to benefit from any research that yields a positive result. This would almost certainly improve their situation in most cases.

The ethics norms will be studied and implemented to avoid enabling unethical study. All participants will receive a thorough explanation of what will be done, why this research is being conducted, and the significance of their participation in the experiment. It shall be stated unambiguously that no information on individual contributions to the research will be given to anyone. The employees will be required to voluntarily contribute to the research as they see

fit to participate in the survey. The questionnaire began with a statement stating that research participation was entirely voluntary and that no one was required to respond. Furthermore, it was clearly stated on the questionnaire and explained by the researcher to each respondent that they were protected, that no names or emails were required in the biography session to be written, nothing could be used to identify them, and that they could withdraw at any time during the research process.

4.10. Limitations of the Research

Research limitations should be presented to describe the potential restrictions, explain the limitations' implications, investigate alternate approaches, and describe efforts done to alleviate the limitations. The limitations of research for the study are:

- It focuses on one company, as the cost of conducting such a large-scale study across the country is prohibitively expensive.
- Not all employees in the company are using the systems.
- As a result, deciding on the appropriate sample size became challenging.
- Because of language barriers, some responders may find it difficult to understand English.
- instilling trust between respondents and researchers will be a challenge
- Some people may be unable to participate in the study due to their hectic schedules.

Despite these limitations, the research was conducted objectively, with the processes clearly outlined and scientifically followed. As a result, the results are expected to be objective, and any other researcher employing the same methodology may reach the same conclusions as those recorded in the following chapters.

4.11. Conclusion

The study was carried out systematically to the expectations of a scientific study. All necessary precautions were taken to ensure that the results were valid and repeatable by other researchers. The researcher captured a somewhat holistic understanding of the respondents' perceptions by using both quantitative and qualitative methods. While these may be viewed solely as perceptions, these perceptions shape the reality of those affected. These rather sentiments may impact the performance of those who have received perceived good training and understand the significance of implementing these new systems. All the respondents' concerns will now be able to be addressed immediately, and support will be provided to clear out any issues provided. Upon completing the data formatting, clean-up, capturing, and analysis, the work has been evaluated to iron out any potential errors before presenting the data as the final finding.

The validity and reliability of this research project should be understood in the context of work done objectively and meticulously following the design. Starting with the introduction of this study, reviewing the background literature, establishing the study gap and subsequent understanding of the problem statement, setting the objectives, the research questions, deciding on the mixed methods, identifying the population, developing and testing the questionnaire, data collection methods, and data analysis are all covered. Finally, providing recommendations and solutions to improve any problems encountered with introducing the new systems.

The study was carried out systematically in accordance with the expectations of scientific research. All necessary precautions were taken to ensure that the results were valid and measurable by other researchers. Data was gathered using a questionnaire that included open-ended questions to allow for an individual's viewpoint. In addition, the researcher has been able to analyse the data and determine its reliability by employing a descriptive method. Finally, other vital terminologies in the research were used to describe the sample selection process, the procedure used in designing the instrument, data collection, and statistical procedures used to analyse the data.

CHAPTER 5

RESEARCH DESIGN AND METHODOLOGY.

5.1. Introduction

This chapter discusses the research findings in relation to the research questions while keeping the research objectives in mind. The goals were primarily intended to determine the project manager's competencies, which would ideally allow for effective project execution through strategic alignment, culture, skills, and capabilities in the first sub-section of the questionnaire. The second sub-section of questions investigated project selection and outcomes, and the last sub-section investigated the project's success.

5.2. Data Reporting, Data Analysis, and Interpretation of the Results

Bloomfield, Nelson, and Soltes, (2016:341). Data reporting is gathering and formatting raw data and converting it into a readable format to assess your organisation's ongoing performance. Data analysis is the process of gathering, modelling, and analysing data to extract insights that can be used to make decisions. There are various methods and techniques for performing analysis depending on the industry and the goal of the investigation (Mikalef, Boura, Lekakos, and Krogstie, 2019:261).

The questionnaire is divided into sections: Section A covers the Biography, Section B is the Likert scale, and Section C is Open-ended questions. The reporting follows the same order as the questionnaire to allow for a thorough understanding of the various responses to the various questions asked. Each question or statement is repeated as it appears in the questionnaire, along with a brief explanation of why that question or statement was asked or submitted for ranking. The responses are then presented, first in diagrammatic format, and then the illustration (diagram) is discussed to clarify the relationships of each respondent.

This chapter outlines the data collected during the fieldwork with respondents using a google drive questionnaire, and data is transferred to an excel spreadsheet, where the data was cleaned, edited, coded, and then captured on the spreadsheet, from which illustrations were constructed. After clearly explaining to the respondents that participation was voluntary, random sampling was used to collect the data, and ethical guidelines were followed. The participants' rights to human decency, confidentiality or anonymity, and the right to information shared were all respected.

The findings are structured so that adequate information on the response given to each question, and statement, can be obtained. In addition, each response compares the variables and states where generalisations are possible.

5.2.1. Section A Biography

A biography, also known as a bio, is a detailed account of a person's life. It depicts a person's experience of life events, such as education, work, relationships, and death, rather than just the basic facts (Caine, 2018:8). A biography, as opposed to a profile or curriculum vitae, presents a subject's life story, emphasising various aspects of their life, including intimate details of experience, and may include an analysis of the subject's personality.

The following questions were asked in this section: Your position in the organisation, your qualification, number of years in the industry, and the respondent's age, etc. This was strictly for people in the supply chain and logistics departments, and the questions were designed to gain an understanding of the type of respondents in terms of their position in the industry, as well as the number of years in that position as an indicator of how much they related to the business changes when new projects/systems were implemented in the industry.

Question 1: What is your gender?

The above question was asked to determine the gender of each survey participant to demonstrate that the research was not stereotyped.

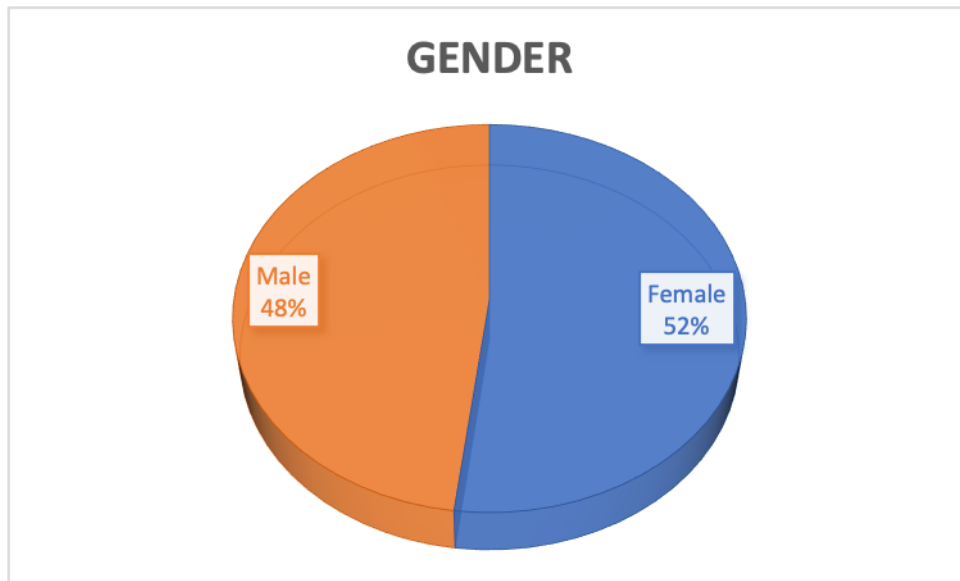


Figure 5.2.1 Gender

Source: Own construction

The findings of the study indicators are considered to point to a gender disparity. Female respondents made up 52% of the total target population, while male respondents were 48%. This variation is attributed to the population distribution of the targeted area from which the sample was drawn, which is ruled by females willing to participate in the study.

Question 2: How old are you?

Due to various prolonged exposure and experience in your field of work, a certain age is associated with a certain level of understanding (Johar, Ehsan, and Khan, 2019:455-459). As a result, based on the law of averages, the more exposure one has, the more likely one is to make sound decisions on issues.

The older you are, the greater you will be expected to understand the field you are working in. This means that you have been exposed to various changes and adapting to new systems or have used the same systems with upgrades over the years within the organisation. In addition, you have some experience dealing with various challenges at work and working with people is a critical skill in any organisation. It also allows you to be aware of your decisions, which can make or break the project. The age range can also indicate the number of years spent where projects were implemented, mainly working with people, and learning the interpersonal skills required to work with people.

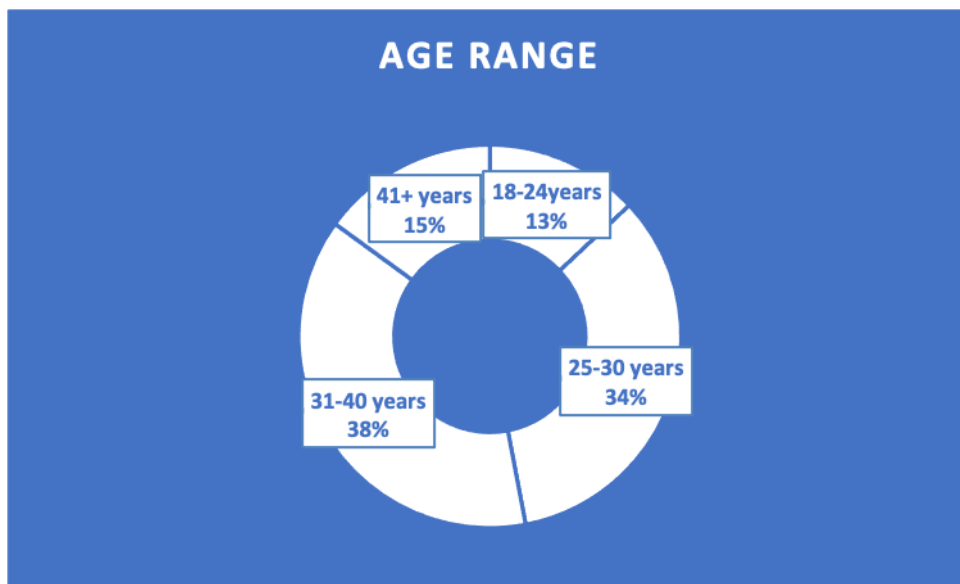


Figure 5.2.2 Age Range

Source: Own construction

According to the data shown in the doughnut chart above, there are no employees between the ages of 18 and 24 years who are involved in the execution of projects in the organisation is 13%; however, there are 34% of employees between the ages of 25 and 30 who are involved in projects, accounting for. 38% of people between the ages of 31 and 40 participated. 15% of respondents contributed to the age range 41 and above.

Question 3: How would you classify yourself as?

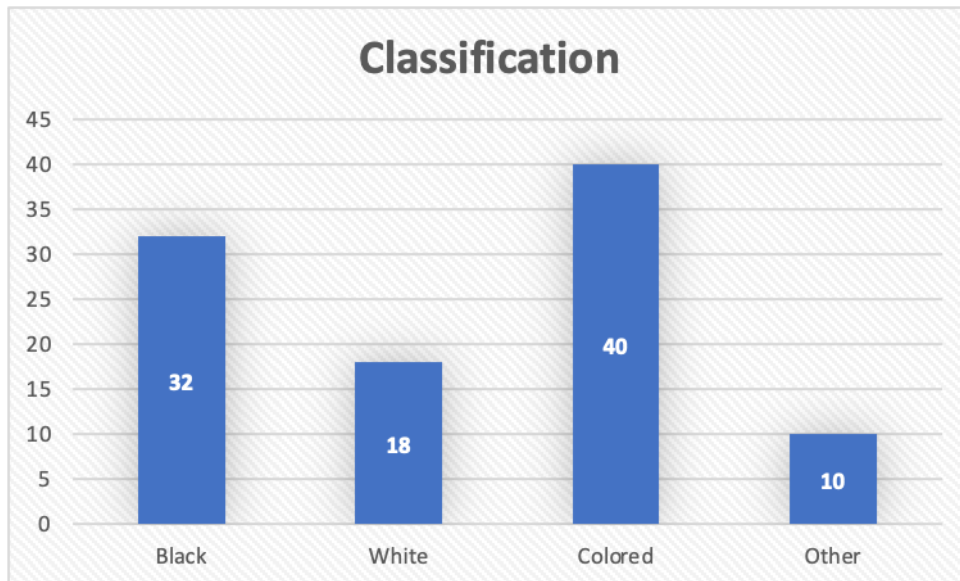


Figure 5.2.3 Classification of Race

Source: Own construction

The number of respondents in the organisation covered 40%, which were coloured people, and 32% were black people. The remaining was 18 % with white people and 10% falling under the other group; 10% were people born outside the country.

Question 4: State the employment status below by ticking the appropriate box provided.

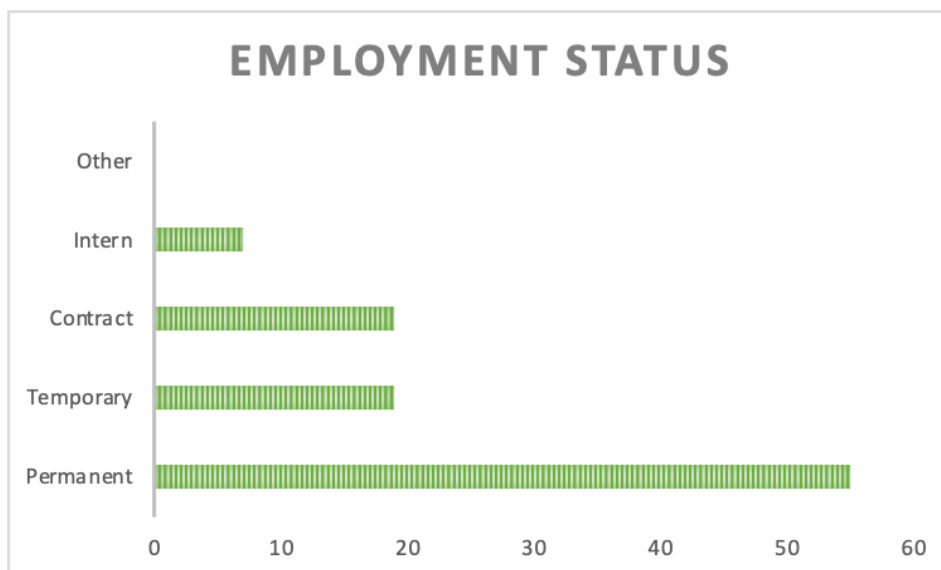


Figure 5.2.4 Employment Status

Source: Own construction

The most significant number of respondents was permanent employees at 55%, which was not surprising. The number of temporary and contract employees was at 19%. Temporary work is when an employer hires an employee for a limited time. Employers frequently require temporary workers to fill open positions or assist during peak periods. A contract job is when an employer hires an employee temporarily. Before the employment period begins, both the employer and the employee agree to the contract terms. The remaining 7% of respondents were interns.

Question 5: How long have you been at your current job?

The number of years in the industry undoubtedly aids in the development of emotional intelligence. Ingram, Peake, Stewart, and Watson (2019:780) there is a direct relationship between emotional intelligence levels and an individual's experience. People without formal qualifications may end up knowing much of the operations through exposure, which should be interpreted as skill development.

Because of the employee's ability to learn and understand the pros and cons of project execution, it will be easier to assess the project success more accurately through adapting and problems encountered with the systems the more experience you have. Similarly, a higher position in the organisation allows the respondent to put themselves in the shoes of the project manager. While formal qualifications are required, "hands-on experience" cannot be overlooked as a form of education.

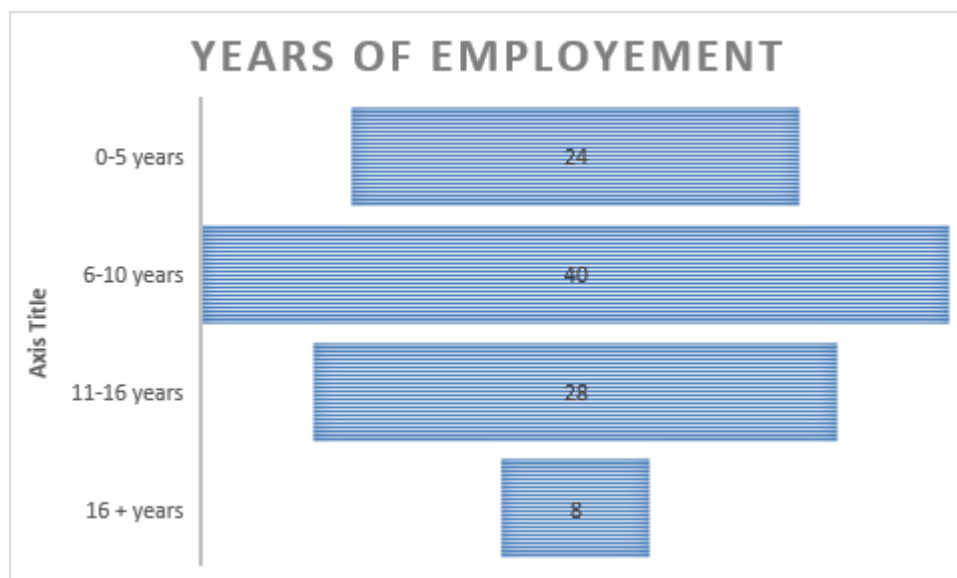


Figure 5.2.5 Years of Employment

Source: Own construction

Of those recording 0-5 years, the respondent was 24% who have recently joined the organisation over five years. 40% of the respondents had been in the organisation for 6-10 years, meaning most people have served the company between these years. 11-16 years of service each had 28% of respondents, and the remaining respondents had served the organisation for 16 years and above was 8% the participants. It might be presumed that many of the participants are in the middle to senior age group if they had been with the organisation for that long.

Question 6: What is/was your position in the job?

The respondent's understanding of what constitutes project success/failure was heavily influenced by his or her knowledge of the position in the industry. The respondents' positions in their organisations are depicted in the Figure below.

Response: The first expectation was that anyone involved in the project implementation would need some basic knowledge and purpose. As a result, they would better understand what is going on in the industry, allowing them to contribute meaningfully to the survey. The position would also help determine the extent to which the individual could influence systems, practices, and attitudes. Employees are expected to adapt and have the ability to work well with others or embrace change. Interpersonal relationships are more important than anything else in keeping a team together and motivating people.

