

A study on the effectiveness of MIS and its impact in Operations with special reference Sastha Technologies.

Submitted in partial fulfillment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

BY

**ANAND K G K
REGISTER NO. 41410015**



SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE
JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119**

APRIL 2023



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with "A" grade by NAAC | 12B Status by UGC | Approved by AICTE
Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai – 600 119

www.sathyabama.ac.in

SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **K G K Anand (41410015)** who carried out the project entitled "**A study on the effectiveness of MIS and its impact in Operations with special reference Sastha Technologies.**" under my supervision from January 2023 to March 2023.

Dr. B. BHAVYA MBA., M.com.,
PGDLL&AL., PGDHRL, M.A(LM)., Ph.D

ARIVOLI A

Internal guide

External Guide

Dr. BHUVANESWARI .G
Dean – School of Management Studies

SCHOOL OF MANAGEMENT STUDIES
SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(Deemed to be University)
Jeppiaar Nagar, Rajiv Gandhi Salai
Chennai-600 119

Submitted for Viva voce Examination held on 05/05/2023

Internal Examiner

External Examiner

DECLARATION

I **ANAND K G K (41410015)** hereby declare that the Project Report entitled “**A study on the effectiveness of MIS and its impact in Operations with special reference Sastha Technologies.**” done by me under the guidance of **DR.B. BHAVYA** is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

DATE: 05/05/2023



PLACE: Chennai

K G K ANAND

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr. G. Bhuvaneswari, MBA., Ph.D., Dean - School of Management Studies** and **Dr. A. Palani M.Com., M.Phil., MBA., Ph.D., Head - School of Management Studies** for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **DR.B.BHAVYA MBA., M.com., PGDLL&AL., PGDHRL, M.A(LM)., Ph.D** for her valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **School of Management Studies** who were helpful in many ways for the completion of the project.

K G K ANAND

TABLE OF CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
	ABSTRACT	i
	LIST OF TABLES	ii
	LIST OF CHARTS	iv
1	INTRODUCTION	
	1.1.Introduction	1
	1.2.Industry Profile	2
	1.3.Company Profile	3
	1.4.Statement of the problem	3
	1.5.Objectives of the Study	4
	1.6.Need for the study	4
	1.7.Scope of the study	5
2	REVIEW OF LITERATURE	
	2.1 Review of Literature	6
3	RESEARCH METHODOLOGY	
	3.1 Methodology	14
	3.2.Research Design	14
	3.3 Sampling Technique	14
	3.4 Structure of Questionnaire	14
	3.5 Sample size	14
	3.6. Sample Area	14
	3.7 Data Collection	15
	3.8.Tools for Analysis	15
4	DATA ANALYSIS AND INTERPRETATION	
	4.1 Percentage Analysis	17
	4.2 Statistical Analysis	
	4.2.1 Chi Square	44

	4.2.2 Correlation	46
	4.2.3 ANOVA	47
	FINDINGS,SUGGESTIONS AND CONCLUSION	
5	5.1.Findings of the Study	48
	5.2.Suggestions	50
	5.3. Limitations of the study	51
	5.4.Conclusion	51
	BIBLIOGRAPHY	vi
	ANNEXURE – QUESTIONNAIRE	ix
	ANNEXURE – RESEARCH ARTICLE	xvii

ABSTRACT

Management Information Systems (MIS) in Operations Management has been a topic of significant interest to researchers and practitioners. This review of literature examines the effectiveness of MIS in operations by analyzing and synthesizing findings from various studies. The review reveals that MIS enhances operations by providing timely and accurate information for decision-making, improving communication and collaboration among stakeholders, increasing efficiency and productivity, and enabling real-time monitoring and control of operations. Additionally, the review identifies the challenges of implementing MIS in operations, such as high cost, technical complexity, resistance to change, and inadequate training and support. The review suggests that to fully realize the benefits of MIS in operations, organizations should adopt a holistic approach that aligns MIS with their business strategy, integrates MIS with other systems, emphasizes user participation and engagement, and provides continuous training and support.

LIST OF TABLE

TABLE NO.	PARTICULARS	PAGE NO.
4.1.1	AGE OF THE RESPONDENTS	17
4.1.2	GENDER OF THE RESPONDENTS	18
4.1.3	EDUCATION OF THE RESPONDENTS	19
4.1.4	WORK EXPERIENCE OF THE RESPONDENTS	20
4.1.5	TYPES OF MIS ARE USED IN YOUR COMPANY	21
4.1.6	USAGE PERIOD OF MIS IN THE COMPANY	22
4.1.7	RESPONDENTS OPINION ABOUT THE EFFECTIVENESS OF MIS IN THE COMPANY	23
4.1.8	RESPONDENTS OPINION ABOUT SPEEDUP THE INTERNAL COMMUNICATION IN THE COMPANY DUE TO MIS	24
4.1.9	PERFORMANCE OF THE STAFF BECOME IMPROVED AFTER USING MANAGEMENT INFORMATION SYSTEM	25
4.1.10	IMPROVEMENT IN ANALYTICAL SKILLS OF WORKERS AFTER THE USAGE OF MIS	26
4.1.11	RESPONDENTS OPINION ABOUT MANAGEMENT INFORMATION SYSTEM BEING HELPFUL IN THE INCREASE OF PRODUCTION OF PRODUCTS	27
4.1.12	MIS SYSTEM INTEGRATION WITH OTHER SYSTEMS USED IN OPERATIONS, SUCH AS INVENTORY MANAGEMENT OR PRODUCTION PLANNING	28
4.1.13	RESPONDENTS OPINION ABOUT THE CONTROL SYSTEM BEEN MORE EFFECTIVE THAN BEFORE USING INFORMATION SYSTEM	29
4.1.14	RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH GROWTH OF THE COMPANY	30
4.1.15	RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY	31

4.1.16	RESPONDENTS VIEW AFTER THE ARRIVAL OF INFORMATION SYSTEM PROVIDES EASY ACCESS TO INFORMATION FOR THE CUSTOMERS	32
4.1.17.1	RESISTANCE TO CHANGE FROM EMPLOYEES	33
4.1.17.2	LACK OF EMPLOYEE TRAINING ON MIS	34
4.1.17.3	INADEQUATE IT INFRASTRUCTURE	35
4.1.17.4	INCOMPATIBLE SYSTEMS AND DATA SOURCES	36
4.1.17.5	HIGH IMPLEMENTATION AND MAINTENANCE COSTS	37
4.1.18.1	STRONG ORGANIZATIONAL CULTURE THAT SUPPORTS DATA-DRIVEN DECISION-MAKING	38
4.1.18.2	ADEQUATE EMPLOYEE TRAINING ON MIS	39
4.1.18.3	ROBUST IT INFRASTRUCTURE	40
4.1.18.4	INTEGRATION WITH OTHER SYSTEMS AND DATA SOURCES	41
4.1.18.5	CLEAR COMMUNICATION AND CHANGE MANAGEMENT PLANS	42
4.1.19	RESPONDENTS OPINION ABOUT ADOPTING NEW TECHNOLOGIES, SUCH AS ARTIFICIAL INTELLIGENCE (AI) AND INTERNET OF THINGS (IOT), COULD FURTHER IMPROVE THE EFFECTIVENESS OF MIS IN OPERATIONS	43
4.2.1	CHI-SQUARE (WORK EXPERIENCE AND PERFORMANCE OF THE STAFF AFTER MIS)	44
4.2.2	CORRELATION (EFFECTIVENESS OF MIS IN OPERATIONS AND THE GROWTH AND THE PROFITABILITY OF THE COMPANY)	46
4.2.3	ANOVA (SPED UP INTERNAL COMMUNICATION AND EFFECTIVENESS OF MIS IN INCREASE IN PRODUCTION)	47

LIST OF CHARTS

CHART NO.	PARTICULARS	PAGE NO.
4.1.1	AGE OF THE RESPONDENTS	17
4.1.2	GENDER OF THE RESPONDENTS	18
4.1.3	EDUCATION OF THE RESPONDENTS	19
4.1.4	WORK EXPERIENCE OF THE RESPONDENTS	20
4.1.5	TYPES OF MIS ARE USED IN YOUR COMPANY	21
4.1.6	USAGE PERIOD OF MIS IN THE COMPANY	22
4.1.7	RESPONDENTS OPINION ABOUT THE EFFECTIVENESS OF MIS IN THE COMPANY	23
4.1.8	RESPONDENTS OPINION ABOUT SPEEDUP THE INTERNAL COMMUNICATION IN THE COMPANY DUE TO MIS	24
4.1.9	PERFORMANCE OF THE STAFF BECOME IMPROVED AFTER USING MANAGEMENT INFORMATION SYSTEM	25
4.1.10	IMPROVEMENT IN ANALYTICAL SKILLS OF WORKERS AFTER THE USAGE OF MIS	26
4.1.11	RESPONDENTS OPINION ABOUT MANAGEMENT INFORMATION SYSTEM BEING HELPFUL IN THE INCREASE OF PRODUCTION OF PRODUCTS	27
4.1.12	MIS SYSTEM INTEGRATION WITH OTHER SYSTEMS USED IN OPERATIONS, SUCH AS INVENTORY MANAGEMENT OR PRODUCTION PLANNING	28
4.1.13	RESPONDENTS OPINION ABOUT THE CONTROL SYSTEM BEEN MORE EFFECTIVE THAN BEFORE USING INFORMATION SYSTEM	29
4.1.14	RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH GROWTH OF THE COMPANY	30