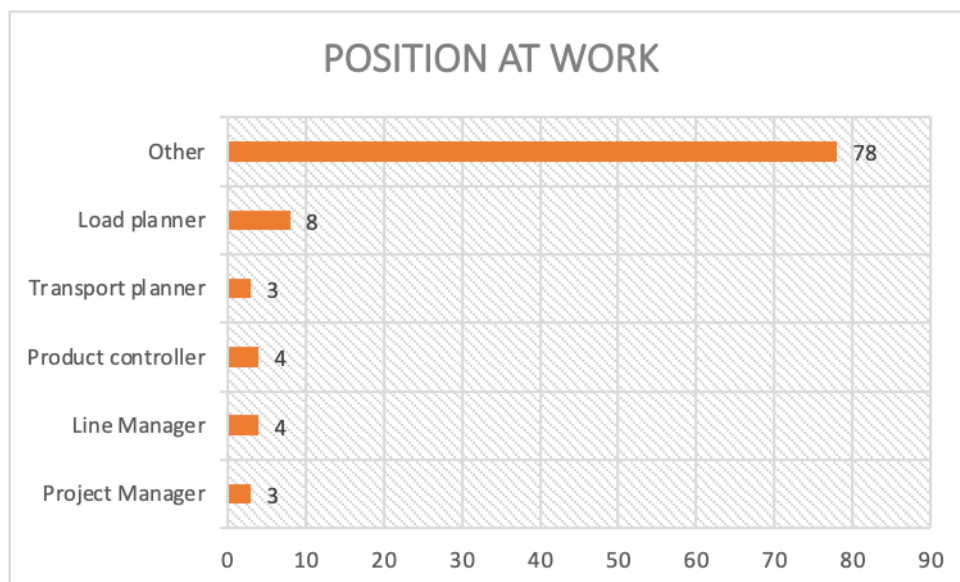


Figure 5.2.6 Position at work

Source: Own construction

The chart shows that 3% of the people who participated in the study occupy a project manager's position in their workplace, 78% selected the "other" option and explained what they

were in the organisation, and 4% of the respondents said they worked as line managers in their organisation. In addition, 8% were part of the load planning team in the organisation, and 3% identified themselves as part of the transport planning team; the remaining 4% are in the deployment space as product controllers.

Question 7: The highest level of Education?

It is critical to understand the respondents' level of education because education can relate to knowledge about a specific field of study and industry. The respondent's perceptions of good project management practice and change management can be influenced by their educational background.

Response: The supply chain and logistics industry comprise of quite a several various hardware engineering and those qualified in software engineering; the two are complementary in the installation of new systems in an organisation. This question would assist in establishing the nature of operations the organisation is involved in and specifically what the individual does in the organisation. It would be expected that the higher the qualification, the higher the chances of the respondent being in a management or supervisory position. The respondents' answers are illustrated in the figure.

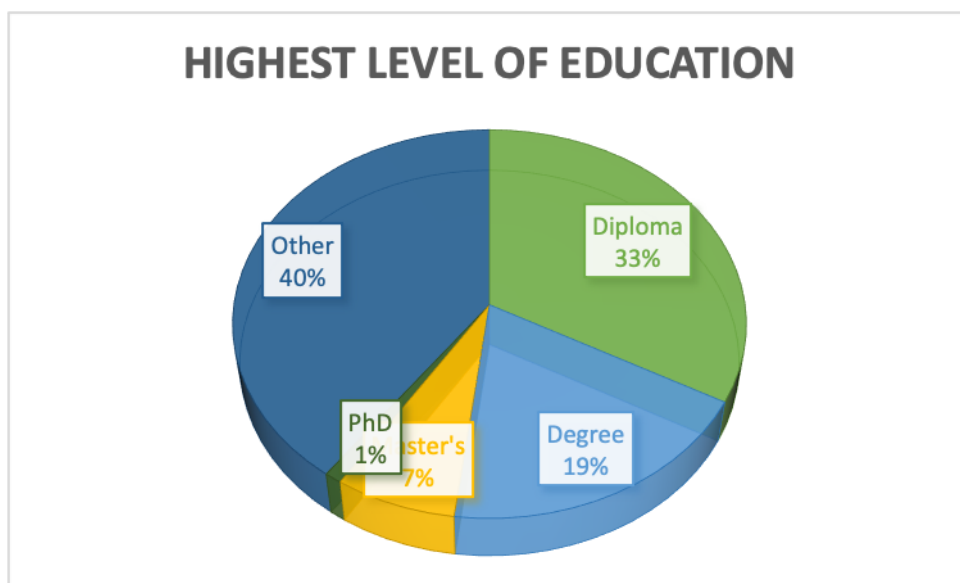


Figure 5.2.7 Highest Level of Education

Source: Own construction

The pie chart above shows an analysis of the number of respondents with a formal qualification. According to the data collected, one person stated that they hold a PhD so that one person equals 1% of the total respondents. 33% of people said they hold a diploma, and 40% of people have completed matric and have short course certificates. 19% of the people

have completed the degree, and the remaining 7% have a master's degree as their formal qualification.

5.2.2. Section B: Likert scale (closed question)

In this section, the Likert scale assesses respondents' thoughts and opinions of specific statements derived from the research question, problem statement, and research objectives. The Likert scale statements were rated on a scale of 1 to 5, with 1 indicating strongly disagree, 2 indicating disagree, 3 indicating neutral, 4 indicating agree, and 5 indicating strongly agree. In addition, respondents were asked to rank these statements based on how they felt about their comprehension. The same method as in the biography section is used here, where the statement appears as in the questionnaire and is accompanied by an extended response. The statements that follow are presented below.

5.2.2.1. Strategic alignment, culture, skills, and capabilities

Question 1: Projects are chosen in accordance with business objectives.

Projects need to be strategically aligned with the business; choosing the right project that will assist the business to grow and have a competitive advantage is imperative.

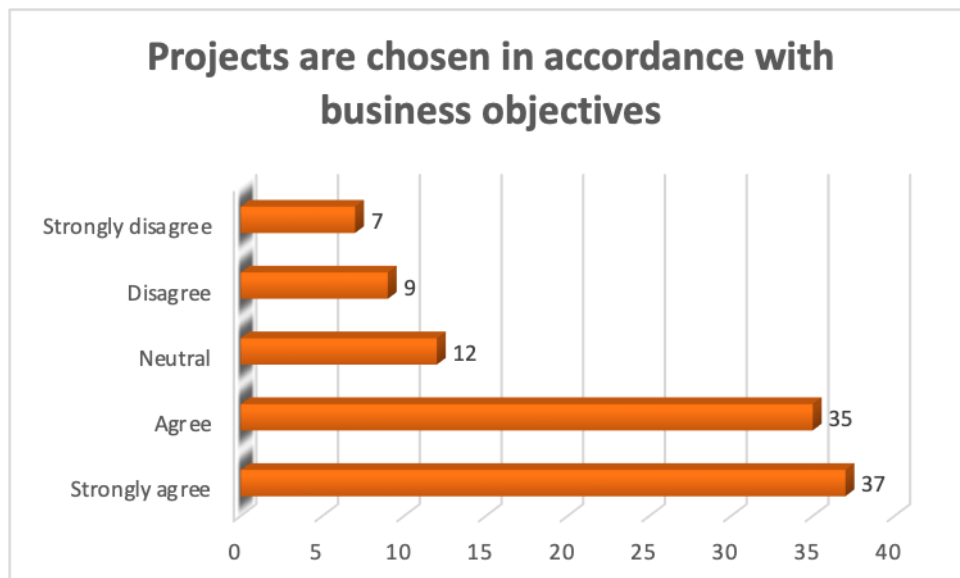


Figure 5.2.8 Projects are chosen in accordance with business objectives

Source: Own construction

The highest proportion of respondents strongly agreed with this statement at 37%, followed by the second-highest proportion at 35%, where the respondents agreed with the statement. On the other hand, the proportion of respondents at 7% strongly disagreed with this statement, supported by a slightly high proportion of respondents at 9% who disagreed with the statement,

whereas 12% of respondents were neutral. Overall, 72% of respondents supported the statement, which means that a conclusion can be made that the projects are chosen in accordance with business objectives.

Question 2: In general, project outcomes are aligned with business objectives.

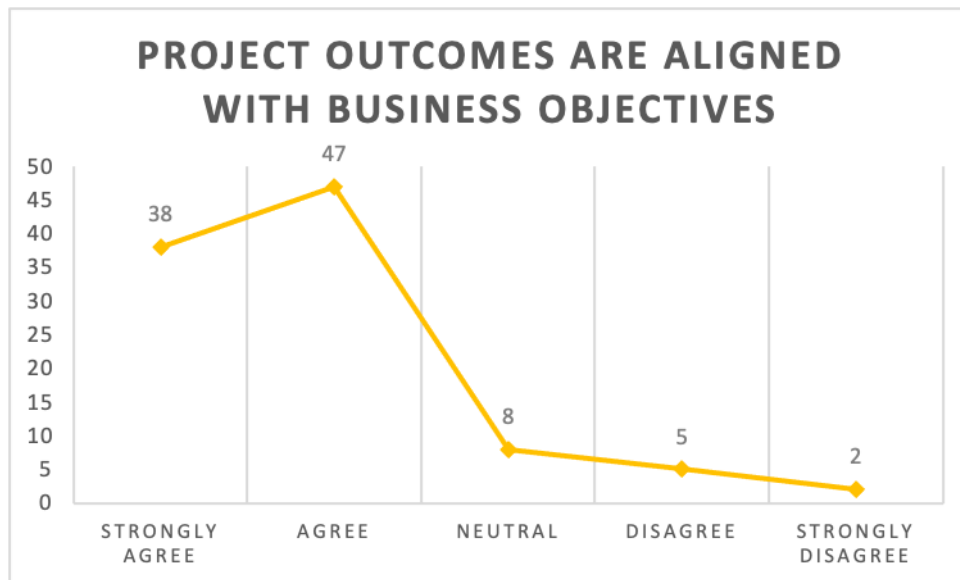


Figure 5.2.9 Project Outcomes are aligned with business objectives

Source: Own construction

The most significant percentage of respondents, 47 per cent, agree with this statement, followed by the second-highest proportion, 38 per cent, who strongly agreed. The proportion of respondents who strongly disagreed with this statement was 2 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 5 per cent and 8 per cent neutral. Overall, 85 per cent of respondents agreed with the statement, implying that the project outcomes are in line with business goals.

Question 3: The project scope was well stated, clear, and precise.

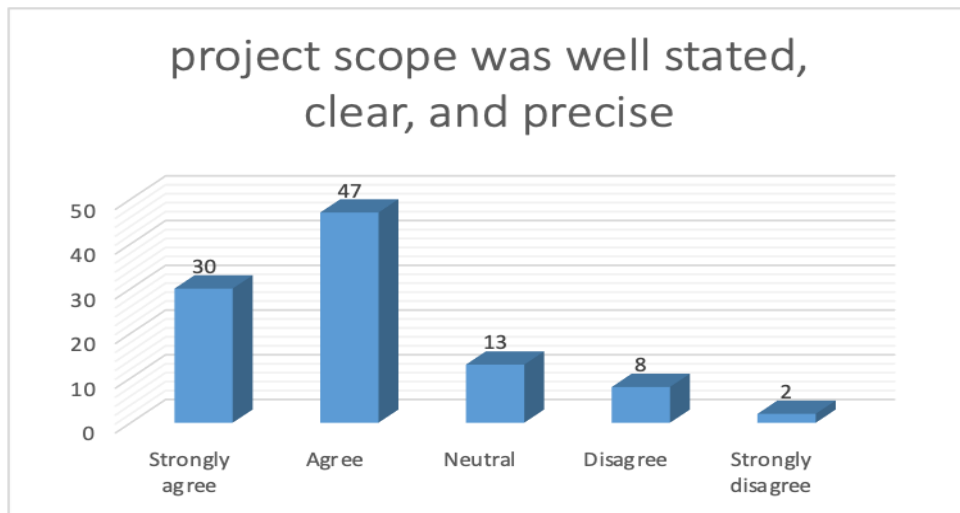


Figure 5.2.10 Project scope was well stated, clear, and precise

Source: Own construction

Most respondents, 47 per cent, agreed with this statement, followed by the second-highest proportion, 37 per cent, who strongly agreed with the statement. The proportion of respondents who strongly disagreed with this statement was 2 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 8 per cent and 13 per cent neutral. Overall, 77 per cent of respondents agreed with the statement, implying that the project scope was well described, accurate, and straightforward.

Question 4: Project was tested, risks analysed beforehand, and successfully executed.



Figure 5.2.11 Project was tested, risks analysed beforehand and successfully executed

Source: Own construction

The largest proportion of respondents, the highest respondents with 38 per cent, agreed with this statement, followed by the second-highest proportion, 34 per cent, who strongly agreed. The proportion of respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 4 per cent and 21 per cent neutral. Overall, 72 per cent of respondents agreed with the statement, implying that the project was tested, and risks were identified in advance and carried out successfully.

Question 5: Proper and relevant training was provided for the employees.

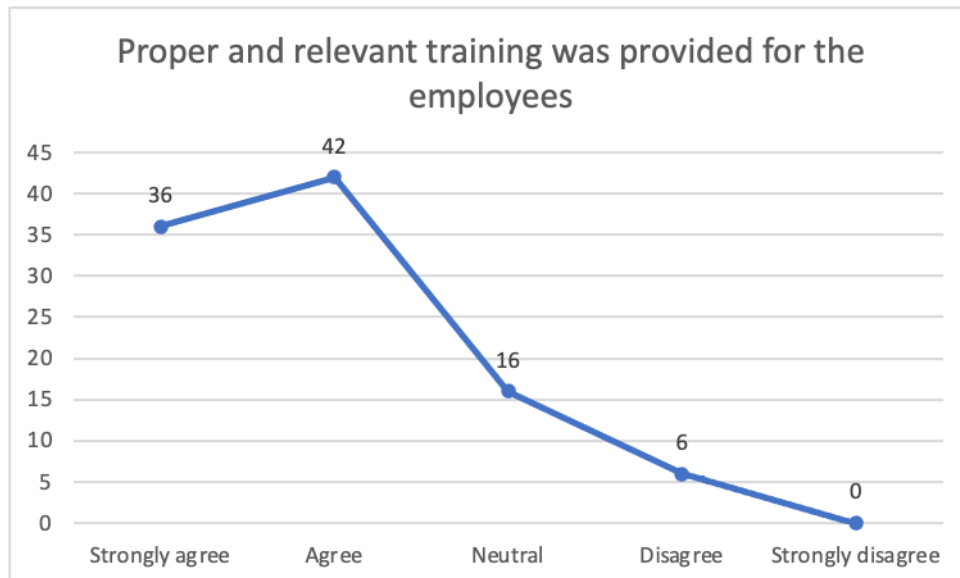


Figure 5.2.12 Proper and relevant training was provided for the employees

Source: Own construction

The largest per centage of respondents, 36 per cent, strongly agreed with this statement, followed by the highest proportion, 42 per cent, who agreed with the statement. The proportion of respondents who disagreed with this statement was 6 per cent, with a proportion of no respondents disagreeing with the statement and 16 per cent neutral. Overall, 78 per cent of respondents agreed with the statement, implying that the employees received appropriate and relevant training.

Question 6: Detailed information was provided to the employees before starting the project.

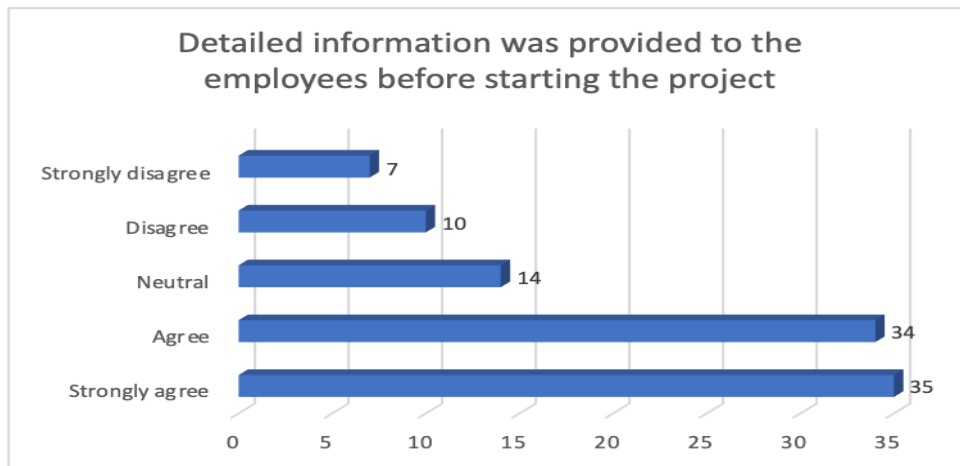


Figure 5.2.13 Detailed information was provided to the employees before starting the project

The greatest concentration of respondents, 35 per cent, strongly agreed with this statement, followed by the second-highest proportion, 34 per cent, who agreed with the statement. The proportion of respondents who strongly disagreed with this statement was 7 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 10 per cent and 14 per cent neutral. Overall, 69 per cent of respondents agreed with the statement, implying that employees were given detailed information before beginning the project.

Question 7: The Project Manager facilitated communication between all stakeholders involved.

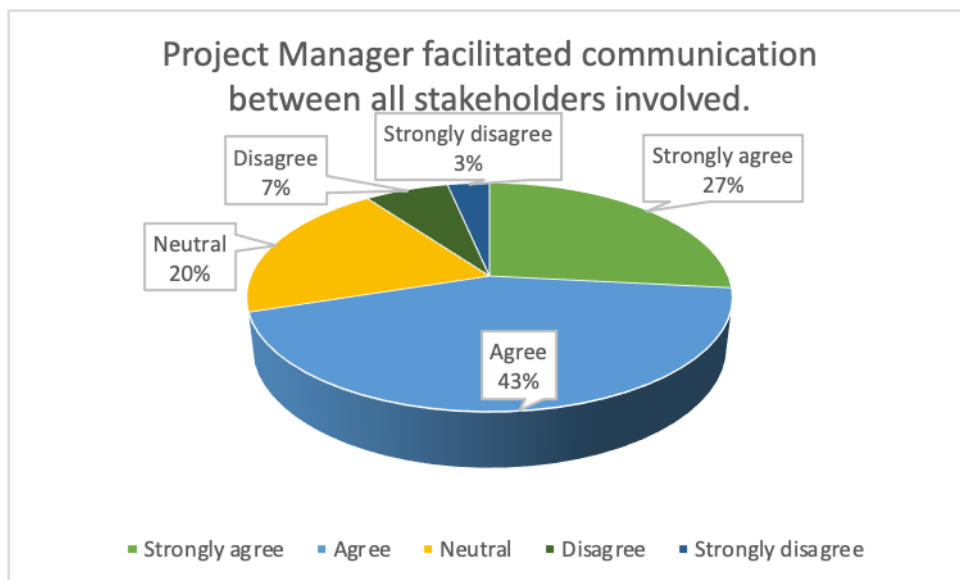


Figure 5.2.14 Project Manager facilitated communication

Source: Own construction

The highest proportion of respondents, 43 per cent, agreed with this statement, followed by the second-highest proportion, 27 per cent, who strongly agreed. The proportion of respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 7 per cent and 20 per cent neutral. Overall, 70 per cent of respondents agreed with the statement, implying that the Project Manager facilitated communication with all involved stakeholders.