4.1.15	RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY	31
4.1.16	RESPONDENTS VIEW AFTER THE ARRIVAL OF INFORMATION SYSTEM PROVIDES EASY ACCESS TO INFORMATION FOR THE CUSTOMERS	32
4.1.17.1	RESISTANCE TO CHANGE FROM EMPLOYEES	33
4.1.17.2	LACK OF EMPLOYEE TRAINING ON MIS	34
4.1.17.3	INADEQUATE IT INFRASTRUCTURE	35
4.1.17.4	INCOMPATIBLE SYSTEMS AND DATA SOURCES	36
4.1.17.5	HIGH IMPLEMENTATION AND MAINTENANCE COSTS	37
4.1.18.1	STRONG ORGANIZATIONAL CULTURE THAT SUPPORTS DATA-DRIVEN DECISION-MAKING	38
4.1.18.2	ADEQUATE EMPLOYEE TRAINING ON MIS	39
4.1.18.3	ROBUST IT INFRASTRUCTURE	40
4.1.18.4	INTEGRATION WITH OTHER SYSTEMS AND DATA SOURCES	41
4.1.18.5	CLEAR COMMUNICATION AND CHANGE MANAGEMENT PLANS	42
4.1.19	RESPONDENTS OPINION ABOUT ADOPTING NEW TECHNOLOGIES, SUCH AS ARTIFICIAL INTELLIGENCE (AI) AND INTERNET OF THINGS (IOT), COULD FURTHER IMPROVE THE EFFECTIVENESS OF MIS IN OPERATIONS	43

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The role of Management information system (MIS) is vital now-a-days in business environment because it has evolved over time to become an integral part of its business operations. The use of management information system has increased for last few years not only by firms, but also by individuals and even governments. Because of the today's global environment where competition is very high, it is the basic requirement of the organization to install management information system to compete the market and to earn more profitability, invest in innovation in their products, and to grow their businesses. All of these factors transformed the information system from data processing systems to decision support systems and became the foundation of the new business environment. In this study we have investigated the impact of management information system on the performance of the organization. We have shown that how management information system can increase profitability, innovation and growth of the organization.

Management Information Systems (MIS) play a crucial role in today's businesses by providing real-time information and data to support decision-making processes. MIS is particularly important in Operations, where it can improve efficiency, streamline processes, and reduce costs. However, the effectiveness of MIS and its impact on Operations have not been extensively studied, despite the increasing reliance on technology in business operations.

This study aims to investigate the effectiveness of MIS in Operations and its impact on organizational performance. The study will examine the current state of MIS implementation in Operations, evaluate the benefits and challenges associated with using MIS in Operations, and identify areas for improvement.

Most firms nowadays depend upon Information Technology. But personal computers (PCs) themselves will not improve organizational productivity this only comes about if they are used efficiently and effectively. Computer systems can clearly

aid organizations in the processing data into accurate, well presented, up-to-date and cost-effective information. While the conciseness, relevancy, timeliness and completeness of supplied information will largely on the capabilities of the people involved in its processing and selection of the relevant information for proper decision making for the organization to improve the product to capture the market share. However, most decisions about IT are critically important to the prosperity and survival of a firm. A successful organization must be able to adapt and learn fast as creative activity increase their survival against all odds, especially in rapidly changing environment of the 21st century.

1.2 INDUSTRY PROFILE

Laser cutting is a manufacturing process that uses a high-powered laser to cut materials such as metal, plastic, and wood. The laser beam is directed by a computer-controlled system to produce complex shapes and patterns with a high degree of precision and accuracy. Laser cutting is widely used in various industries, including automotive, aerospace, electronics, medical, and architecture. Laser cutting is a rapidly growing industry with significant potential for innovation and growth. As new technologies emerge and become more widely adopted, laser cutting is likely to become an even more integral part of the manufacturing process across various industries.

This Technology is used in a wide range of industries such as electronics, pharmaceuticals, aerospace, automotive, and consumer goods. The process includes custom made goods so consumer and businessmen give order with either preset design or custom-made design.

The global laser cutting market was valued at USD 4.2 billion in 2020 and is expected to grow at a CAGR of 6.4% from 2021 to 2028. The increasing demand for automation and high-quality production processes in various industries is driving the growth of the laser cutting market.

Laser cutting is now used for making various products like, copper wires, Custom-Made Window Frames, LCD and LED display Bonding and more consumer goods.

These products are used in a wide range of industries such as electronics, pharmaceuticals, aerospace, automotive, and consumer goods. The process includes custom made goods so consumer and businessmen give order with either preset design or custom-made design.

1.3 COMPANY PROFILE



Sastha Technologies is one of the contract manufacturers who takes contracts and also make products on client's request. It's been 3 years since the company was founded which is on 2020. The Company mainly works on laser cutting edge technologies to make frames and LCD & LED machine bonding which contains the latest technology that can bond and repair LED and LCD screens.

Sastha Technologies previously had a company called Sastha Computers which was founded in 2007 which distributed computer accessories and parts and already have experience in LCD and LED bonding from that company. They closed down the Sastha Computers and started new company called Sastha Technologies.

Sastha Technology produces copper wires, window frames, custom made designs and frames with laser cutting machine and LCD and LED repair with LCD and LED bonding machine. Sastha Technology is a rising company which exports 50-70 products a day which is 1500 – 2100 a month.

1.4 STATEMENT OF THE PROBLEM

Management Information System (MIS) helps business by providing proper and real-time data and information to support decision making process. As the technology increases, we have to be caught up with the technological information and gain its benefits. This Industry is located at remote area where the city is still developing. The

problem is still the people in the industry doesn't acknowledge the benefits and doesn't aware of the competitive market in this industry. Our main research question is

- How much impact on the performance of the organization and how it can increase the profitability, innovation and growth of the organization by using Management information system?

1.5 OBJECTIVE OF THE STUDY

Primary Objectives

- To study on the effectiveness of MIS and its impact in Operations with special reference Sashta Technologies

Secondary Objectives

- To identify the current state of MIS implementation in the organization and evaluate its effectiveness in supporting operations.
- To assess the level of employee engagement and training in MIS usage and identify potential areas for improvement.
- To provide insights and best practices to implement or improve MIS in their Operations functions.

1.6 NEED FOR THE STUDY

- To study the level of impact of MIS in the performance of the company.
- To identify if there is an increase in profitability, production and growth of the company.
- To understand and develop the company through insights that got from the workers.

1.7 SCOPE OF THE STUDY

- To find out the use of advanced tools and technologies that is used in the company.
- To increase the efficiency and effectiveness of the MIS in the company's operations.
- To reduce the factors affecting the profitability, production and growth of the company.

CHAPTER 2

REVIEW OF LITERATURE

INTRODUCTION

By defining MIS and its function in operations, the review gets started. The advantages of MIS in operations are then discussed, including greater decision-making, improved communication, increased productivity, and real-time monitoring and management of operations. The evaluation also looks at the difficulties that come with implementing MIS in business operations, including their high cost, technical complexity, reluctance to change, insufficient training, and lack of support.

LIST OF REVIEWS

Cunningham et al (2004) claimed that ICT use was valued by senior management in developing school systems for administration and easing management tasks.

Zain, Atan, and Idrus (2004) investigated the impact of ICT on management practices in smart schools in Malaysia. Their analysis revealed some positive changes including the enrichment of ICT culture in schools, better accessibility to information, more efficient administration, and a higher utilization of school resources. The challenges encountered by the participant schools were time constraints, higher administrative costs, negative acceptance/support from untrained staff, abuse of the ICT facilities, and problems related to the imposed rigid procedural requirements.

Bisaso & Visscher (2005), Information technology in educational management is a relatively new field that not only needs in-depth studies on systems utilization in schools but also on their effects on the school processes and maybe outcomes.

Granville et al. (2005) found that staff of his selected schools believed that use of technologies had made administrative work easier with regard to accounts, attendance data, and the sharing of confidential information. In other words, school

management information systems increase effectiveness and efficiency by saving time and facilitating development of alternative solutions for sophisticated problems

Demir (2006) surveyed 98 elementary school principals in Turkey to explore their perceptions about MIS and their use in primary schools' management. The study indicated that although technologic infrastructures of elementary schools in were insufficient, MIS had an important contribution to school management. Demir (2006) suggested that school managers should be encouraged to use information systems and they must believe that data are valuable sources for decision making and that the MIS back up the implementation of educational reforms.