Question 8: Feedback to employees was given after every problem was raised.

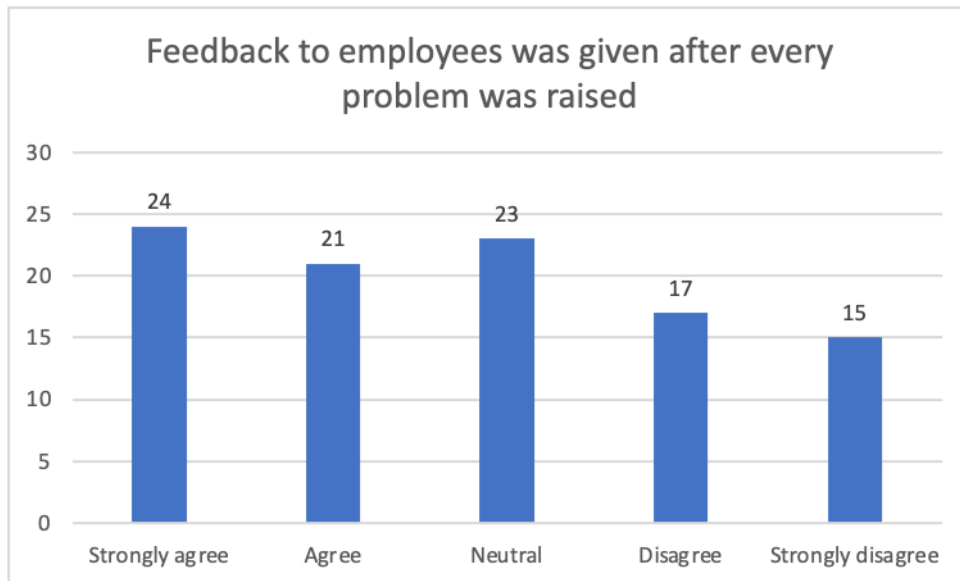


Figure 5.2.15 Feedback to employees was given after every problem was raised

Source: Own construction

The most significant number of respondents, 24%, strongly agreed with this statement, followed by the second-highest proportion, 23%, who were in between(neutral) with the statement. The proportion of respondents who agreed with this statement was 21%, with a slightly lower proportion of respondents disagreeing at 17% and 15% strongly disagreeing. Overall, this statement shows that employees were not happy feedback given after each problem was raised.

Question 9: Employees are involved in implementing project strategy.

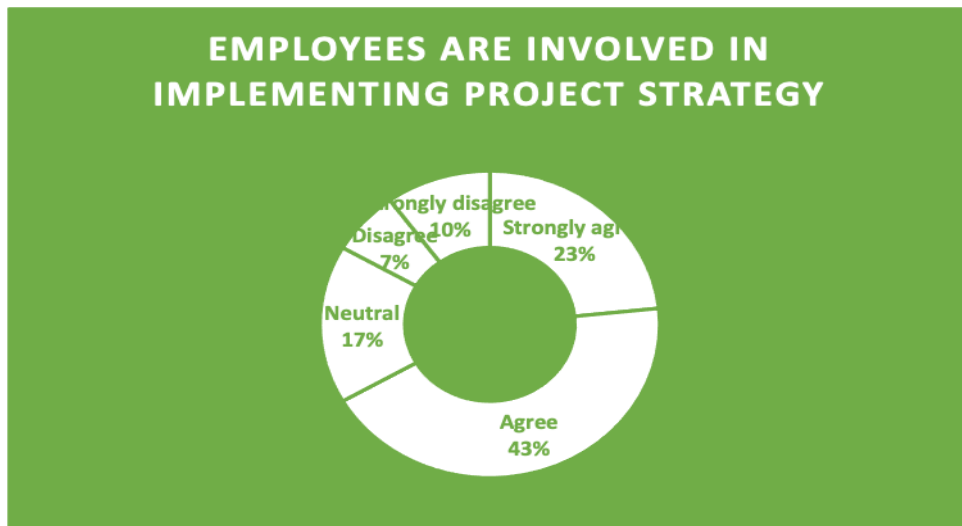


Figure 5.2.16 Employees are involved in implementing project strategy

Source: Own construction

The highest concentration of respondents, 43 per cent, agreed with this statement, followed by the second-highest proportion, 23 per cent, who strongly agreed. The proportion of respondents who strongly disagreed with this statement was 10 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 7 per cent and 17 per cent neutral. Overall, 66 per cent of respondents agreed with the statement, implying that the employees are involved in implementing the project strategy.

Question 10: Benefits of the new operating systems we clearly stated.

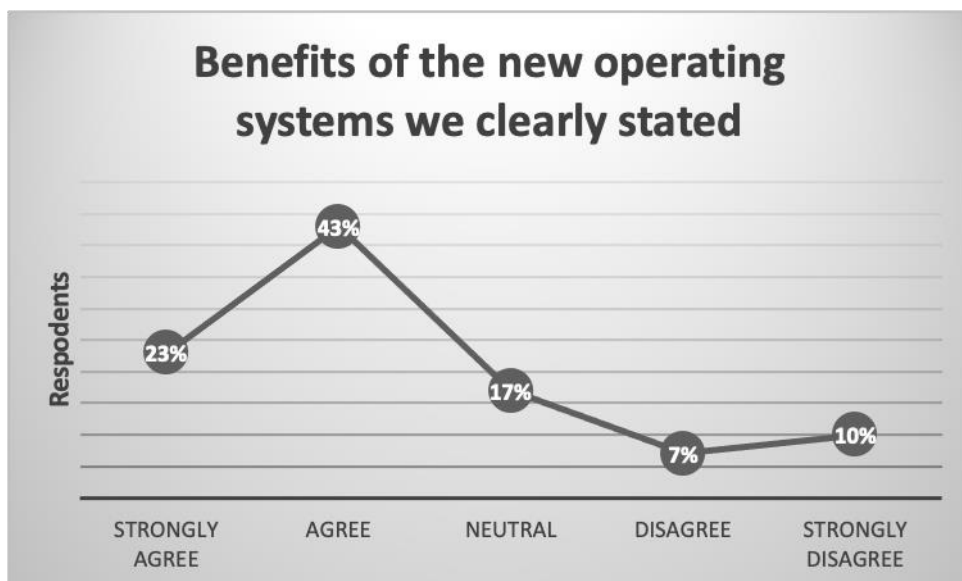


Figure 5.2.17 Benefits of the new operating systems we clearly stated

Source: Own construction

The largest proportion of respondents, with 43 per cent of respondents agreeing with this statement, followed by the second-highest proportion, 23 per cent, who strongly agreed. The proportion of respondents who strongly disagreed with this statement was 10 per cent, with a slightly lower proportion of respondents disagreeing with the statement at 7 per cent and 17 per cent neutral. Overall, 66 per cent of respondents agreed with the statement, implying that the advantages of the new operating systems were clearly stated.

5.2.2.2. Project selection and outcomes

Question 11: At the concept stages of the project, project managers were appointed.

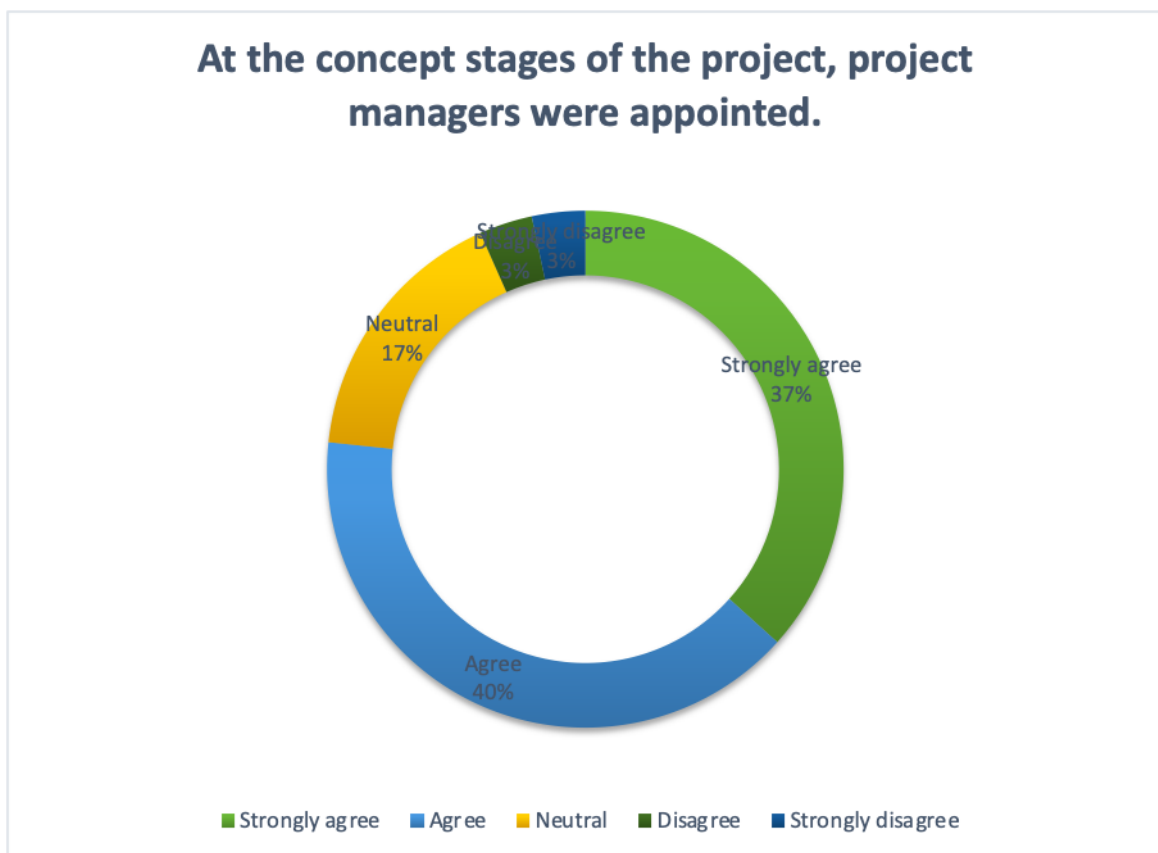


Figure 5.2.18 At the concept stages of the project, project managers were appointed

Source: Own construction

The highest portion of participants (40%) agreed with this statement, followed by the second-highest proportion (37%) who strongly agreed. The portion of respondents who strongly disagreed with this statement was (7%), with the same portion of respondents disagreeing at (3%) and the remaining (17%) being neutral. Overall, (77%) of respondents agreed with the statement, implying that Project managers were appointed during the concept stages of the project from both ends of the organisation owning the system with the one that needs it to have an efficient and effective way of working.

Question 12: The project manager and relevant stakeholders participated in the selection process.

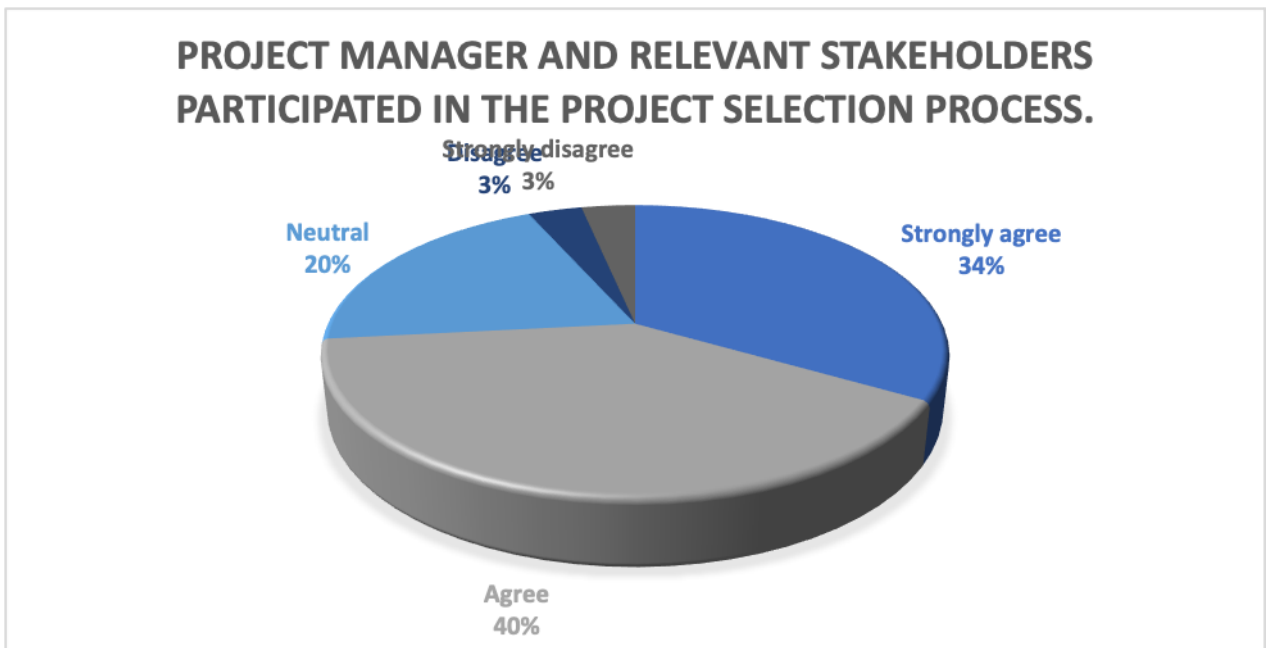


Figure 5.2.19 The project manager and relevant stakeholders participated in the selection process.

Source: Own construction

The largest per centage of respondents, 40 per cent, agreed with this statement, followed by the second-largest proportion, 34per cent, who strongly agreed with the statement. Conversely, the proportion of respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 3 per cent and 20per cent neutral. Overall, 74 per cent of respondents agreed with the statement, implying that the project manager and other key stakeholders were present during the project selection process.

Question 13: The project's outcomes had a strategic fit in the design for future products.

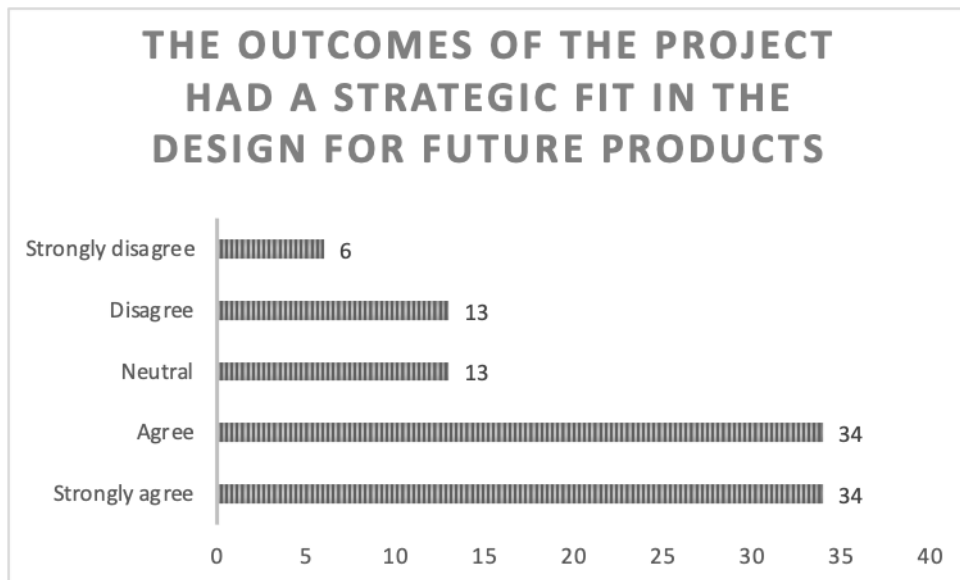


Figure 5.2.20 The outcomes of the project had a strategic fit in the design for products

Source: Own construction

The highest proportion of respondents' 34 per cent, strongly agreed with this statement, followed by the second-highest proportion, 34 per cent, which has the same number of respondents who agreed with the statement. Conversely, the proportion of respondents who strongly disagreed with this statement was 6 per cent, with a slightly higher proportion of respondents disagreeing at 13 per cent and 13 per cent neutral. Overall, 68 per cent of respondents agreed with the statement, suggesting that the project's outcomes had a strategic fit in designing future products.

Question 14: Projects were chosen in accordance with the company's growth and expansion strategies.

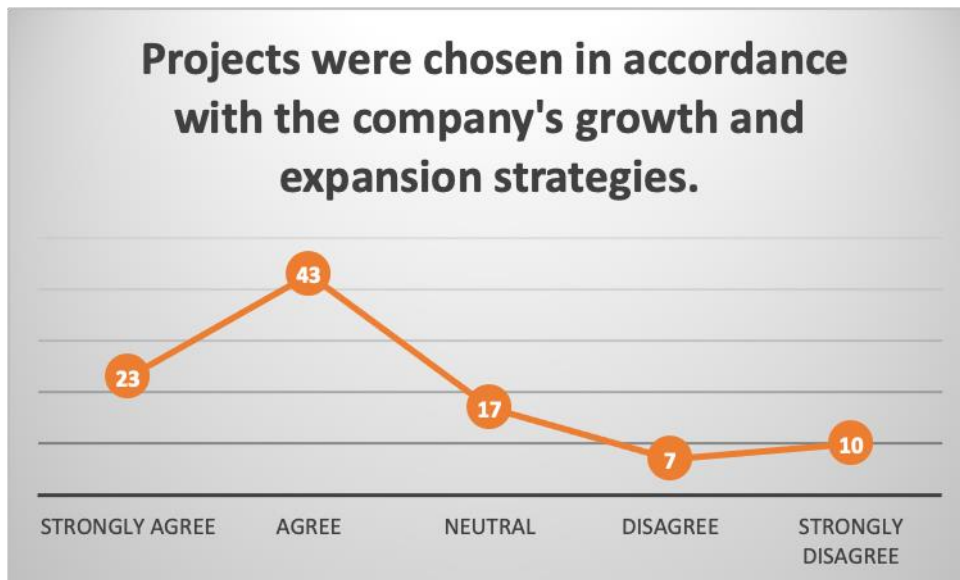


Figure 5.2.21 Projects were chosen in accordance with the company's growth and expansion strategies.