Oladejo (2007) described MIS as a system using formalized procedures based on data from both internal and external sources, to enable decision makers make timely and effective decisions, for planning, directing and carrying out the activities for which they have appointed. This connotes that MIS is a system responsible for the collection, processing and communication of defined data in order to enhance prompt decision making.

Dawam et al. (2009) examined the extent of ICT utilization in public and private higher learning institutions in Northern Malaysia. This study focused on identifying the extent of ICT resources provided by the university authorities, the type and extent of ICT usage in daily activities, the ICT proficiency level among faculty members, and the level of ICT integration in teaching activities. The findings indicated that the facilities provided in public higher learning institutes were not as plenty as in private institutes but the level of their usage was quite encouraging.

According to a study by **Al-Qirim (2010)**, MIS can help managers make better decisions by providing them with the necessary information to identify problems, analyze alternatives, and select the best course of action.

According to a study by **Sengupta and Dasgupta (2012)**, MIS can improve supply chain management by providing real-time data, enabling organizations to make informed decisions regarding procurement, inventory management, and logistics.

Awan & Zahra (2014) emphasized that for companies to succeed in an increasingly competitive, information-intense, dynamic environment, then the alignment of business strategy and MIS strategy was a necessity. Management Information System plays an important role in the performance of the organization because it gives an environment where all the jobs to be done according to the plan and reporting is based on one click environment.

Majeed (2015) provided empirical support for a positive relationship between business performance and the alignment of business strategy and MIS strategy. The above studies were conducted in the context of large organizations. This study hypothesized a similar relationship between MIS alignment and performance for small firms. Luftman.

Asia Khan (2015) mentioned that technological innovations in financial sector has brought a revolution and completely changed financial scenario. Innovative financial products attract customers because they have reduced transaction cost. Similarly, management information system is the vital need to improve productivity

A study by **Abdullah et al. (2016)** found that MIS adoption can improve operational efficiency by reducing lead times, improving inventory management, and increasing production efficiency. MIS can enhance operational efficiency by automating routine tasks, streamlining business processes, and improving communication and collaboration between departments. This can result in increased productivity, reduced costs, and improved customer satisfaction.

Chowdhury et al. (2017) found that MIS can improve customer service by providing managers with real-time customer data, enabling them to respond quickly to changing customer needs and preferences.

A study by **Akhilesh and Verma (2017)** identified several challenges organizations face during the implementation of MIS in operations management, including resistance to change, lack of user involvement, inadequate training, and insufficient budget allocation. These challenges can lead to delays in implementation, user dissatisfaction, and ultimately, failure to achieve the expected.

Dong et al. (2017) found that MIS can provide significant benefits to operations management, including improved efficiency, quality, and customer satisfaction. However, organizations need to carefully evaluate the costs and benefits of MIS before making a decision to implement it.

Wang et al. (2017) found that organizational culture can influence the adoption and usage of MIS in operations management. Additionally, change management strategies such as communication, training, and stakeholder involvement can help organizations overcome resistance to change and ensure the successful implementation and use of MIS.

La Rocca et al. (2017) found that while MIS adoption can improve supply chain management, it also poses significant security and privacy risks that must be carefully managed.

González et al. (2017) found that MIS can improve the implementation of lean principles in operations management by enabling real-time monitoring of process metrics, facilitating communication and collaboration among lean teams, and providing data-driven insights for continuous improvement. The study also found that MIS can improve employee engagement and satisfaction by enabling employees to contribute to the continuous improvement process.

Azizi et al. (2018) found that MIS can improve environmental performance by providing real-time data and analytics that enable managers to monitor and reduce resource consumption, waste, and emissions.

According to a study by **Hussain et al. (2018)**, MIS can help reduce costs by improving resource allocation, optimizing supply chain management, and reducing waste in production processes. MIS can help organizations reduce costs by automating tasks, improving efficiency, and identifying areas where costs can be reduced or eliminated.

Al-Ashwal and Sohail (2018) found that MIS can improve inventory management in operations by enabling real-time monitoring of inventory levels, facilitating communication and collaboration among inventory management teams, and

providing data-driven insights for inventory optimization. The study also found that MIS can improve supply chain efficiency and reduce costs by ensuring that inventory levels are optimized and wastage is minimized.

Training and education are critical factors in the successful implementation and use of MIS in operations management. A study by **Ma and Wu (2018)** found that providing adequate training and education to employees can improve their ability to use MIS effectively and enhance their job satisfaction. Additionally, training and education can help employees understand the importance of MIS in operations management and its impact on organizational performance.

A study by **Sharma and Mahajan (2018)** found that MIS can improve operational efficiency by providing real-time data and analytics that enable managers to make informed decisions. Additionally, MIS can support decision-making related to inventory management, production planning, and scheduling.

Kovalerchuk et al. (2018) identified several challenges to the use of data analytics in operations management, including the need for specialized skills and expertise, data quality issues, and the complexity and volume of data. However, the study also found that the benefits of data analytics in operations management, including improved efficiency, productivity, and quality, can outweigh these challenges.

Gupta et al. (2018) found that MIS can improve inventory turnover and reduce stockouts, leading to improved customer satisfaction.

A study by **Ramanathan et al. (2018)** found that MIS can support the implementation of lean and Six Sigma by providing real-time data on key performance indicators and identifying areas for improvement.

Ali et al. (2018) found that MIS can improve human resource management in operations by enabling real-time monitoring of human resource metrics, facilitating communication and collaboration among human resource teams, and providing data-driven insights for human resource development and retention. The study also found that MIS can improve employee engagement and satisfaction by providing personalized training and development opportunities.

MIS can also support data analytics in operations management by providing real-time data and analytics that enable managers to identify patterns and trends in operational processes. A study by **Alzahrani et al. (2018)** found that MIS can support data-driven decision-making by providing insights into key operational metrics such as cycle time, defect rate, and yield.

Iqbal et al. (2018) found that MIS can improve customer relationship management in operations by enabling real-time monitoring of customer metrics, facilitating communication and collaboration among customer relationship teams, and providing data-driven insights for customer satisfaction and loyalty. The study also found that MIS can improve customer retention and profitability by providing personalized and timely services to customers.

Zhang et al. (2018) found that while MIS can provide managers with a wealth of information, the sheer volume of data can lead to decision paralysis and suboptimal decision-making.

Chiu et al. (2019), “MIS can improve supply chain performance by reducing lead times, improving order accuracy, and enhancing supplier relationships.”

Xu et al. (2019) found that MIS can improve production efficiency and reduce lead times by optimizing production schedules and reducing setup times. MIS can also support production planning and scheduling by providing real-time data on production status and identifying bottlenecks and constraints in the production process.

Zhu et al. (2019) found that the use of predictive analytics in MIS can improve maintenance planning and reduce downtime by enabling proactive maintenance and identifying potential equipment failures before they occur.

A study by **Kumar et al. (2019)** found that integration of MIS with ERP can improve supply chain visibility and reduce lead times, while integration with CRM can improve customer satisfaction and retention.

Pantano et al. (2019) found that the use of data analytics in MIS can improve decision-making in operations management by enabling managers to identify

patterns and trends, conduct simulations and scenario analysis, and optimize processes and resources. The study also found that the use of data analytics can improve customer satisfaction and loyalty by enabling more personalized and targeted marketing and customer service.

Ali et al. (2019) found that MIS can improve sustainability practices in operations management by enabling real-time monitoring of sustainability metrics, facilitating communication and collaboration among sustainability teams, and providing data-driven insights for sustainability optimization. The study also found that MIS can improve brand reputation and stakeholder engagement by ensuring that operations are environmentally and socially responsible.

Le et al. (2019), MIS can be vulnerable to cyberattacks such as malware and phishing attacks, which can compromise sensitive data and disrupt operations. Therefore, organizations need to take steps to secure their MIS systems and protect their data from cyber threats.

Wang et al. (2019) found that MIS can support performance measurement by providing real-time data on key performance indicators such as cycle time, productivity, and cost. Additionally, MIS can support the implementation of performance measurement frameworks such as the Balanced Scorecard by providing real-time data and analytics on strategic objectives and performance metrics.

Sharma and Choudhary (2019) found that MIS can improve quality management in operations by enabling real-time monitoring of quality metrics, facilitating communication and collaboration among quality management teams, and providing data-driven insights for continuous improvement. The study also found that MIS can improve customer satisfaction and loyalty by ensuring high-quality products and services.

A study by **Amiri and Gharakhani (2019)** says, MIS can support quality management by providing real-time data on key quality metrics such as defect rate, customer complaints, and rework rate. Additionally, MIS can support the

implementation of quality improvement initiatives such as Total Quality Management (TQM) and Kaizen by providing real-time data and analytics on process performance.

A study by Luo et al. **(2020)** found that cloud-based MIS can improve communication and collaboration among team members, leading to improvement in operational performance.