Source: Own construction

The largest proportion of respondents, 43 per cent, agreed with this statement, with the largest-highest proportion, 23 per cent, strongly agreeing. Conversely, the proportion of respondents who strongly disagreed with this statement was 10 per cent, with a slightly lower proportion of respondents at 7 per cent and 17 per cent neutral. Overall, 66 per cent of respondents agreed with the statement, suggesting that projects were chosen in accordance with the company's expansion and growth strategies.

Question 15: Regardless of project size, project management principles are applied consistently.

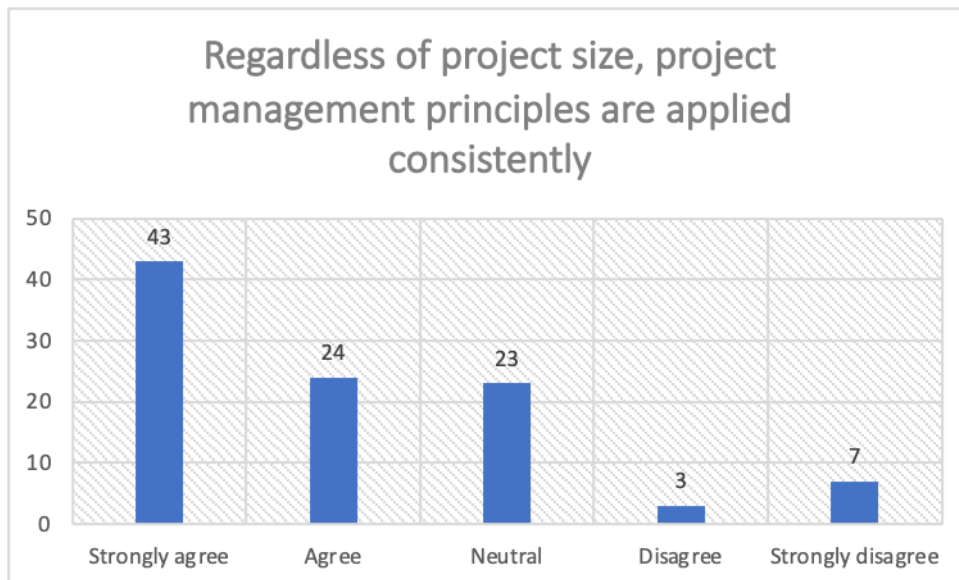


Figure 5.2.22 Regardless of project size, project management principles are applied consistently

Source: Own construction

The greatest concentration of respondents, 43 per cent, strongly agreed with this statement, with the second-highest proportion, 24 per cent, agreeing with the statement. Conversely, the proportion of respondents who strongly disagreed with this statement was 7 per cent, with the lowest proportion of respondents disagreeing at 3 per cent and 23 per cent neutral. Overall, 67 per cent of respondents agreed with the statement, suggesting that project management principles are consistently applied, regardless of project size.

Question 16: Project deliverables were completed within the scheduled time, budget, and quality.

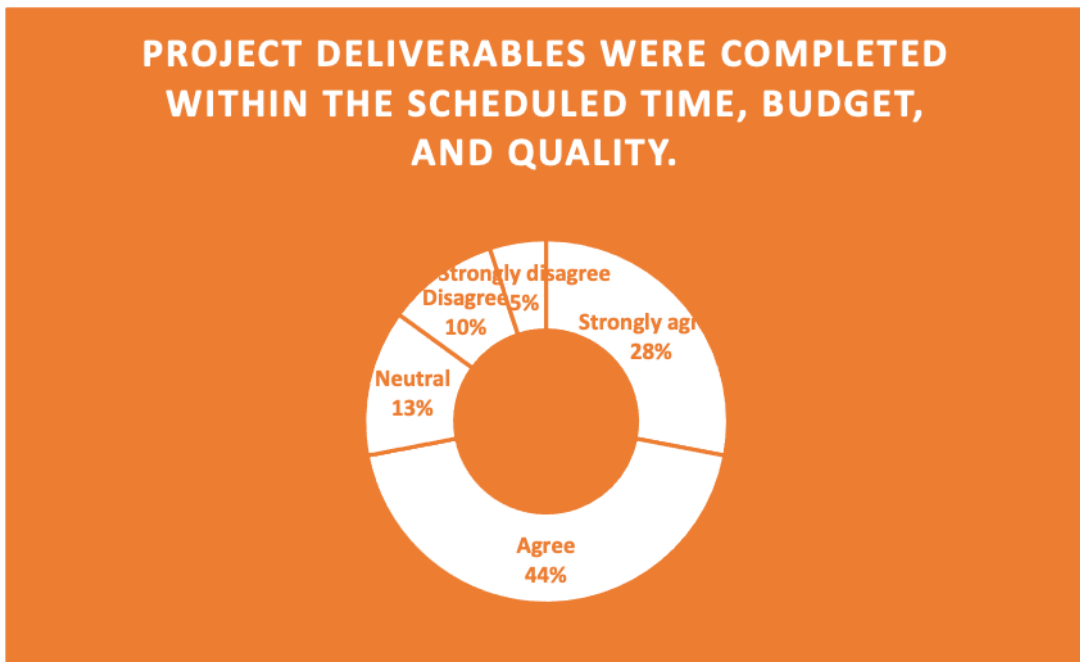


Figure 5.2.23 Project deliverables were completed within the scheduled time, budget, and quality.

Source: Own construction

The highest proportion of respondents agreed with this statement at 44%, followed by the second-highest proportion at 28%, where the respondents strongly agreed with the statement. The proportion of respondents at 5% strongly disagreed with this statement, supported by a slightly higher proportion of respondents at 10% who disagreed with the statement, whereas 13% of respondents were neutral. Overall, 72% of respondents supported the statement, which means that a conclusion can be made that the project deliverables were completed on time, within budget, and with high quality.

Question 17: The project provided promised business value with everything according to the plan.

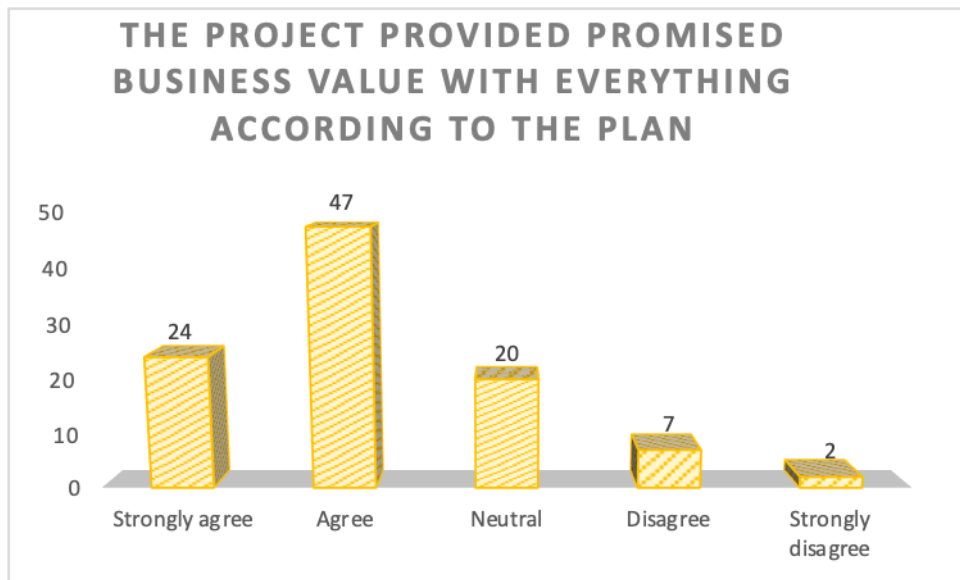


Figure 5.2.24 The project provided promised business value with everything according to the plan

Source: Own construction

The highest proportion of respondents agreed with this statement at 47%, followed by the second-highest proportion at 24%, where the respondents strongly agreed with the statement. The proportion of respondents at 2% strongly disagreed with this statement, supported by a slightly higher proportion of respondents at 7% who disagreed with the statement, whereas 20% of respondents were neutral. Overall, 71% of respondents supported the statement, which suggests that a conclusion can be made that project delivered on the promised business value, with everything going as planned.

Question 18: The project will ultimately provide a satisfactory return on customers' investment.

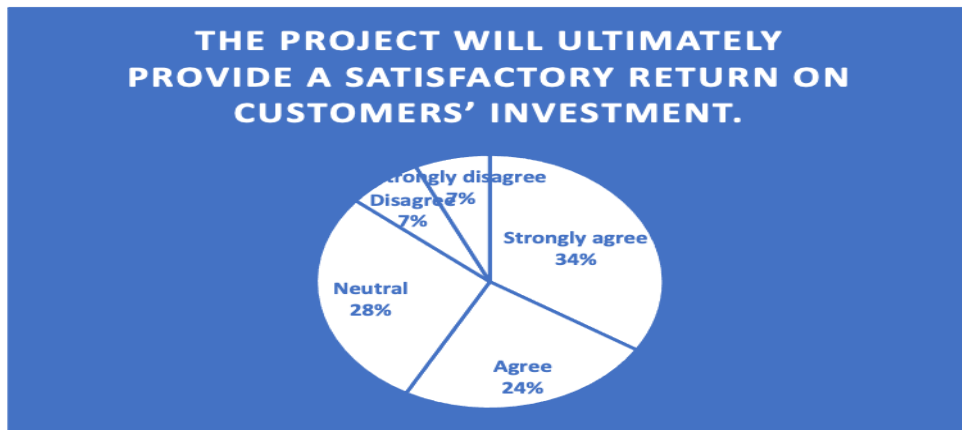


Figure 5.2.25 The project will ultimately provide a satisfactory return on customers' investment

Source: Own construction

The highest proportion of respondents strongly agreed with this statement at 34%, followed by the third-highest proportion at 28% were the respondents who agreed with the statement. On the other hand, the proportion of respondents at 7% strongly disagreed with this statement, supported by the same proportion of respondents at 7% who disagreed with the statement, whereas 28% of respondents were neutral, the second highest. Overall, 62% of respondents supported the statement, which means that a conclusion can be made that the project will eventually provide a satisfactory return on investment for customers.

Question 19: The project usually carries out business operations requirements.



Figure 5.2.26 Project usually carry out business operation requirements

Source: Own construction

The highest proportion of respondents strongly agreed with this statement at 34%, followed by the second-highest proportion at 30%, where the respondents agreed with the statement. The proportion of respondents at 6% strongly disagreed with this statement, supported by a slightly high proportion of respondents at 7% who disagreed with the statement, whereas 23% of respondents were neutral. Overall, 64% of respondents supported the statement, suggesting that typically, the project carries out business operations requirements.

5.2.2.3. Project success

Question 20: The implementation strategy was important in project execution.

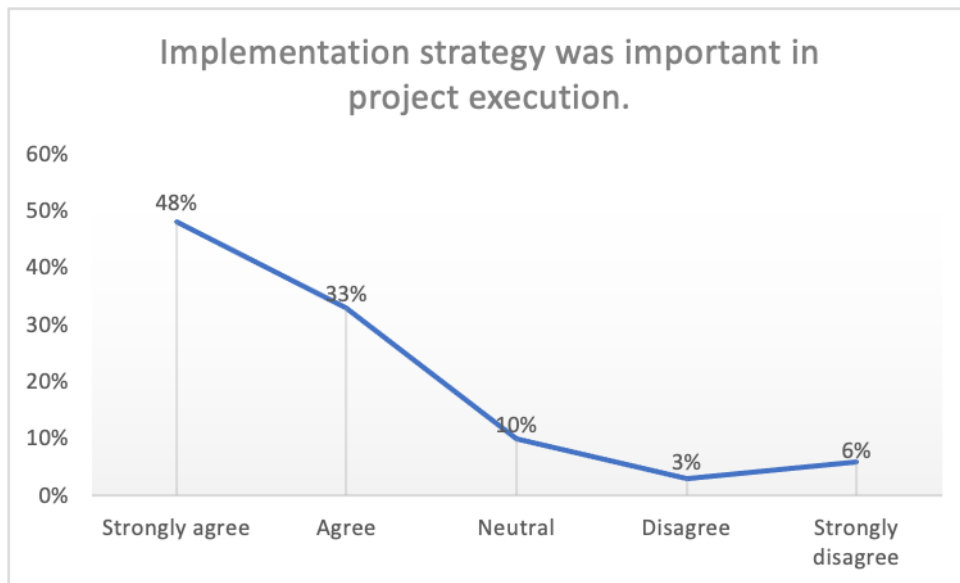


Figure 5.2.27 Implementation strategy was important in project execution

Source: Own construction

The greatest concentration of respondents, 48 per cent, strongly agreed with this statement, followed by the second-highest proportion, 33 per cent, who agreed with the statement. Conversely, the proportion of respondents who strongly disagreed with this statement was 6 per cent, with the lowest proportion of respondents disagreeing with the statement at 3 per cent and 10 per cent neutral. Overall, 81 per cent of respondents agreed with the statement, implying that the implementation strategy was critical in project execution.

Question 21: Top management commitment was important for effective implementation.

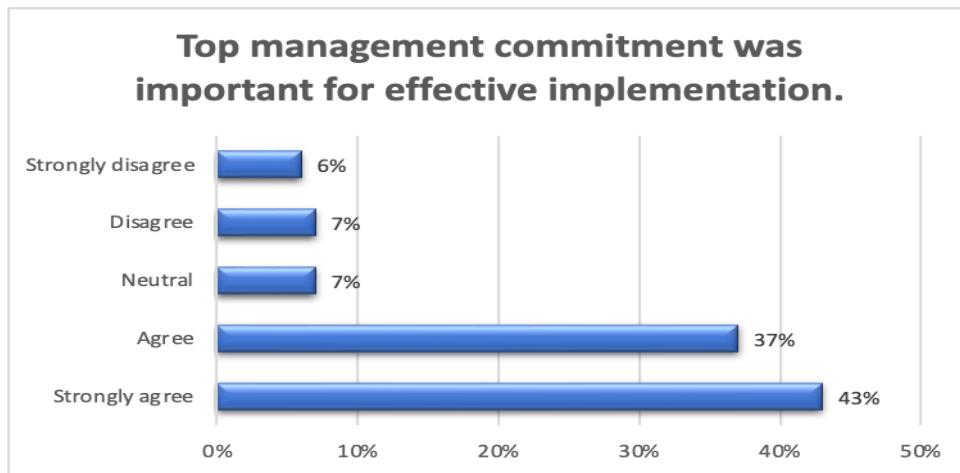


Figure 5.2.28 Top management commitment was important for effective implementation.

Source: Own construction

The largest proportion of respondents, 43 per cent, strongly agreed with this statement, followed by the second-highest proportion, 37 per cent, who agreed. The proportion of respondents who strongly disagreed with this statement was 6 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 7 per cent and 7 per cent neutral. Overall, 84 per cent of respondents agreed with the statement, indicating that top management commitment was required for successful implementation.

Question 22: Effective and context-relevant communication was critical for project execution

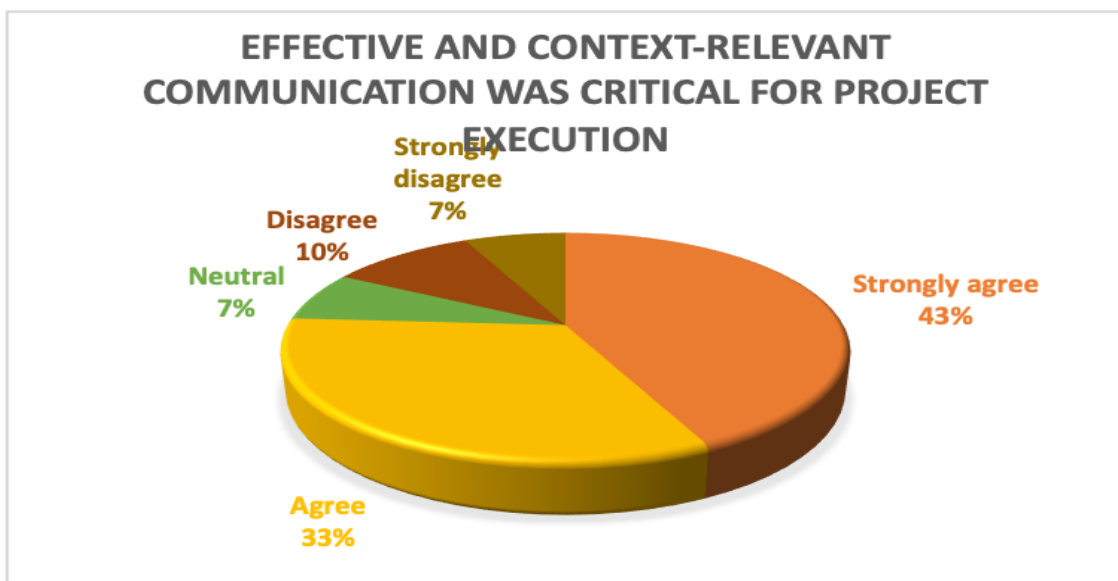


Figure 5.2.29 Effective and context-relevant communication

Source: Own construction

The largest per centage of respondents, 43 per cent, strongly agreed with this statement, followed by the second-highest per centage, 33 per cent, who agreed with the statement. The per centage of the respondents who strongly disagreed with this statement was 7 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 10 per cent and 7 per cent neutral. Overall, 76 per cent of respondents agreed with the statement, suggesting that project execution required effective and context-relevant communication.

Question 23: Training and education for relevant skills were important during the execution stage.