MIS can also support sustainability initiatives by enabling managers to monitor and improve the environmental and social impact of their operations. **Kabir et al. (2021)**, MIS can support sustainability initiatives by providing real-time data on energy consumption, waste generation, and greenhouse gas emissions. Additionally, MIS can support the implementation of sustainability initiatives such as Green Supply Chain Management (GSCM) by enabling data sharing and collaboration among supply chain partners.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 METHODOLOGY

The research methodology is used to test the hypothesis, theories or concepts. In this study primary technique of data is used to collect the required data. Primary data is collected through interviews of target group, based on structured questionnaire. The empirical data is used to measure the objectives for finding and analyzing the proper results.

3.2 RESEARCH DESIGN

The research design used for the study is descriptive. Descriptive research studies are those, which are concerned with describing the characteristics of a particular individual or group. The studies concerned with specific prediction with narration of facts and characteristics concerning individual group or situation are all examples of descriptive research studies.

3.3 SAMPLING TECHNIQUE

Convenience Sampling, it is a definite plan for obtaining a sample from a given population. It refers to the technique the researcher adopts in selecting items for the sample. The respondents are selected based on convenient sampling.

3.4 STRUCTURE OF QUESTIONNAIRE

Questionnaire was divided into two sections. First part was designed to know the general information about customers and the second part contained the response about the level of impact of MIS on operations.

3.5 SAMPLE SIZE

The total sample size is 153 which is taken from Sashta Technologies.

3.6 SAMPLE AREA

The samples are collected in Thanjavur.

3.7 DATA COLLECTION

The data which are collected for this research are

PRIMARY DATA

From Observations and Questionnaire given to 153 respondents.

SECONDARY DATA

Websites and online journals, published reports, & review of literature from published article.

3.8 PERIOD OF STUDY

The period of time taken to conduct the survey and preparation of the research paper is Jan 2023 to Mar 2023

3.9 TOOLS FOR ANALYSIS.

CHI SQUARE

The Chi-Square test is a statistical procedure for determining the difference between observed and expected data. This test can also be used to determine whether it correlates to the categorical variables in our data. It helps to find out whether a difference between two categorical variables is due to chance or a relationship between them.

Formula

$$\chi^2_c = \frac{\sum (O_i - E_i)^2}{E_i}$$

c = Degrees of freedom

O = Observed Value

E = Expected Value

CORRELATION

Correlation refers to a statistical measure that expresses the degree to which two variables are related or associated. In other words, it is a way to measure the strength and direction of the linear relationship between two variables. A correlation coefficient is a number between -1 and 1 that reflects the degree of correlation between two variables.

Formula

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}$$

n = Number of values or elements

$\sum x$ = Sum of 1st values list

$\sum y$ = Sum of 2nd values list

$\sum xy$ = Sum of the product of 1st and 2nd values

$\sum x^2$ = Sum of squares of 1st values

$\sum y^2$ = Sum of squares of 2nd values

ANOVA

ANOVA stands for Analysis of Variance. It is a statistical method used to compare the means of two or more groups to determine if there is a significant difference between them. ANOVA tests the null hypothesis that there is no difference between the means of the groups against the alternative hypothesis that there is at least one mean that is different from the others.

Formula

$$F = \text{MSB}/\text{MSW},$$

Where,

F = coefficient of ANOVA.

MSB = Mean sum of squares between the groups.

MSW = Mean sum of squares within groups.

CHAPTER 4

DATA INTERPRETATION AND ANALYSIS

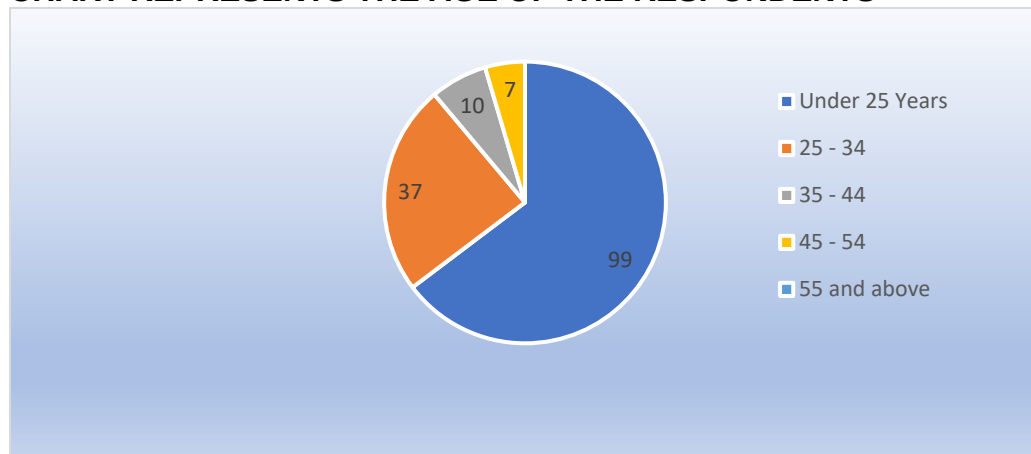
4.1 PERCENTAGE ANALYSIS

4.1.1 AGE OF THE RESPONDENTS

S.no	Age	Respondents	Percentage
1	Under 25 Years	114	74.5
2	25 - 34	22	14.4
3	35 - 44	10	6.5
4	45 - 54	7	4.6
5	55 and above	0	0
TOTAL		153	100

Source: Primary Data

4.1.1 CHART REPRESENTS THE AGE OF THE RESPONDENTS



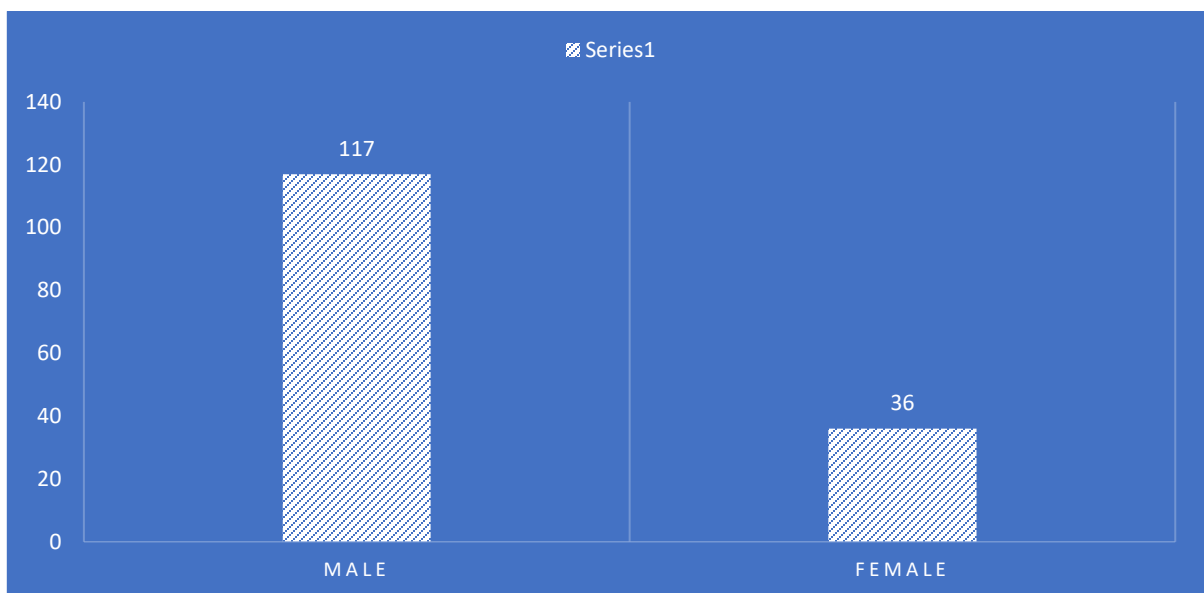
Interpretation

From the above table it is interpreted that the number of respondents 55 and above age of respondents are 0%, between Under 25 years age of respondents are 74.5%, between 25-34 age of respondents 14.4%, between 35-44 age of respondents are 6.5%, 45-55 are 4.6%.