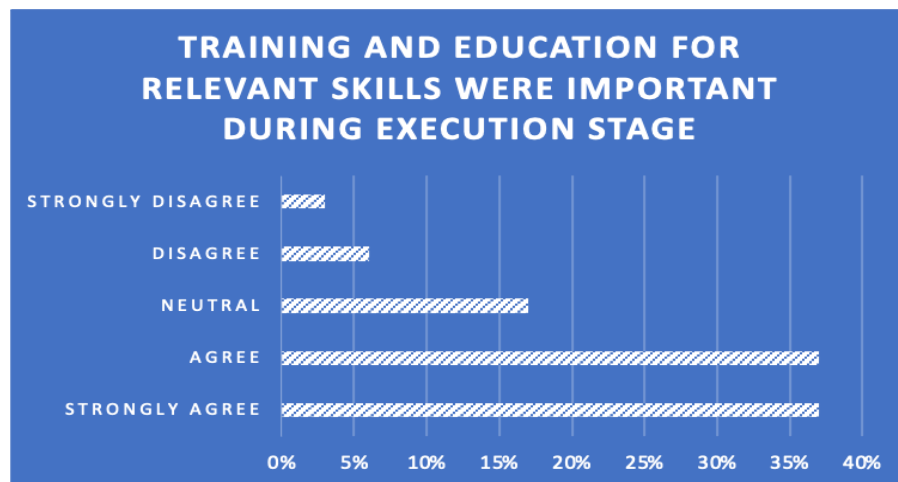


Figure 5.2.30 Training and education for relevant skills stage

Source: Own construction

The largest proportion of respondents, 37 per cent, strongly agreed with this statement, followed by the same proportion of 37 per cent, who agreed with the statement. The respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 6 per cent and 17 per cent neutral. Overall, 74 per cent of respondents agreed with the statement, indicating that training and education for relevant skills were critical during the execution stage.

Question 24: The composition of the implementation team was important in the execution stage.

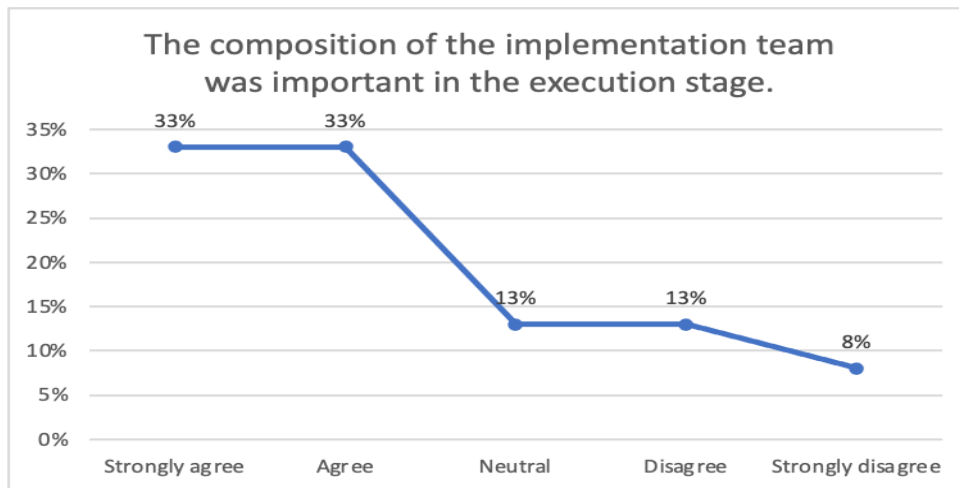


Figure 5.2.31 The composition of the implementation team was important in the execution stage.

Source: Own construction

The highest proportion of respondents, 33 per cent, strongly agreed with this statement, followed by the second-highest per centage, 33 per cent, who agreed with the statement. Conversely, the proportion of the respondents who strongly disagreed with this statement was 8 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 13 per cent and 13 per cent neutral. Overall, 66 per cent of respondents agreed with the statement, suggesting that the composition of the implementation team during the execution stage was critical.

Question 25: Change management was important in the implementation of the project.

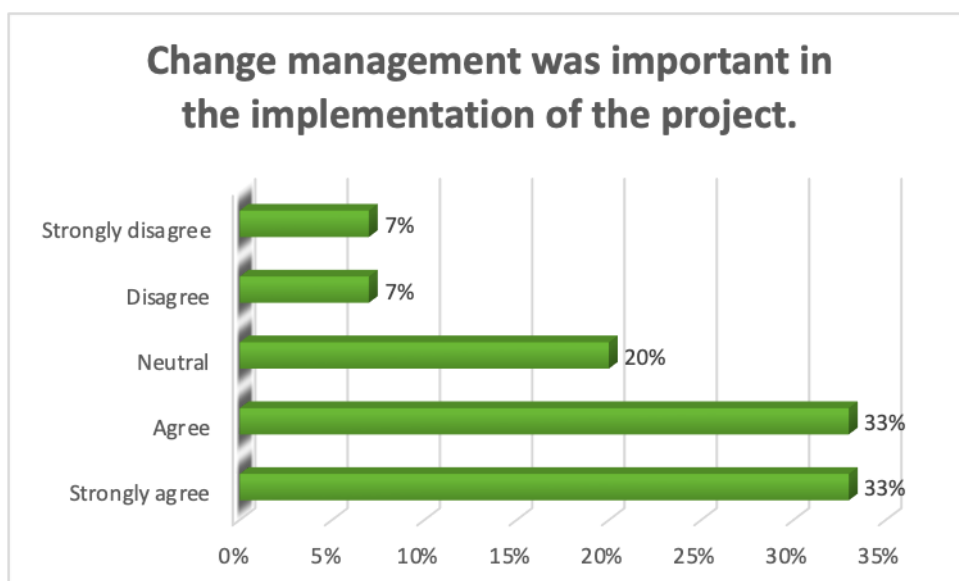


Figure 5.2.32 Change management was important in the implementation of the project.

Source: Own construction

The highest proportion of respondents strongly agreed with this statement at 33%, followed by the second-highest proportion at 33%, where the respondents agreed with the statement. The proportion of respondents at 7% strongly disagreed with this statement, supported by a slightly high proportion of respondents at 7% who disagreed with the statement, whereas 20% of respondents were neutral. Overall, 66% of respondents supported the statement, which means that a conclusion can be made that change management was critical during project implementation.

Question 26: User involvement and consultation was important in the implementation stage.

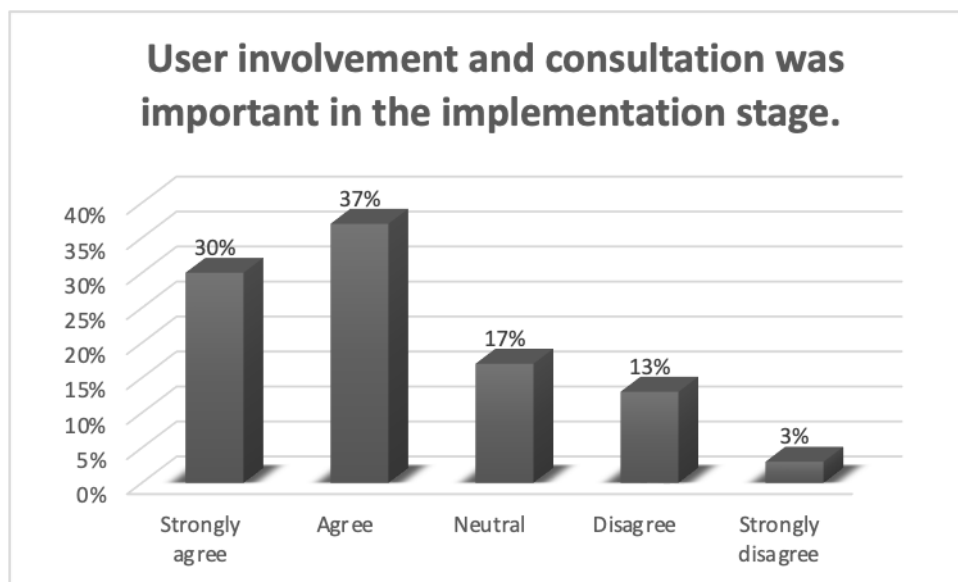


Figure 5.2.33 User involvement and consultation was important in the implementation stage.

Source: Own construction

The greatest concentration of respondents, 37 per cent, agreed with this statement, followed by the second-highest per centage, 30 per cent, who strongly agreed. The respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 13 per cent and 17 per cent neutral. Overall, 67 per cent of respondents agreed with the statement, indicating that user involvement and consultation were critical in the implementation stage.

Question 27: Project management was important in project implementation



Figure 5.2.34 Project management was important in project implementation

Source: Own construction

The largest group of respondents, 53 per cent, strongly agreed with this statement, followed by the second-highest per centage, 21 per cent, who agreed with the statement. The respondents who strongly disagreed with this statement was 3 per cent, with a slightly higher proportion of respondents disagreeing with the statement at 7 per cent, and 16 per cent neutral. Overall, 74 per cent of respondents agreed with the statement, indicating that project management was critical in project execution.

Question 28: Quality management was important in project implementation.

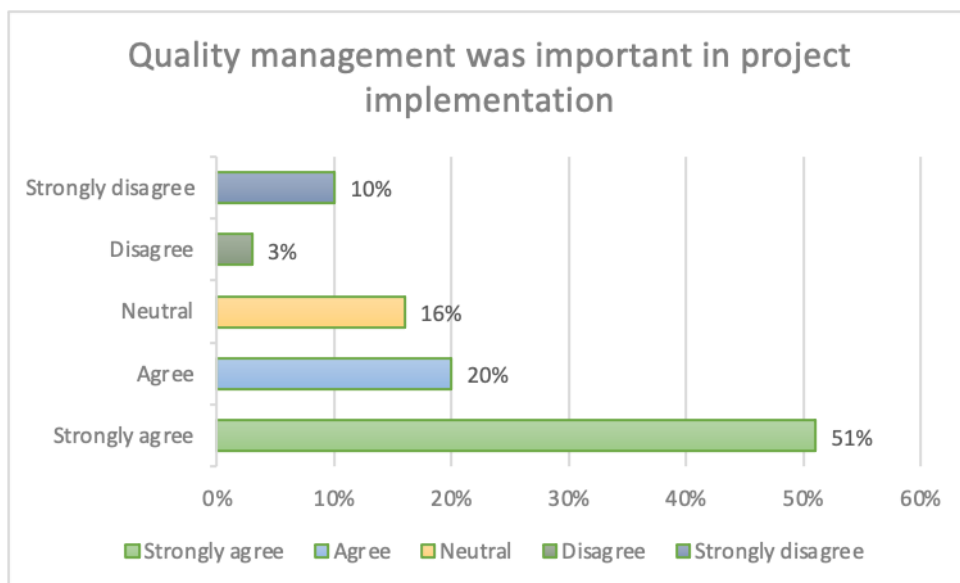


Figure 5.2.35 Quality management was important in project implementation

Source: Own construction

The highest proportion of respondents, 51 per cent, strongly agreed with this statement, followed by the second-highest proportion, 20 per cent, who agreed. Conversely, the respondents who strongly disagreed with this statement was 10 per cent, with the lowest proportion of respondents disagreeing with the statement at 3 per cent and 16 per cent neutral. Overall, 71 per cent of respondents agreed with the statement, indicating that quality management was critical during project implementation.

Question 29: Risk management was important in project implementation.

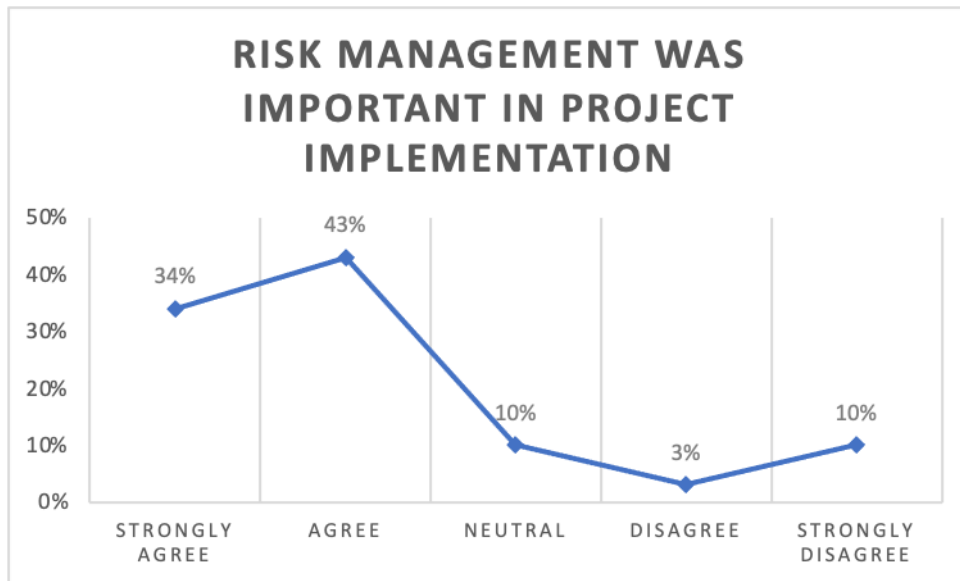


Figure 5.2.36 Risk management was important in project implementation

Source: Own construction

The highest proportion of respondents strongly agreed with this statement at 43%, followed by the second-highest proportion at 34%, where the respondents agreed with the statement. The proportion of respondents at 10% strongly disagreed with this statement, supported by the lowest proportion of respondents at 3% who disagreed with the statement, whereas 10% were neutral. Overall, 77% of respondents supported the statement, which means that a conclusion can be made that risk management was critical during project implementation.

Question 30: Stakeholder management was important in project implementation.

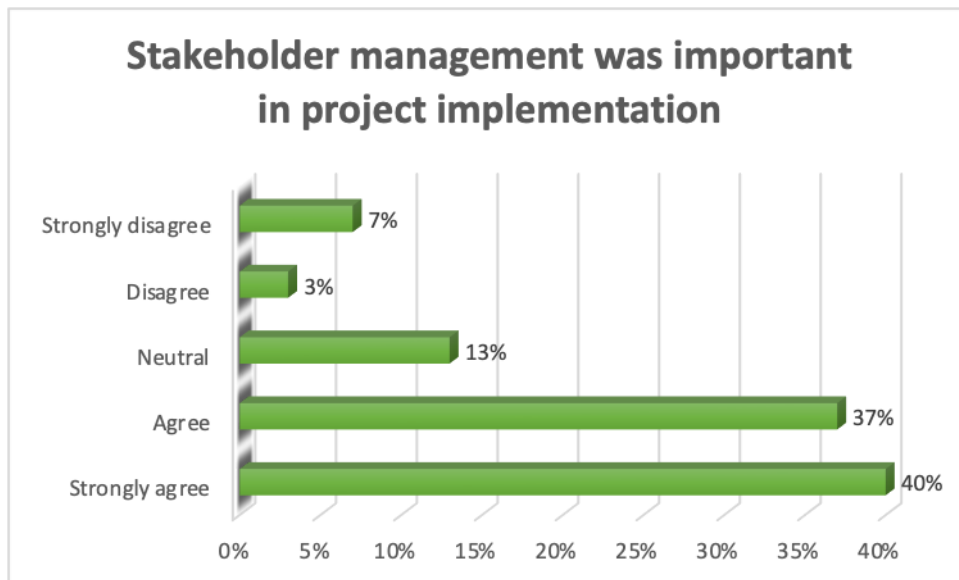


Figure 5.2.37 Stakeholder management was important in project implementation

Source: Own construction

The highest proportion of respondents, 40 per cent, strongly agreed with this statement, followed by the second-highest proportion, 37 per cent, who agreed. Conversely, the respondents who strongly disagreed with this statement was 7 per cent, with the lowest proportion of respondents disagreeing with the statement at 3 per cent and 13 per cent neutral. Overall, 72 per cent of respondents agreed with the statement, indicating that project implementation required effective stakeholder management.

5.2.3. Section C: Open-ended questions

This section was designed to intentionally raise the level of discussion with respondents by making it possible for them to advise additional questions or express concerns. The part of the study recognises that, no matter how planned, some challenges would have been overlooked when compiling the survey questions. In the context of the study, respondents may consider anything. Respondents may consider anything else they have considered in the context of the study. Respondents were asked to provide any information relevant to specific areas of the study. This was followed by the same question/statement and response format.

Question 1: List five [5] things you think are generally omitted during the implementation of planning systems and warehouse management systems?

Table 5.2.1 Omitted things in the Implementation system and management system

Number	Responses from Participants
1	Practicing and applying time management
2	Ensure safety measures are in place and that everyone has their safety gear.
3	Warehouse Efficiency and Space
4	The planning phase needs to be Unique
5	Deployment and support
6	Team building and Training
7	Evolving Packaging
8	Working together as a team
9	Make sure everyone is working in his/her own given space
10	Make sure everything is working according to the plan
11	Making sure that everyone is using the right tools
12	consistent communication with the user and the project team, Exploring other options, and the input of everyone on the entire team
13	The scope needs to be specific
14	stakeholder engagement and Environment
15	Plan workflow.
16	Clear WBS, objectives
17	The exact time of finishing the project
18	A clear understanding of priorities.
19	Ability to measure progress.
20	Ability and willingness to change.
21	Project organisational structure

The compiled list of responses above clearly shows the omission during planning and warehouse management systems implementation. To break down some of the most imperative factors to successfully implementing a logistics project, namely: Time management is an essential factor; when logistics projects were implemented, employees still had to do their daily operations. Safety measures were also essential because employees had to adjust to the pandemic, and training was hybrid, meaning that some days they had to be trained in person. Therefore, it is essential that some of the above were investigated more to implement successfully.

Question 2: List five [5] things that you think are commonly practised when trying to execute the projects.

Table 5.2.2 Practices Engaged in when Executing the Projects

Number	Responses from Participants
1	Agree on project goals
2	Ensure you gave management support
3	Manage the project scope effectively
4	Planning for setbacks and how to take corrective measures
5	Manage team communication
6	Health and safety
7	Time management
8	Cost/Budget management
9	Proper Risk Assessment
10	Comprehensive Planning
11	Get the right people in place
12	Effective and open communication
13	Strong project closure
14	Measuring the progress

15	Being open to new ideas
16	Give all participants their roles and expectations
17	Stay within budget
18	Alignment of business strategy with the project
19	Maximise use of resources efficiently
20	Training Deployment Support

The table above shows a list of some of the important things commonly practiced when trying to execute projects. The budget for the project is imperative because success is also measured, so overspending will cost the company. Therefore, the initial stages of selecting the suitable projects through research can be the costliest; at the execution stage, the company can try to be precisely or under. There were instances where the PM had to go back to the finance manager to request more when because, for the systems to be functional, add-ons were required.

Question 3: What challenges did you experience after the systems were implemented?

Table 5.2.3 Experience in the Implementation

Number	Responses from Participants
1	Meeting all project requirements
2	Not being familiar with the new system being implemented
3	Dealing with change
4	delay in the time frame
5	things not going according to plan
6	Lack of knowledge and understanding due to insufficient training
7	Getting relevant feedback from the clients/customers
8	Miscommunication

9	scope creep
10	Delayed response when incidents are reported
11	System Errors and maintenance
12	Not sticking to the budgeted amount
13	The system was running slow and has some errors on submit button or approval

The table above shows a list of challenges experienced after the end-user implemented the systems. The system was running slow and had some errors on submit button or approval. The system technical issues become a significant incident as the business process stop and the time to complete the expected tasks is very limited. The above issues lead to incompetence within the business because there is a lack of knowledge and understanding within the technical team, and the front-end teams suffer the most.

5.3. Chapter Summary

Respondents who completed the questionnaire were given the option to opt out at any time during the survey because it was for research purposes, and most respondents used this option when it came to the open-ended section. The chapter focused primarily on the respondents, who were asked to provide feedback on the organisation from which they feared being treated unfairly. According to the data, most of the respondents who took part in the survey were open to organisational changes through the implementation of new systems. The fear was that the new systems had many problems with system errors and downtime.

CHAPTER 6

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

6.1. Introduction

This study aims to evaluate and assess the core project management success factors in the digitalisation of logistics projects at an FCMG organisation. It will also show that the project has brought significant changes and user-friendly systems. In logistics projects, some of the measuring factors are that projects meet business requirements, must be delivered, and maintained on time, must be delivered and maintained within budget, and lastly, provide the expected business value and return on investment. Unfortunately, success has always been difficult to achieve in most projects due to the lack of skills and competencies required by top management, resulting in poorly managed projects. As a result, determining the project manager's competencies is critical, resulting in project success.

This chapter summarises the previous chapters' objectives, explains the survey findings from the previous chapter, and gives recommendations. The overall study's conclusion includes the critical project success factors through the competencies of a project manager and team, the strategic alignment, culture, skills, and capabilities. The project selection, outcomes, and project success.

6.2. Summary of Findings

The findings from Chapter 5 are summarised, and the generalisations are highlighted as the research findings. Conclusions are drawn, and recommendations are made where appropriate; however, it should be noted that people may interpret the findings differently. What is suggested here is the researcher's position, given that they were involved in all aspects of this research from the beginning to the end. The findings and summaries will follow the same format as in chapter 5 to avoid omitting any essential aspects of the research that should be highlighted.

Overall, the respondents were all involved as project team members in various capacities, which aided in providing a diverse range of opinions about team functioning and team member expectations in general. Team members' service length ranged from 0 to 16+ years, with 6 to 10 years accounting for 40 per cent of those responding. This could be due to the sudden increase in project-based industries, with young professionals assuming positions of responsibility. 28 per cent of those who responded to the survey had between 11 and 16 years of experience. In addition, there is an interesting mix of project managers and other employees seconded with 24 per cent from functional units, which may be indicative of young professionals and graduates of various types participating in matrix-structured projects.

A significant proportion of these respondents' 76 per cent (6-10 years), claimed to have previously been involved in several successful projects. This was deemed necessary because they would better understand team dynamics from previous projects.

6.3. Section B

This Likert scale section was divided into subsections; the findings recorded here will be significant in research, with the conclusions and recommendations included.

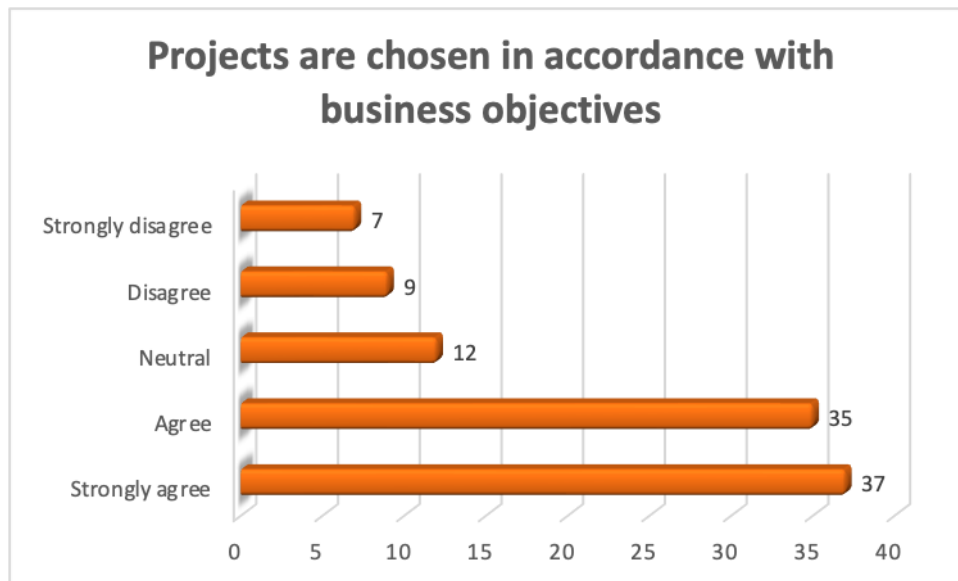


Figure 6.3.1 Projects are chosen in accordance with business objectives

Source: Own construction

Conclusion 1:

The large showing of 72 per cent of the respondents suggests that Projects need to be strategically aligned with the business; choosing the right project that will assist the business to grow and have a competitive advantage is imperative.

Recommendations:

Practising effective project management discipline can help to mitigate risks. However, good project management skills do not eliminate all problems, risks, or surprises. Effective project management is vital because you have standard processes to deal with any unexpected events. It is recommended that the project leader should insist on getting a well-structured team with appropriate and relevant people in the positions. Where possible, the project leader should be involved in selecting projects with programme managers. Failure to do so may result in extra work for the project leader, reworks or cost overruns and other unnecessary inconveniences.

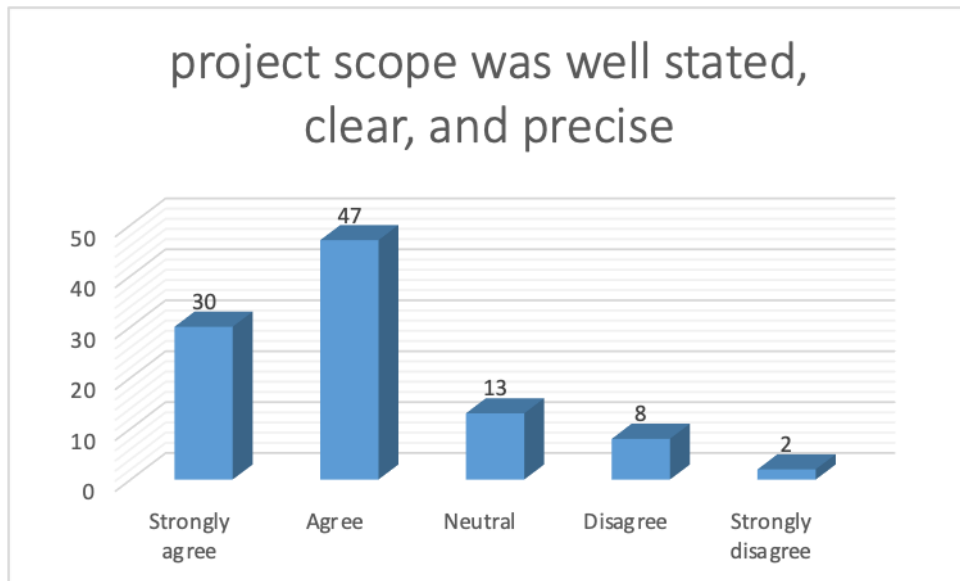


Figure 6.3.2 Project scope was well stated, clear, and precise

Source: Own construction

Conclusion 2:

The project scope was well stated, clear, and precise. If project goals are communicated, and everyone buys into them, there is a very high chance of getting a motivated team, and 77 per cent of the respondents agreed that the project scope is well stated. A motivated team is productive and cooperative, lessening the project leader's burden and improving project completion within the iron triangle.

Recommendations:

The project leader must develop or help develop a transparent communication system and personally communicate the goals and objectives to the team. They can ensure that they meet project goals and objectives without delay or overwork by clarifying the project scope.

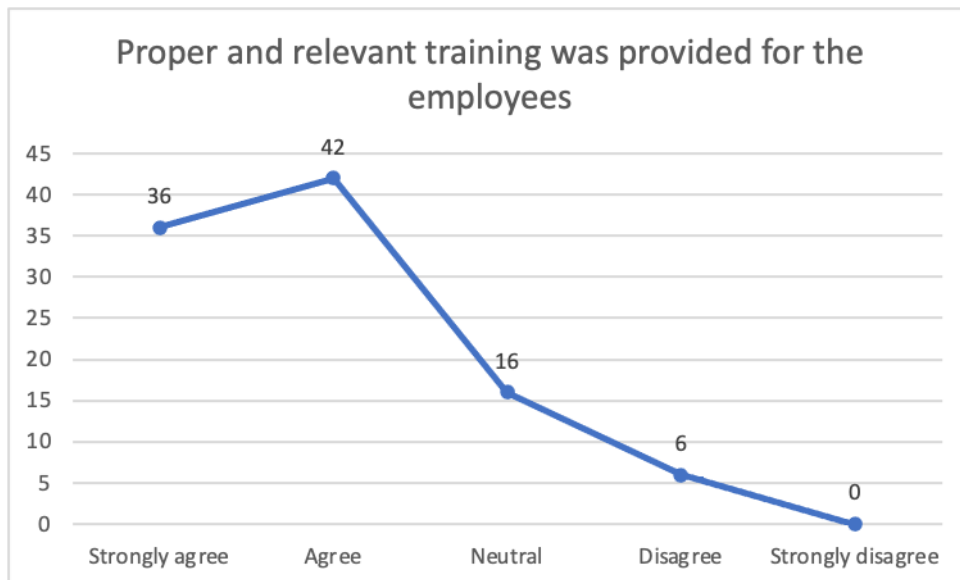


Figure 6.3.3 Proper and relevant training was provided for the employees

Source: Own construction

Conclusion 3:

Proper and relevant training was provided for the employees. Getting training will enhance the capacity and performance of team members since training is intended to capacitate the trainees to perform better. Seventy-eight per cent of the respondents were satisfied with the training they received.

Recommendation:

Training needs should be identified regularly, and training should be regularly to motivate and develop the workforce. It should not be training for training, but it must relate to the needs and tasks to be performed.

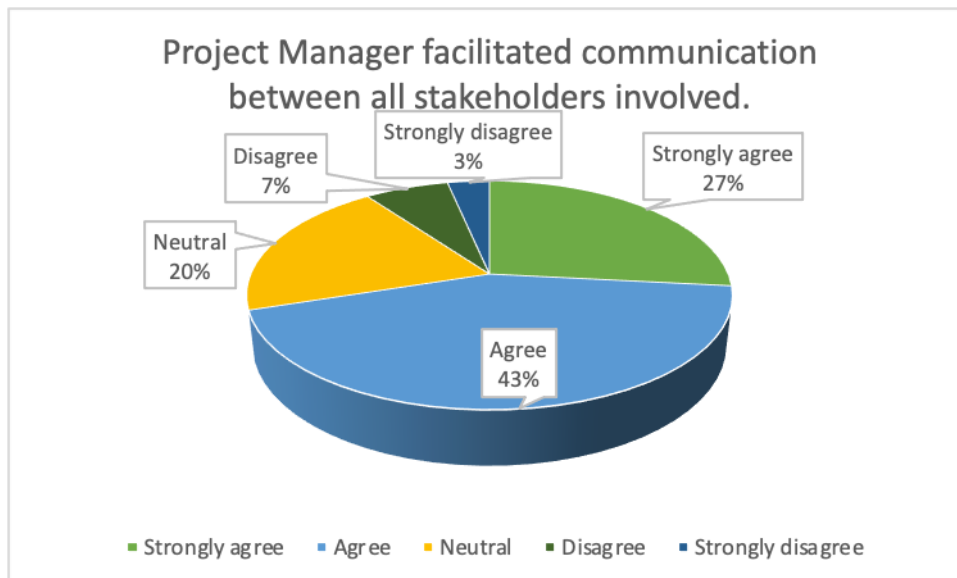


Figure 6.3.4 Project Manager facilitated communication between all stakeholders involved.

Source: Own construction

Conclusion 4:

The project Manager facilitated communication between all stakeholders involved. Project execution requires effective communication for projects to run smoothly and on time. It ensures that team members are on the same page regarding project objectives and know exactly what is expected. It also aids in the development of trust, allowing everyone to work together more effectively from start to finish. Seventy per cent of respondents agreed with the statement, implying that the Project Manager facilitated communication with all involved stakeholders.

Recommendation:

Without a comprehensive project communication plan, it is impossible to keep all responsible parties informed about the project's changing state. Their lack of openness may lead to wasteful and harmful decisions that obstruct the project's goals. It is simple to maintain transparency across all aspects of project management with excellent communications in place, resulting in the best decisions and efficient project delivery.

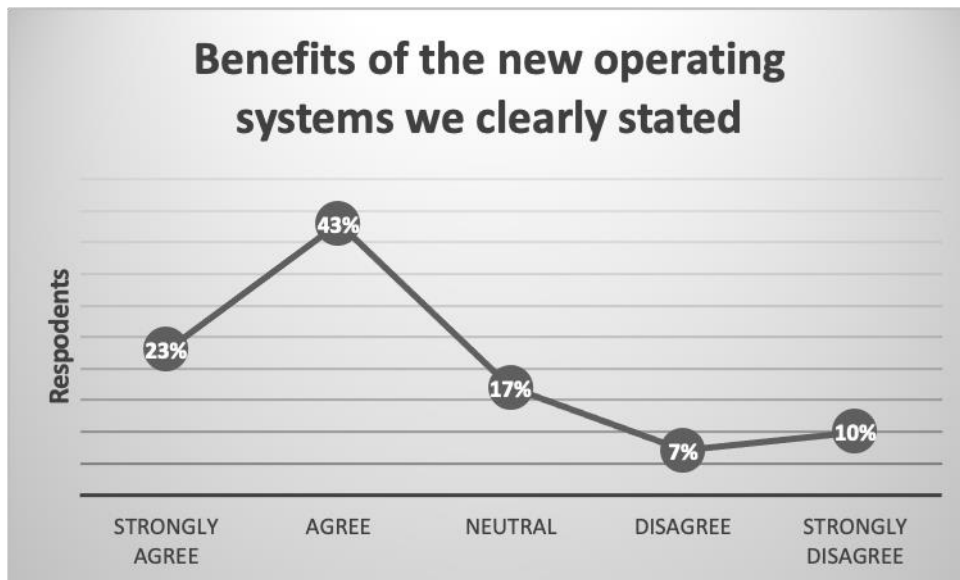


Figure 6.3.5 Benefits of the new operating systems we clearly stated

Source: Own construction

Conclusion 5:

Benefits of the new operating systems we clearly stated. One aspect that most operating systems have in common is the ability to establish, document, and train the established processes required to run your organisation. Sixty-six per cent of respondents supported and pointed out how advantageous the new operating systems were clearly stated and working for them.

Recommendation:

Using numerous operating systems only complicates the business and its end users. Instead, choose one appropriate for your organisation that the PM and top management team believe would be the best solution. When you pick the proper one, it may dramatically change how your company runs from top to bottom.

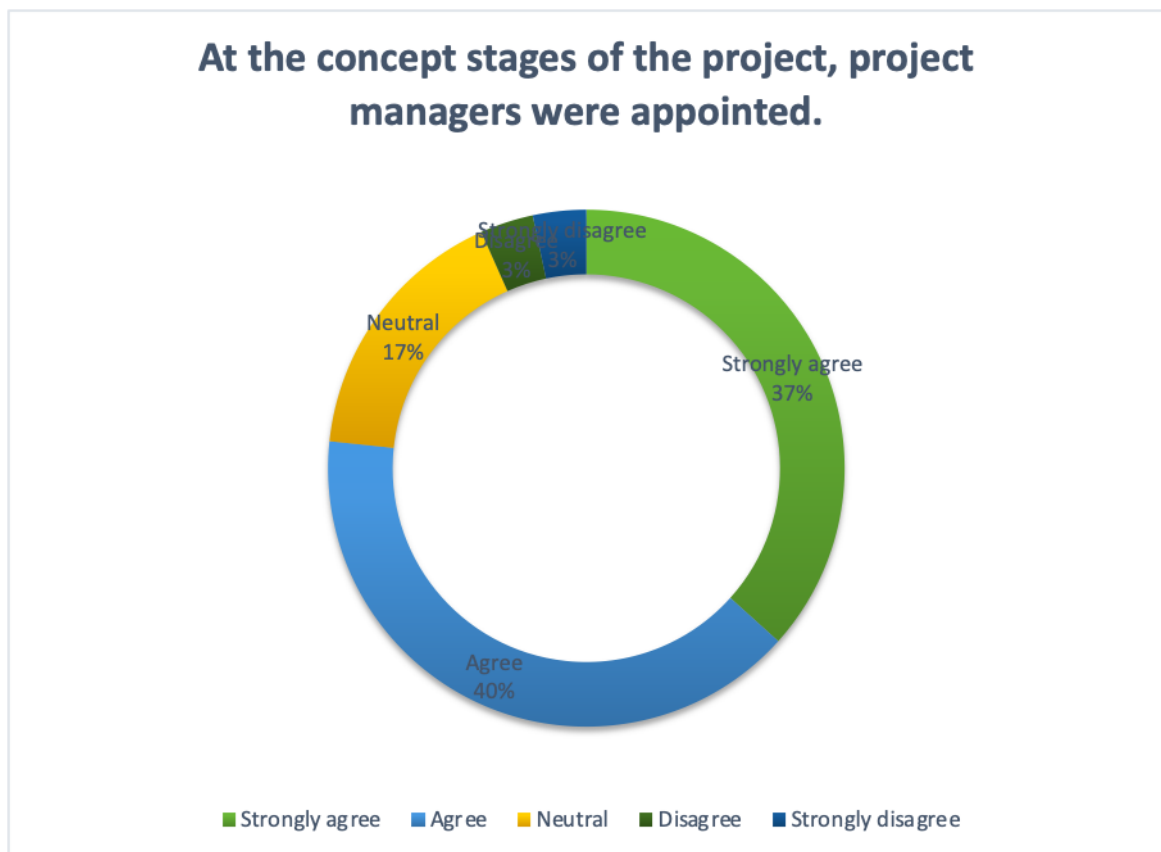


Figure 6.3.6 At the concept stages of the project, project managers were appointed

Source: Own construction

Conclusion 6:

At the concept stages of the project, project managers were appointed. It is critical to appoint the Project Manager early in the pre-initiation stage so that they can participate in the project's initiation and description. The industry/environment in which the project is located identifies or labels the project manager. The project manager is the person in charge of completing the project. With authority and accountability from the stakeholder, the individual leads and supervises the project team daily. Project managers were appointed during the concept stages of the project from both ends of the organisation owning the system with the one that needs it to have an efficient and effective way of working, 77 per cent of respondents concluded.