4.1.2 GENDER OF THE RESPONDENTS

S.no	Gender	Respondents	Percentage
1	Male	117	78.5
2	Female	36	23.5
TOTAL			100

4.1.2 CHART REPRESENTS GENDER OF THE RESPONDENTS



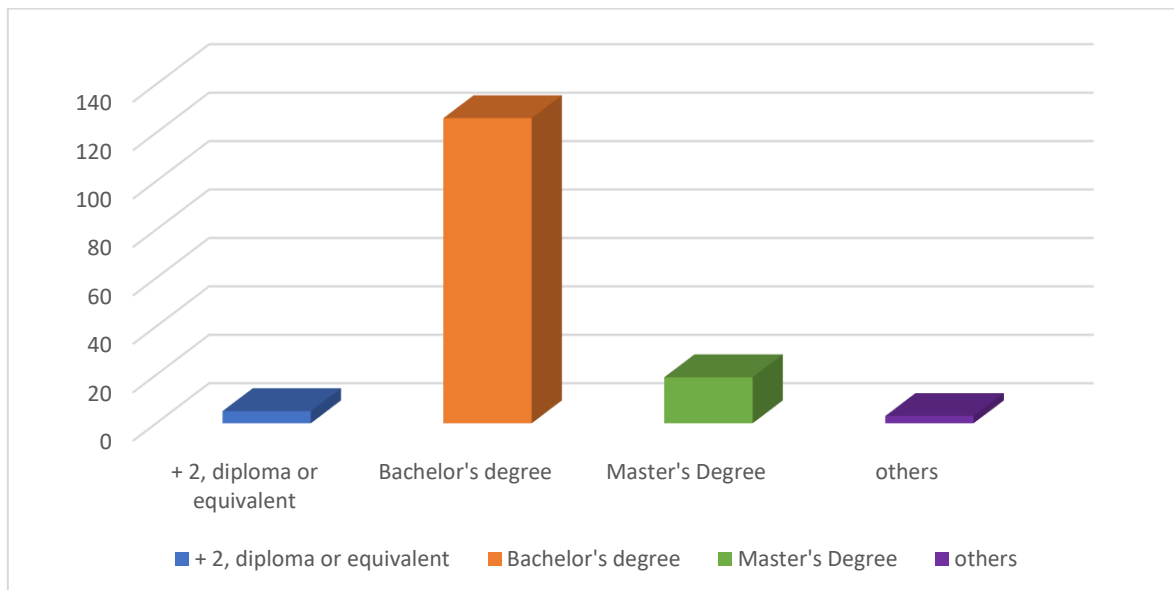
Interpretation:

From the above table 78.5% respondents are Male and 23.5% are Female.

4.1.3 EDUCATION OF THE RESPONDENTS

S.no	Education	Respondent s	Percentage
1	+2, diploma or equivalent	5	3.3
2	Bachelor's degree	126	82.4
3	Master's Degree	19	12.4
4	others	3	2
TOTAL		153	100

4.1.3 CHART REPRESENTS EDUCATION OF THE RESPONDENTS



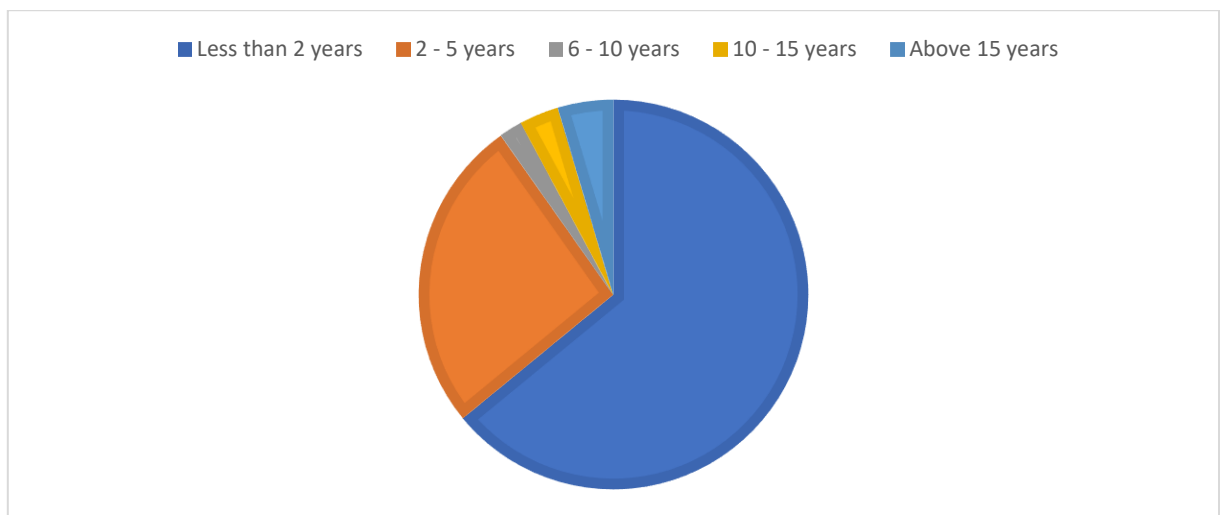
Interpretation

From the above table, 3.3% of respondents have completed High School, Diploma or equivalent graduate, 82.4% are Bachelor degree graduate, 12.4% are post graduate, 2% are Others.

4.1.4 WORK EXPERIENCE OF THE RESPONDENTS

S.no	Work Experience	Respondents	Percentage
1	Less than 2 years	98	64.1
2	2 - 5 years	40	26.1
3	6 - 10 years	3	2.0
4	10 - 15 years	5	3.3
5	Above 15 years	7	4.6
TOTAL		153	100

4.1.4 CHART REPRESENTS WORK EXPERIENCE OF THE RESPONDENTS



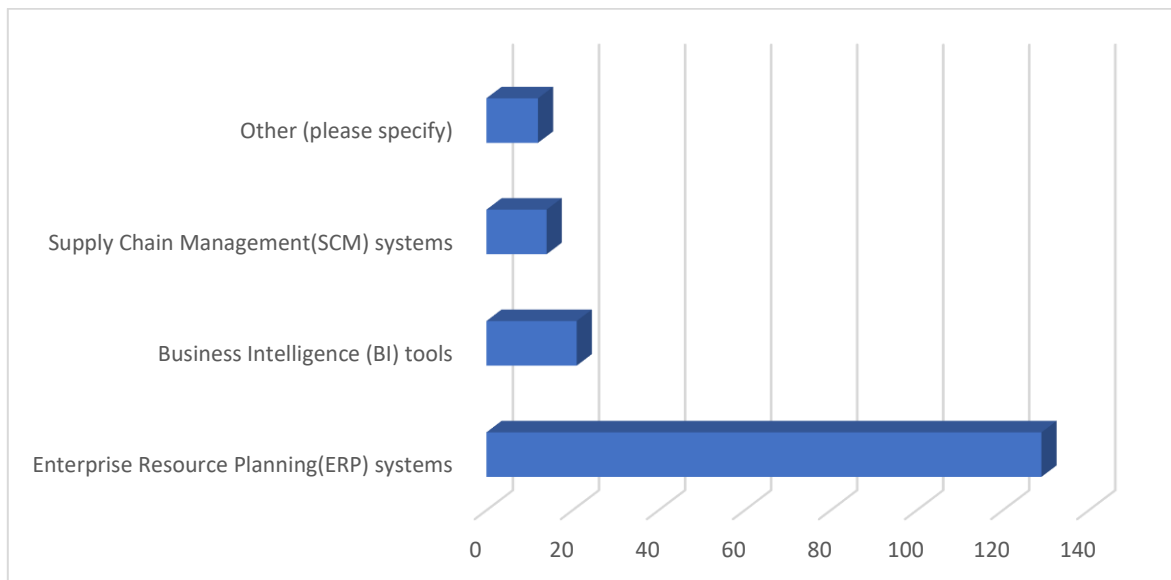
Interpretation

From the above table, 64.1% of respondents have Less than 2 years of experience, 26.1% have 2-5 years, 2% have 6-10 years, 3.3% have 10 – 15 years, 4.6% have Above 15 years of experience in this field of work.

4.1.5 TYPES OF MIS ARE USED IN YOUR COMPANY

S.no	Particulars	Respondents	Percentage
1	Enterprise Resource Planning (ERP) systems	129	84.3
2	Business Intelligence (BI) tools	21	13.7
3	Supply Chain Management (SCM) systems	14	9.2
4	Others	12	7.8
TOTAL		153	

4.1.5 CHART REPRESENTS TYPES OF MIS ARE USED IN YOUR COMPANY



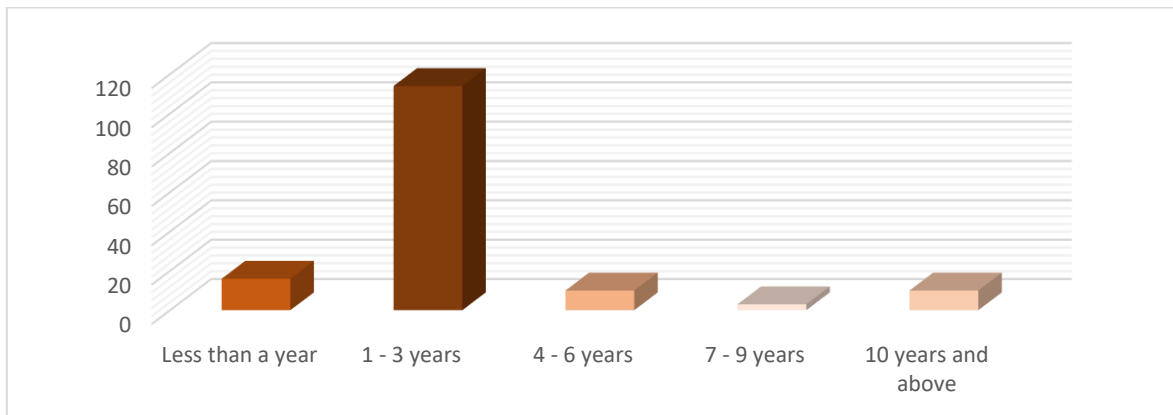
Interpretation:

From the above table, 84.3% respondents have ERP in their company, 13.7% has Business Intelligent tools, 9.2% has supply chain management systems and 7.8% has others.

4.1.6 USAGE PERIOD OF MIS IN THE COMPANY

S.no	Particulars	Respondents	Percentage
1	Less than a year	16	10.5
2	1 - 3 years	114	74.5
3	4 - 6 years	10	6.5
4	7 - 9 years	3	2
5	10 years and above	10	6.5
TOTAL		153	100

4.1.6 CHART REPRESENTS USAGE PERIOD OF MIS IN THE COMPANY



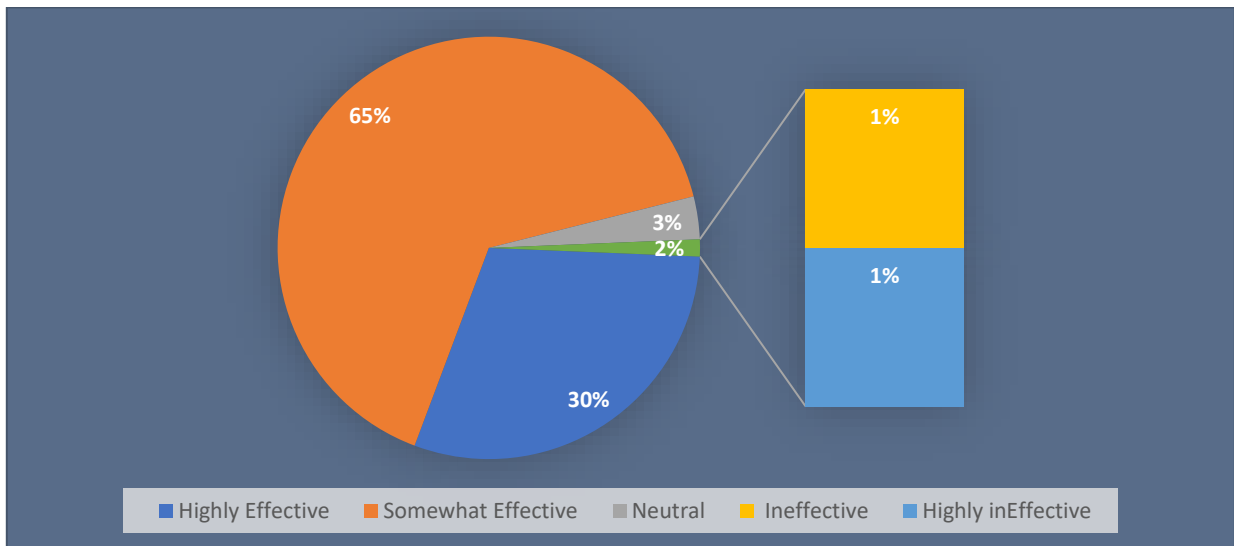
Interpretation

From the above table, 10.5% has MIS in their company less than a year, 74.5% has MIS in their company for 1-3 years, 6.5% has MIS in their company for 4-6 years, 2% has MIS in their company for 7-9 years, 6.5% has MIS in their company for 10 years and above

4.1.7 RESPONDENTS OPINION ABOUT THE EFFECTIVENESS OF MIS IN THE COMPANY

S.no	Particulars	Respondents	Percentage
1	Highly Effective	46	30.1
2	Somewhat Effective	100	65.4
3	Neutral	5	3.3
4	Ineffective	1	0.7
5	Highly ineffective	1	0.7
TOTAL		153	100

4.1.7 CHART REPRESENTS RESPONDENTS' OPINION ABOUT THE EFFECTIVENESS OF MIS IN THE COMPANY



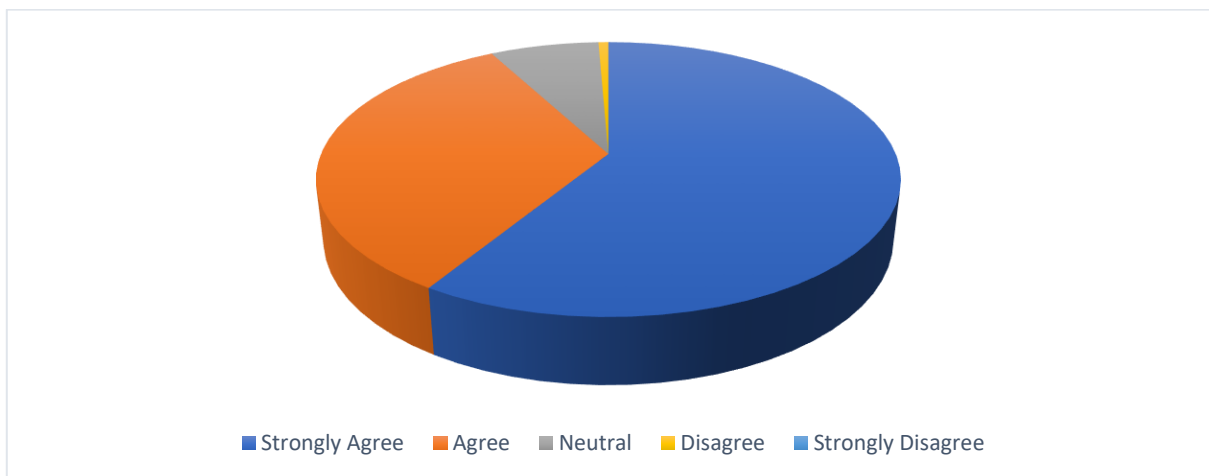
Interpretation:

From the above table, 46% of respondents chose highly effective, 100% chose somewhat effective, 5% chose neutral, 0.7% chose somewhat ineffective and highly ineffective.

4.1.8 RESPONDENTS OPINION ABOUT SPEEDUP THE INTERNAL COMMUNICATION IN THE COMPANY DUE TO MIS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	90	58.8
2	Agree	51	33.3
3	Neutral	11	7.2
4	Disagree	1	0.7
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.8 CHART REPRESENTS RESPONDENTS' OPINION ABOUT SPEEDUP THE INTERNAL COMMUNICATION IN THE COMPANY DUE TO MIS



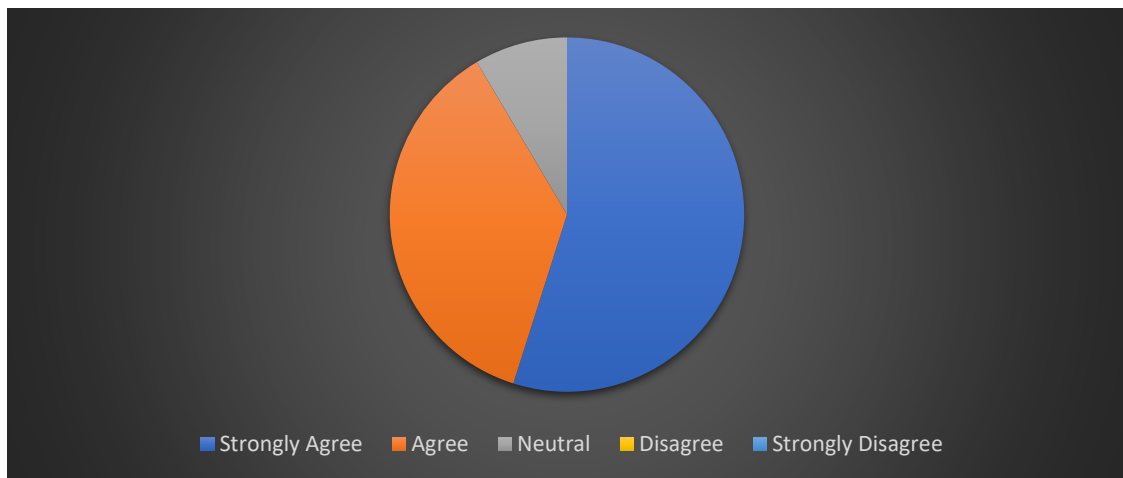
Interpretation:

From the above table, 58.8% respondents strongly agree, 33.3% respondents agree, 7.2% respondents are neutral, 0.7% respondents disagree and, 0% of the respondents strongly disagree.