Recommendation:

To make a project successful, the first and most important thing to accomplish is establishing a solid foundation. You must first identify the clients and stakeholders and their interests and expectations concerning the project. The next stage would be to create a robust project plan with clearly defined roles and job duties. For better clarity and understanding, you should describe the aims and objectives. To make planning more effective, you must set measurable and trackable success criteria to determine whether the project is on track.

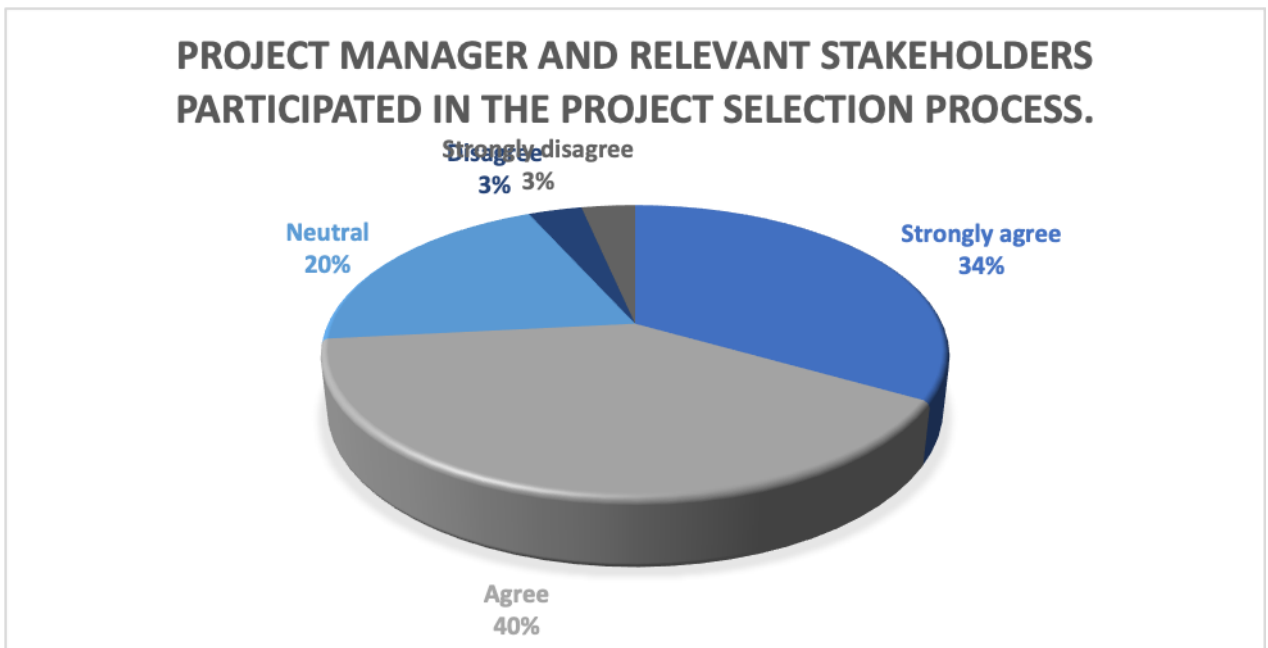


Figure 6.3.7 Project manager and relevant stakeholders participated in the project selection process.

Source: Own construction

Conclusion 6:

The project manager and relevant stakeholders participated in the project selection process. When a project meets or surpasses the expectations of its stakeholders, it is considered successful. Stakeholders are individuals who care about or have a keen interest in your project and are known as stakeholders. They are those who are actively participating in the project's work or who stand to gain or lose because of the initiative.

Recommendation:

Understanding the role and responsibility of each stakeholder is crucial. The company's CEO, vice presidents, directors, division managers, the corporate operations committee, and others may make up top management. These individuals oversee the organisation's strategy and growth. The project team comprises persons who are either full-time or part-time dedicated to the project. While as the project manager, you must provide team members with leadership, guidance, and, most importantly, support as they do their jobs. Working closely with the team to address challenges can help you learn from and create rapport with the group. Demonstrating your support for the project team and everyone will assist you in gaining their support and collaboration.



Figure 6.3.8 Projects were chosen in accordance with the company's growth and expansion strategies.

Source: Own construction

Conclusion 7:

Projects were chosen in accordance with the company's growth and expansion strategies. A growth strategy is a method of increasing a company's market share. If your company wants to grow, a market growth strategy will help you map out your expansion strategy, considering your industry, target market, and financial resources.

Recommendation:

Developing the organisation's growth strategy is imperative. Setting goals by considering what goals are appropriate for the organisation and where it is in the business life cycle. Customer acquisition may be a crucial goal of the growth strategy for organisations in the start-up.

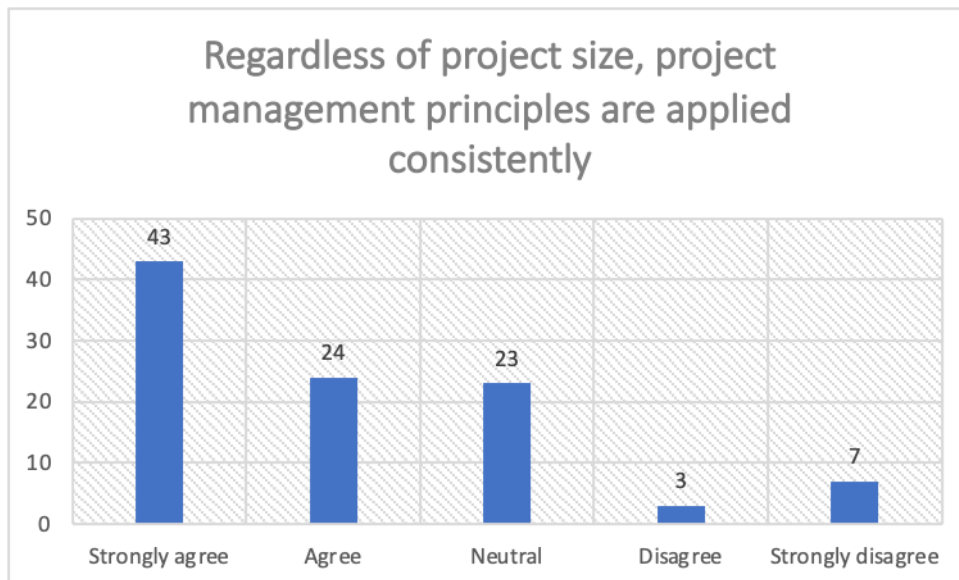


Figure 6.3.9 Regardless of project size, project management principles are applied consistently

Source: Own construction

Conclusion 8:

Regardless of project size, project management principles are applied consistently. Each endeavour is unique. Certain undertakings are reasonably simple and predictable. Others are extremely difficult and risky. When it comes to project management, each one requires a different approach. It is inefficient to apply the same level of project management expertise to all projects. Many businesses and project managers continue to follow project management ideology rather than customising their efforts accordingly.

Recommendation:

When selecting a project management technique, a common issue is forcing all projects into the same framework regardless of real requirement. From the standpoint of traditional project management, there can be an inclination toward excessive planning, leading to a project's demise. On the other hand, some people believe that project management wastes time and might suffocate a project before it even starts. Therefore, the optimal technique for managing a single project is somewhere between over-relying on project management and rejecting all project management.



Figure 6.3.10 The project will ultimately provide a satisfactory return on customers' investment

Source: Own construction

Conclusion 9:

The project will ultimately provide a satisfactory return on customers' investment. Several elements influence whether a project is practical, including the project's cost and return on investment or whether the initiative earned sufficient money or sales from consumers.

Recommendation:

A feasibility study examines all of a project's pertinent aspects, including economic, technical, legal, and scheduling issues, in order to determine the project's chances of success. On the other hand, a feasibility study is not just for projects that want to measure and estimate financial gains. In other words, depending on the industry and the project's purpose, practicality can mean different things. Although feasibility studies can assist project managers in determining the risk and return of continuing a course of action, there are various steps and recommended practices to consider before proceeding depending on the type of project like a proposed project, revenue from consumers, introducing a new product range and many more.

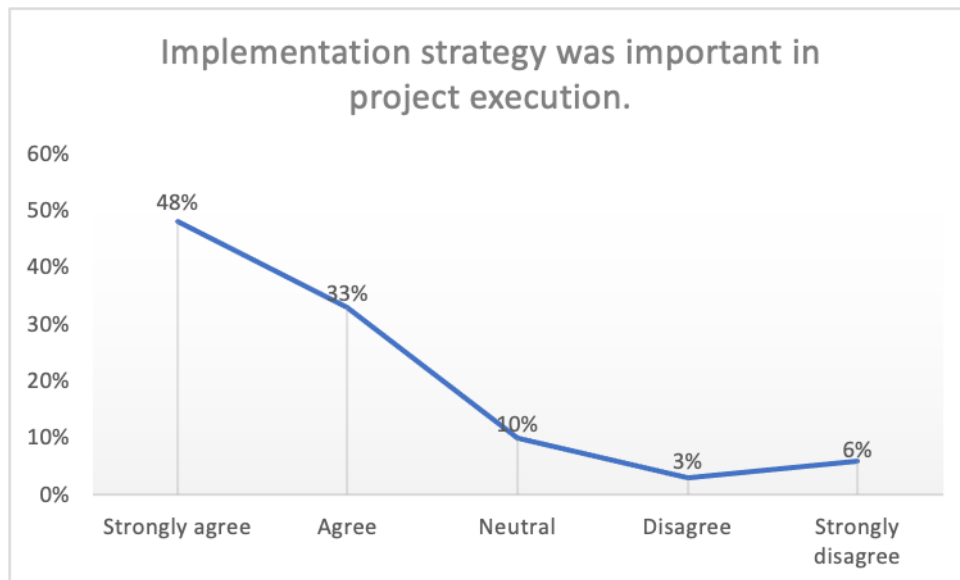


Figure 6.3.11 Implementation strategy was important in project execution.

Source: Own construction

Conclusion 10:

The implementation strategy was essential in project execution. Any endeavour's success is determined by strategic planning and implementation: whether the business is new or changing within the organisation, having a well-thought-out strategy, and knowing how to execute it will increase your chances of project success.

Recommendation:

After initiation and planning, project execution is the third phase of the project lifecycle that can make or break all preceding efforts. To improve the chances of success, the project team should follow an implementation strategy that outlines the project's step-by-step delivery. A project implementation plan is a document that lays out how the project will be carried out: it defines the tasks that must be taken to complete the project and describes how the project team will follow them. This plan also establishes project objectives, including a list of project tasks with roles and duties and essential resources and, in some instances, dates. Its goal is to identify the mechanisms contributing to a project's practical completion.

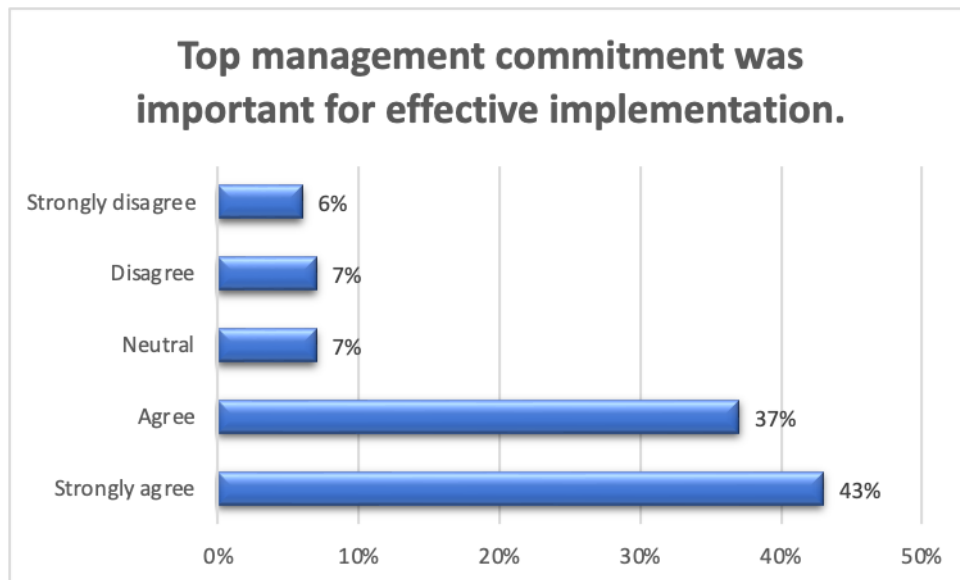


Figure 6.3.12 Top management commitment was important for effective implementation.

Source: Own construction

Conclusion 11:

Top management commitment was essential for effective implementation. Through its leadership and dedication to the Total Quality Management aim of customer satisfaction, top management fosters employee empowerment and higher levels of job satisfaction by fostering an organisational climate that stresses total quality and customer happiness.

Recommendation:

Effective executive involvement can considerably improve project performance, as top management support is considered one of the important success criteria in project management. However, there is no clear list of effective top management support techniques in the literature to help organisations reach this level of support. As a result, the goal is to emphasise that top management support mechanisms are critical for project success.

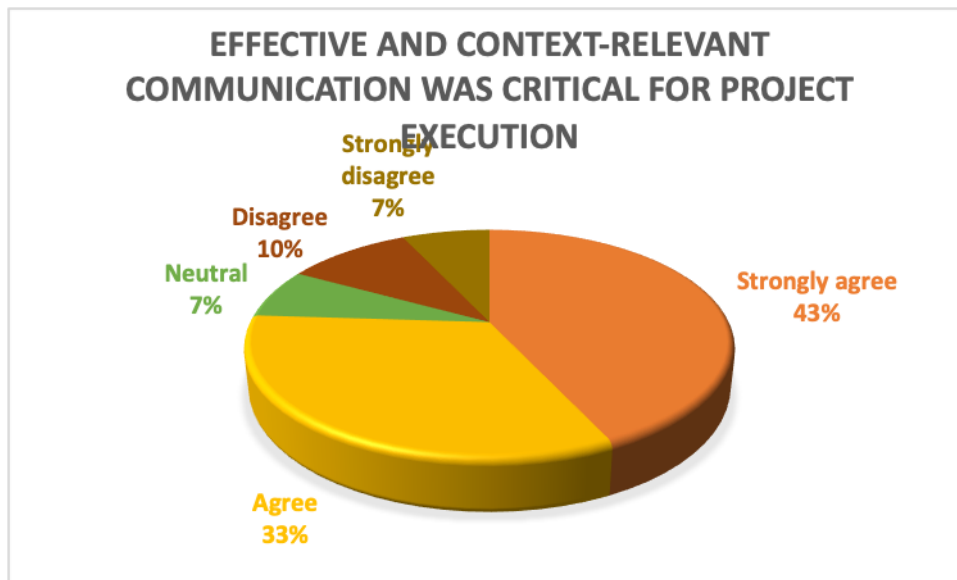


Figure 6.3.13 Effective and context-relevant communication was critical for project execution

Source: Own construction

Conclusion 12:

Effective and context-relevant communication was critical for project execution. Throughout the project life cycle, a project manager must communicate and coordinate all tasks. As a result, the extent to which a project manager fulfils the role of communicating effectively is critical to the project and project manager's success. However, a bad project manager's communication skills might cause problems for a small project team already working effectively, failing a building project. Therefore, the conclusion can be drawn that for a project manager to be effective in communication, he or she must be able to communicate project objectives to the project team from the start and speak in such a way that the project team is encouraged to perform project tasks efficiently and to provide information via communication channels such as emails, documents, memos, proposals, and presentations. In addition, the project manager should be able to actively listen, provide feedback, maintain accurate records, and write clear and concise written communications.

Recommendation:

Poor communication in the logistics projects can lead to disagreements, schedule, and expense overruns, and possibly project failure. Poor communication is a major issue that projects encounter worldwide, and achieving effective communication remains a difficulty. Communication can be successful only when the sender and receiver have the same understanding of the information. Therefore, for a project manager to be effective in communication, it is recommended that he or she establish project communication management, which includes information planning, information collection, information

distribution, information storage, information control, and information disposition. In addition, project managers should strive to be strong leaders who can spot opportunities for team building.

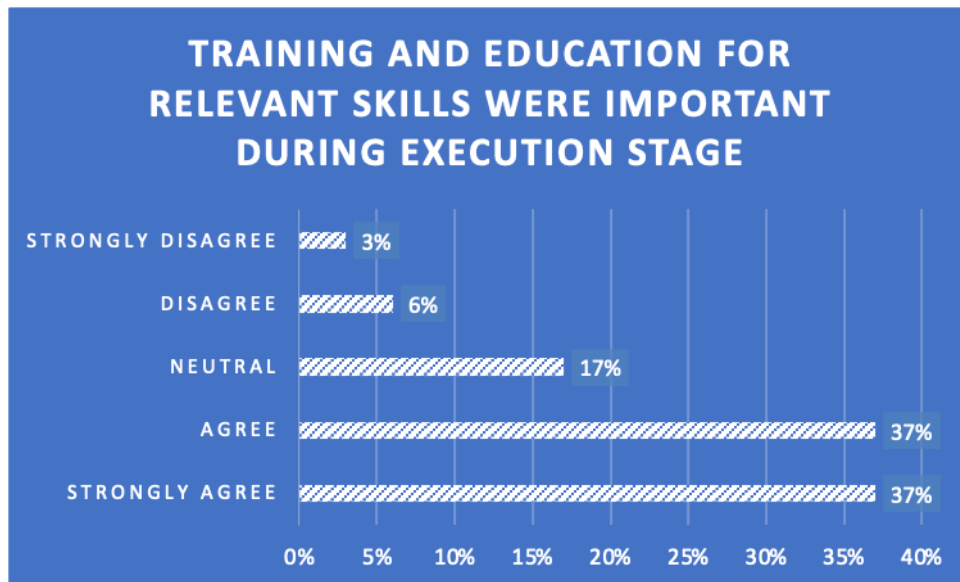


Figure 6.3.14 Training and education for relevant skills were important during execution stage

Source: Own construction

Conclusion 13:

Training and education for relevant skills were important during the execution stage—**controlled costs and benefits resulted from fewer setbacks.**

Recommendation: A project manager's learning curve can be accelerated through structured training. Understanding best practices and essential success criteria for project delivery helps project managers and team members avoid the pitfalls of learning as they go.