4.1.9 PERFORMANCE OF THE STAFF BECOME IMPROVED AFTER USING MANAGEMENT INFORMATION SYSTEM

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	84	54.9
2	Agree	56	36.6
3	Neutral	13	8.5
4	Disagree	0	0
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.9 CHART REPRESENT PERFORMANCE OF THE STAFF BECOME IMPROVED AFTER USING MANAGEMENT INFORMATION SYSTEM



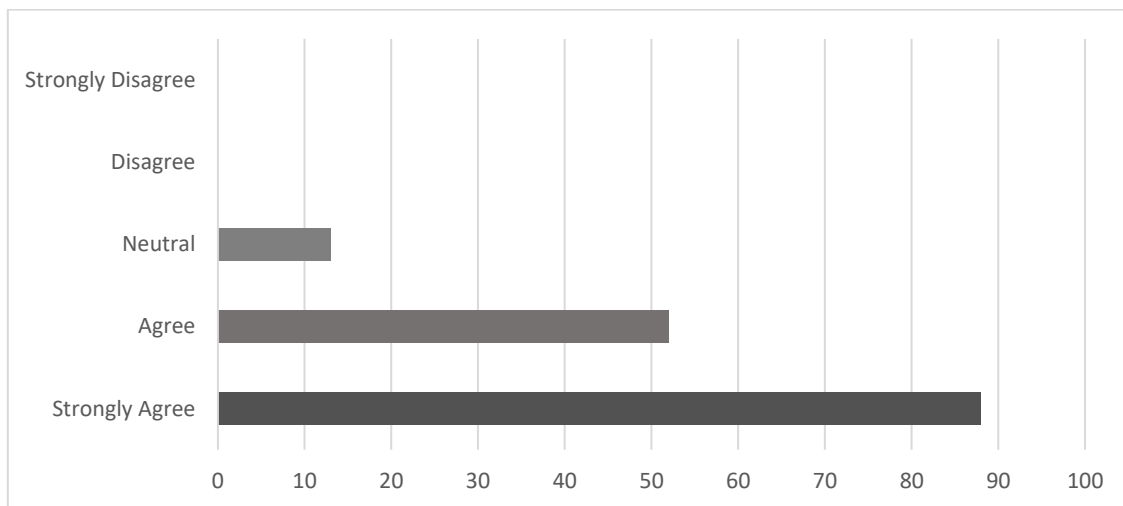
Interpretation:

From the above table, 54.9% respondents strongly agree, 36.6% respondents agree, 8.5% respondents are neutral, 0% respondents disagree and, 0% of the respondents strongly disagree.

4.1.10 IMPROVEMENT IN ANALYTICAL SKILLS OF WORKERS AFTER THE USAGE OF MIS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	88	57.5
2	Agree	52	34
3	Neutral	13	8.5
4	Disagree	0	0
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.10 CHART REPRESENTS IMPROVEMENT IN ANALYTICAL SKILLS OF WORKERS AFTER THE USAGE OF MIS



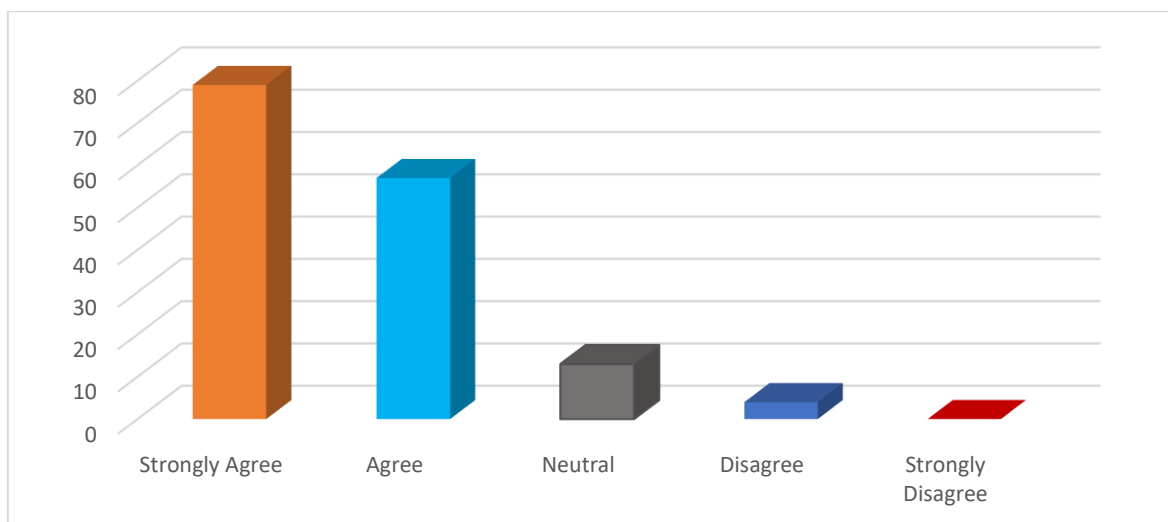
Interpretation:

From the above table, 57.5% respondents strongly agree, 34% respondents agree, 8.5% respondents are neutral, 0% respondents disagree and, 0% of the respondents strongly disagree.

4.1.11 RESPONDENTS OPINION ABOUT MANAGEMENT INFORMATION SYSTEM BEING HELPFUL IN THE INCREASE OF PRODUCTION OF PRODUCTS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	79	51.6
2	Agree	57	37.3
3	Neutral	13	8.5
4	Disagree	4	2.6
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.11 CHART REPRESENTS RESPONDENTS' OPINION ABOUT MANAGEMENT INFORMATION SYSTEM BEING HELPFUL IN THE INCREASE OF PRODUCTION OF PRODUCTS



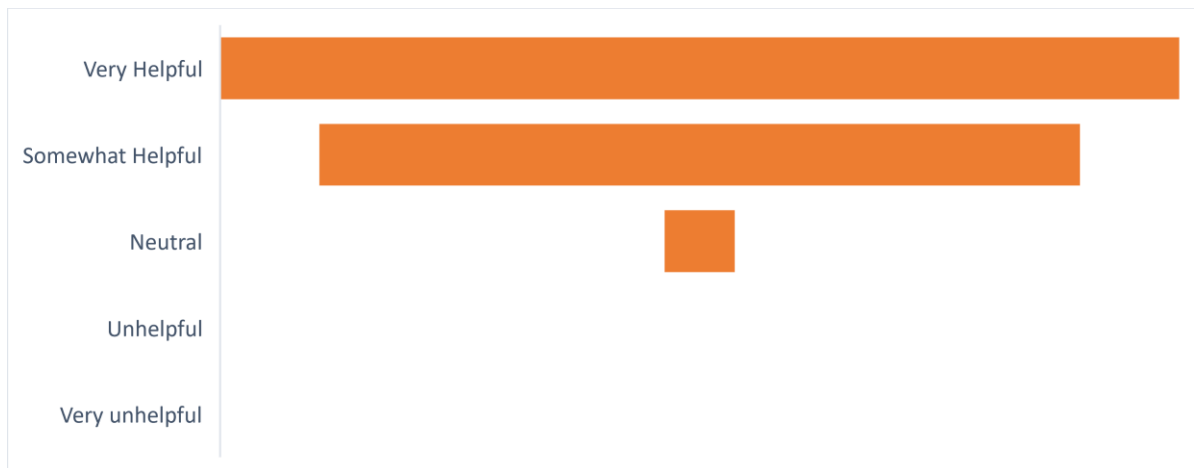
Interpretation:

From the above table, 51.6% respondents strongly agree, 37.4% respondents agree, 8.5% respondents are neutral, 2.6% respondents disagree and, 0% of the respondents strongly disagree.

4.1.12 MIS SYSTEM INTEGRATION WITH OTHER SYSTEMS USED IN OPERATIONS, SUCH AS INVENTORY MANAGEMENT OR PRODUCTION PLANNING

S.no	Particulars	Respondents	Percentage
1	Very Helpful	82	53.6
2	Somewhat Helpful	65	42.5
3	Neutral	6	3.9
4	Unhelpful	0	0
5	Very unhelpful	0	0
TOTAL		153	100

4.1.12 CHART REPRESENTS MIS SYSTEM INTEGRATION WITH OTHER SYSTEMS USED IN OPERATIONS, SUCH AS INVENTORY MANAGEMENT OR PRODUCTION PLANNING



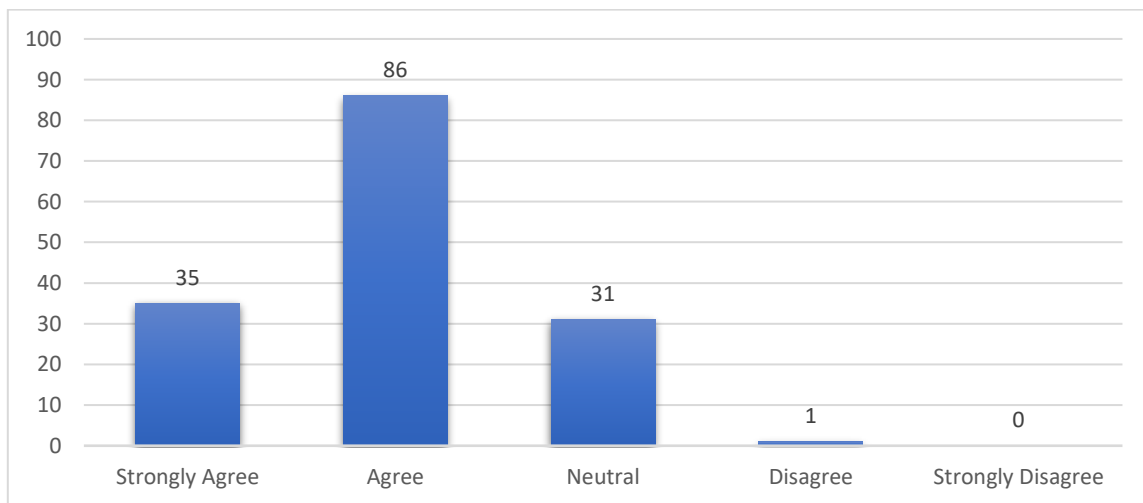
Interpretation:

From the above table, 53.6% respondents Very helpful, 42.5% respondents Helpful, 3.9% respondents are neutral, 0% of respondents and, 0% of the respondents strongly disagree.