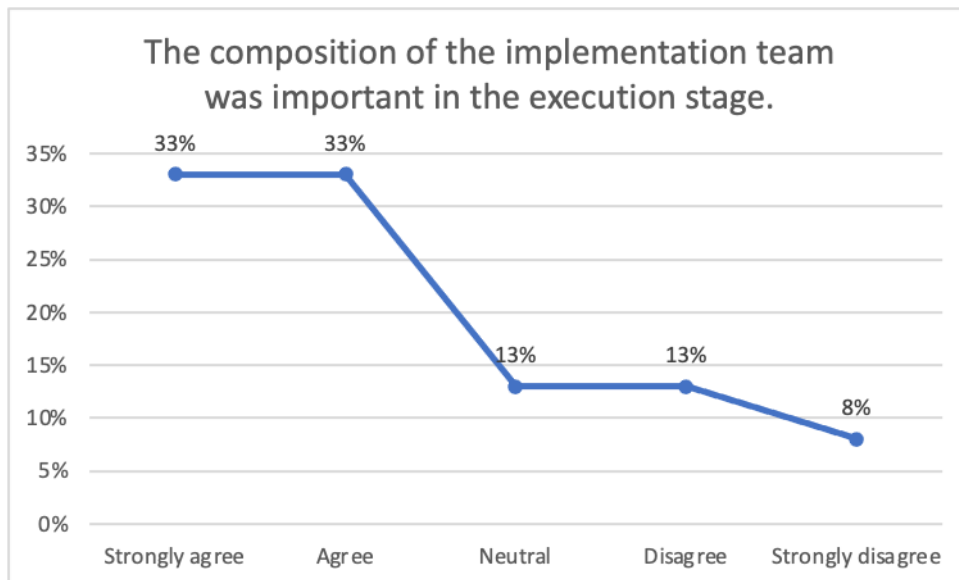


Figure 6.3.15 The composition of the implementation team was important in the execution stage.

Source: Own construction

Conclusion 14:

The composition of the implementation team was important in the execution stage. Implementation teams serve as an internal support framework for the successful implementation of projects at the stages of implementation. These employees also ensure that the implementation framework is effectively leveraged to support the project execution.

Recommendation:

The implementation team assists with collaboration by improving and testing the system's functionality. The project managers and program managers help by analysing the organisation's strengths and needs and seeing the ability of the employees to adopt these new systems. They choose innovations based on demands and root causes identified and ensure that employees get all the necessary implementation drivers like coaching and training. The implementation team must update the progress and outcomes of the issues encountered in the execution stage. The PM ensures that relations are created with external stakeholders and on the same wavelength. They also solve problems and foster sustainability.

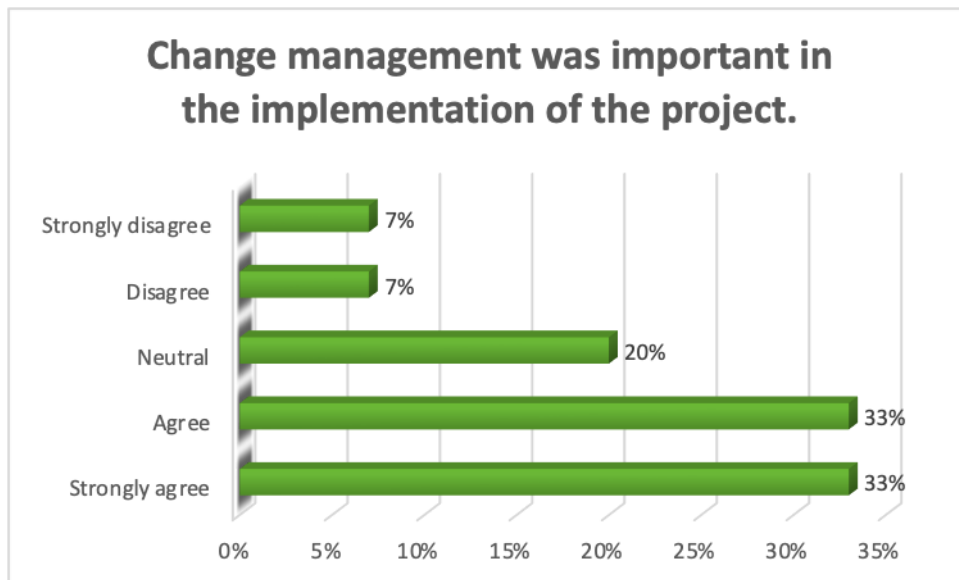


Figure 6.3.16 Change management was important in the implementation of the project.

Source: Own construction

Conclusion 15:

Change management was critical in the implementation of the project. Change management is formally requesting, evaluating, and approving modifications to the project scope, deliverables, due dates, or resources prior to execution. The project manager's role includes managing change within the project. This is accomplished by first identifying the business and system drivers that necessitate the change, then calculating the costs and benefits of making the change, and then putting together a structured strategy to implement the change. A member of the project team must complete a change form to formally seek a change to the project. Therefore, it is critical to keep track of the status of all active change forms in a project changelog.

Recommendation:

At the project level, change management ensures that a project obtains the expected results and objectives by supporting the project's transitions. For example, employees must adapt and use new technology to deliver value when installed. In addition, employees need to accept and be able to use a new procedure to deliver value when it is implemented. Specific strategies, plans, activities, and steps focus on impacted employees and work in sync with a project deployment provided by project-level change management.

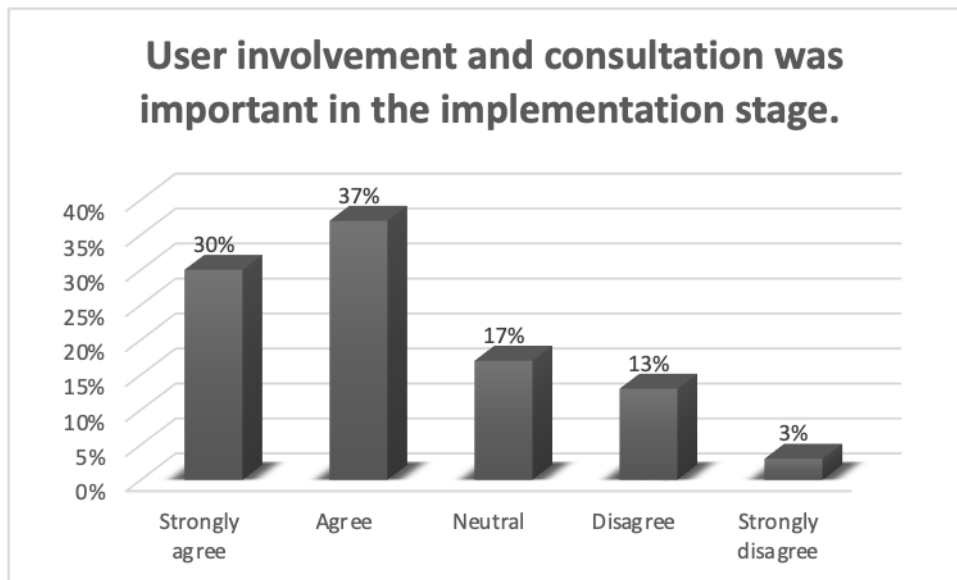


Figure 6.3.17 User involvement and consultation was important in the implementation stage.

Source: Own construction

Conclusion 16:

User involvement and consultation were important in the implementation stage. User participation is a crucial idea in developing effective and usable systems, and it has a beneficial impact on system success and user happiness. One of the essential success elements in accelerating the deployment of project-driven improvements is user involvement. Business demands are frequently the primary driver of requirements when designing an internal application or product.

Recommendation:

Users and specialists can point out less evident system flaws that could lead to potential human errors or longer processing times due to unnecessary stages. Create a change management sounding board made of people from the various areas in the project because subject matter specialists are not always adequate. The meetings set up now and then are time well spent for problem-solving and can cut costs in upcoming implementation and help you avoid any surprises, saving you hours of rework.

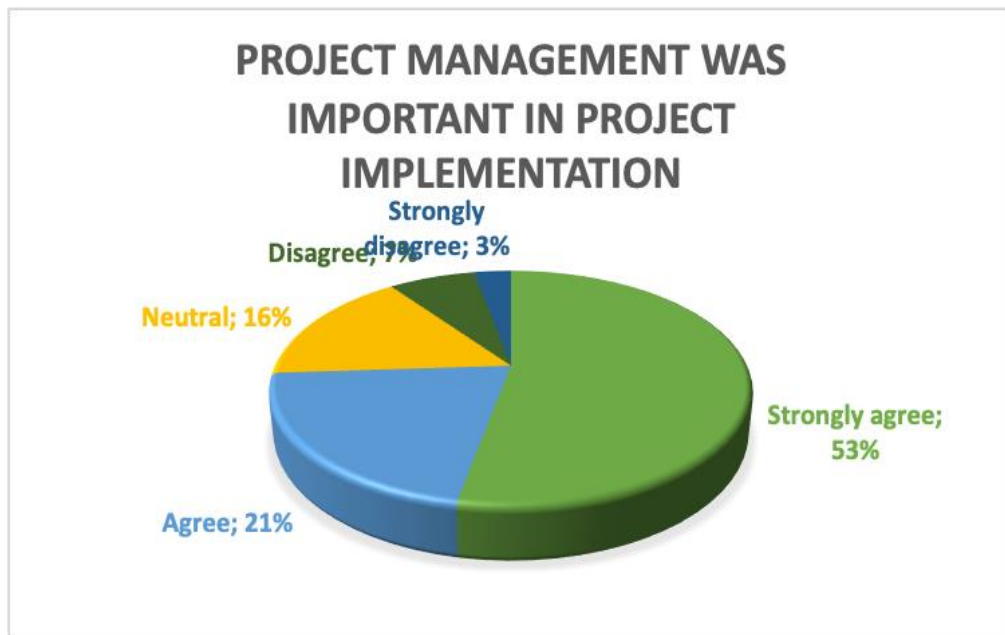


Figure 6.3.18 Project management was in project implementation

Source: Own construction

Conclusion 17:

Project management was crucial in project implementation. The project manager and the project team have one common goal: to complete the project's work in order to satisfy the project's objectives. Every project has a start, a middle stage during which actions take the project closer to completion, and a finish (either successful or unsuccessful). Initiation, planning, implementation, and closing are the four primary phases of a regular project, with each having its own set of duties and challenges.

Recommendation:

Project management is crucial because it ensures that a solid plan for achieving strategic objectives is in place. When project management is left to the team to figure out, the teams often work without sufficient briefings or a specified project management process which could be risky and repetitive when problems arise. Project management aims to organise and manage a project so that its stated goals and deliverables are met. It entails detecting and controlling risks and careful resource management, smart budgeting, and clear communication between various teams and stakeholders.

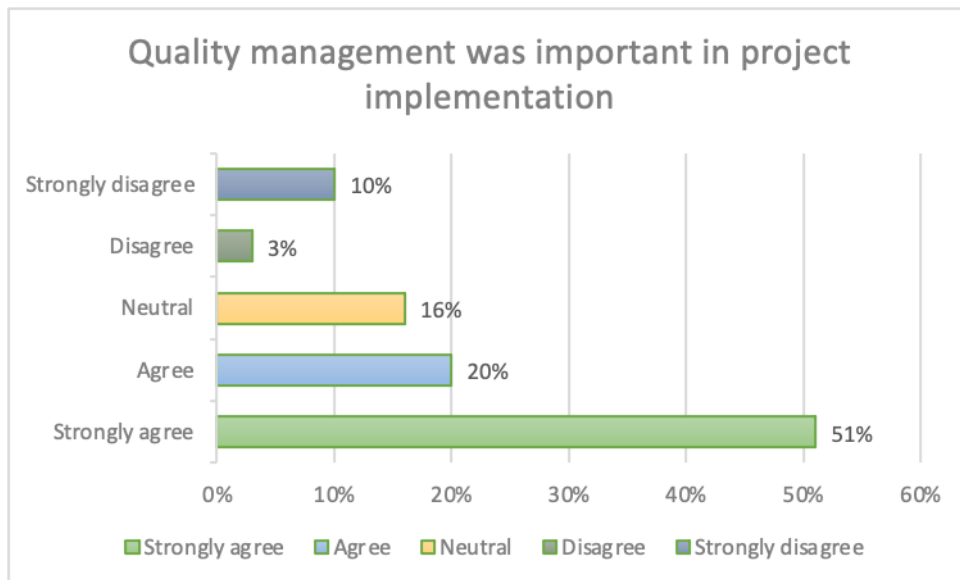


Figure 6.3.19 Quality management was important in project implementation

Source: Own construction

Conclusion 18:

Quality management was important in project implementation. The amount to which the final deliverable meets the customer's criteria is characterised as quality. Quality management is the process of assuring and controlling project quality. Quality assurance and quality control strategies are used to achieve this. Quality reviews should be done regularly, and the results should be documented on a project quality review form.

Recommendation:

Quality management processes aid in project cost control and determining the measures necessary to achieve and validate those specifications. A project's quality management also reduces the chance of product failure or dissatisfied, unhappy customers.

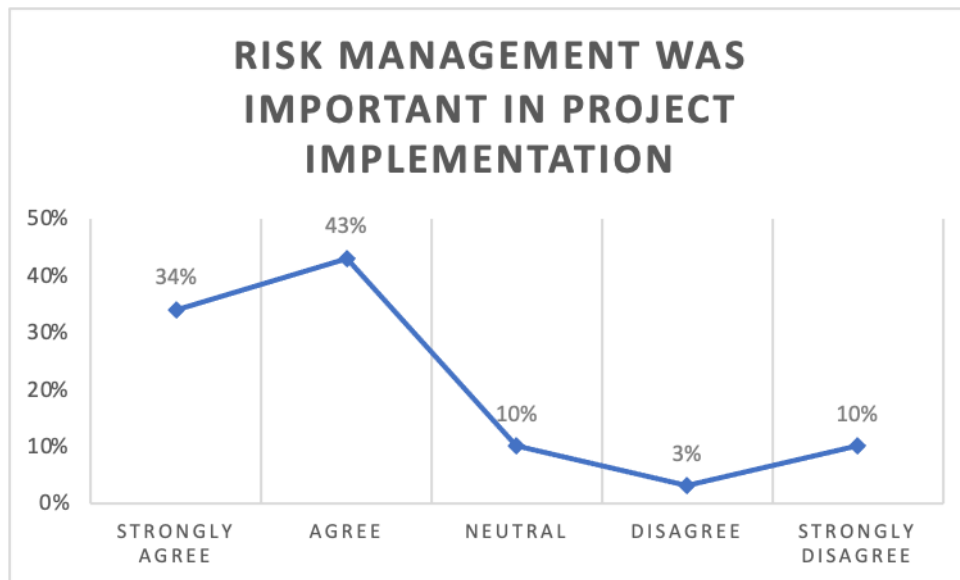


Figure 6.3.20 Risk management was important in project implementation

Source: Own construction

Conclusion 19:

Risk management was vital in project implementation. Risk is present in any enterprise, large or small. To detect, assess, and control risk, you must construct a risk management plan before beginning the project. The better your risk management, the more likely your project will succeed.

Recommendation:

Risk management is formally identifying, quantifying, and managing project hazards. By filling out a risk form and documenting the appropriate risk details in the project risk register, project hazards can be recognised at any project stage. Once identified, project risks should be recorded on a risk form to ensure that they are removed or minimised.

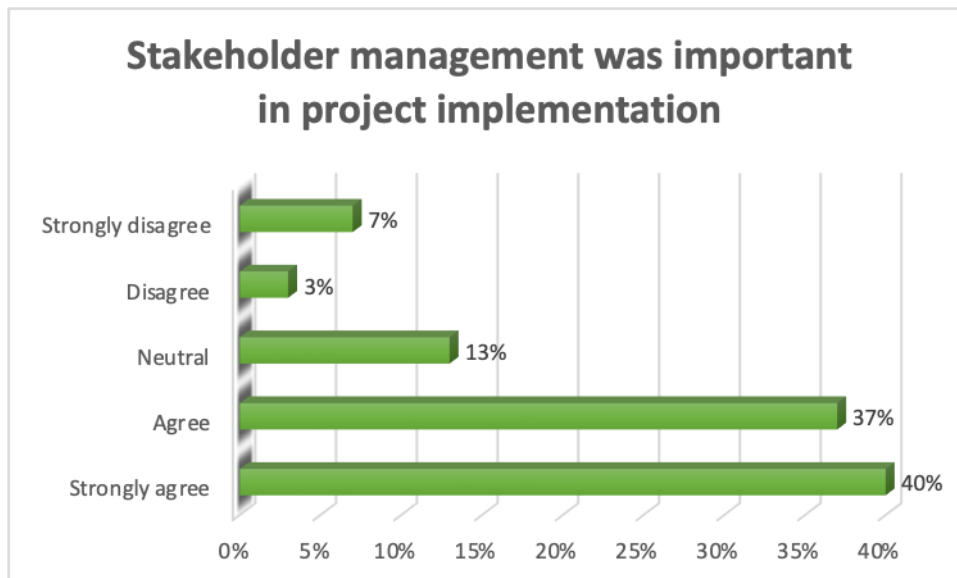


Figure 6.3.21 Stakeholder management was important in project implementation

Source: Own construction

Conclusion 20:

Stakeholder management was vital in project implementation. Stakeholder management is critical because it is the foundation of successful project partnerships. This requires building a solid relationship with them and knowing how their job contributes to project success. The project manager must build credibility and sustain relevance.

Recommendation:

Stakeholders provide expertise because they will have knowledge and understanding in the field. This could be based on existing processes, industry expertise, or previous experience. Project managers are necessarily experts and having experts who can provide expert guidance is vital. Therefore, stakeholders' project managers are involved reduce, and mitigating risks. For example, they may raise challenges or worries about attaining particular targets or needs during conversations on project requirements or limits and discovering such hazards and discussing a strategy to reduce them will significantly improve the project's success.

6.4. Chapter Summary

The findings presented above are those in which the respondents scored or suggested higher results in agreement or disagreement with the statement; these were classified as significant and may be generalised. These 20 findings are offered here as research findings regarding the search for elements that can drive a project team to execute projects successfully. As a result, it can be concluded that these factors are critical for any project team leader to be effective, and most respondents agree that team member satisfaction has a favourable impact

on project success, as evidenced by the research. This discovery aids in comprehending team dynamics, which are the motivational elements that drive a team's performance. These factors impact the team's performance levels and the path that their behaviour will take. The existence of the project manager leading the project demonstrates that projects can be successful when the PM adopts to every stakeholder and can respond when conflicts arise. For the organisation to manage the project, project management is critical. A team leader must understand the project lifecycle, risk, and risk management to build a successful project plan. Furthermore, using the appropriate instrument during process time estimation while considering the iron triangle might help the project achieve its target.

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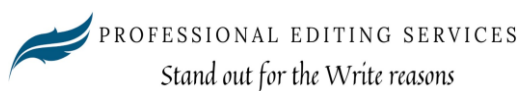
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APPENDICES



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