4.1.13 RESPONDENTS OPINION ABOUT THE CONTROL SYSTEM BEEN MORE EFFECTIVE THAN BEFORE USING INFORMATION SYSTEM

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	35	22.8
2	Agree	86	56.2
3	Neutral	31	20.3
4	Disagree	1	0.7
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.13 CHART REPRESENTS RESPONDENTS' OPINION ABOUT THE CONTROL SYSTEM BEEN MORE EFFECTIVE THAN BEFORE USING INFORMATION SYSTEM



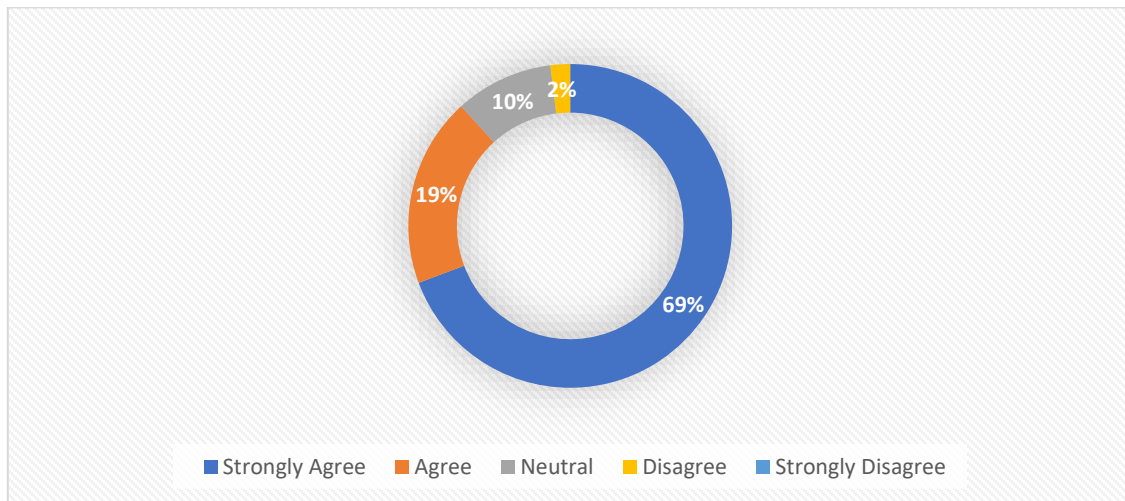
Interpretation:

From the above table, 22.8% respondents strongly agree, 56.2% respondents agree, 20.3% respondents are neutral, 0.7% respondents disagree and, 0% of the respondents strongly disagree.

4.1.14 RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH GROWTH OF THE COMPANY

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	106	69.2
2	Agree	29	19
3	Neutral	15	9.8
4	Disagree	3	2
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.14 CHART REPRESENTS RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH GROWTH OF THE COMPANY



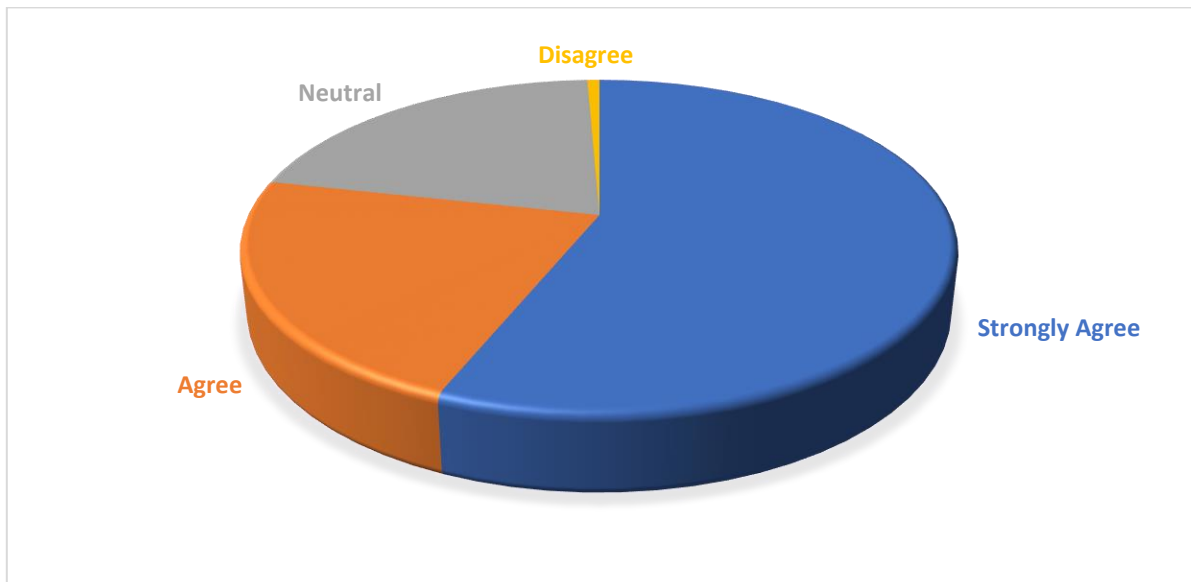
Interpretation:

From the above table, 69.2% respondents strongly agree, 19% respondents agree, 9.8% respondents are neutral, 2% respondents disagree and, 0% of the respondents strongly disagree.

4.1.15 RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	86	56.2
2	Agree	34	22.2
3	Neutral	32	20.9
4	Disagree	1	0.7
5	Strongly Disagree	0	0
TOTAL		153	100

4.1.15 CHART REPRESENTS RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY



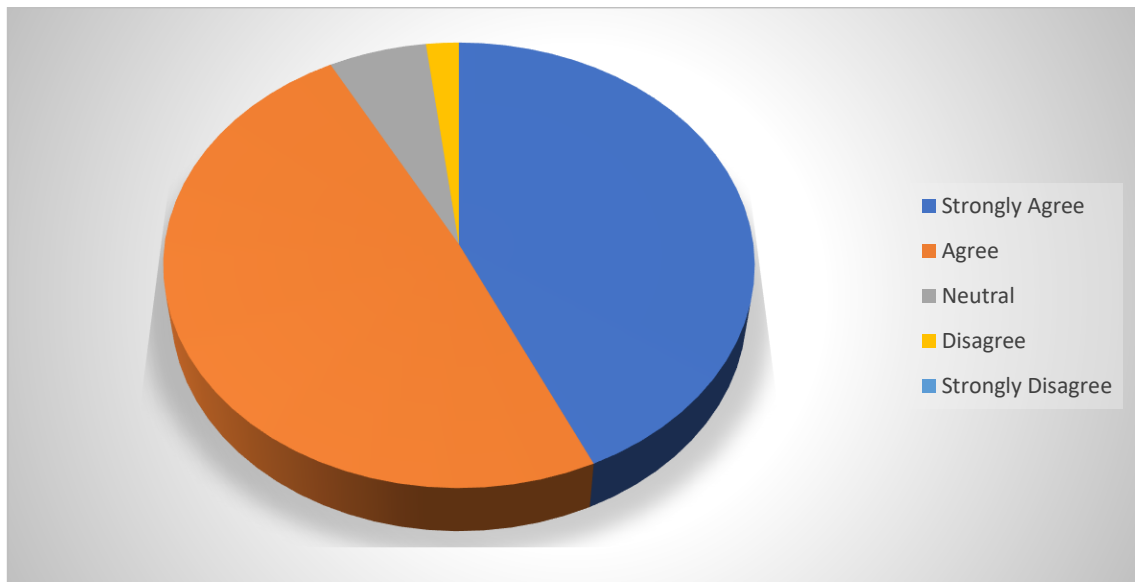
Interpretation:

From the above table, 56.2% respondents strongly agree, 22.2% respondents agree, 20.9% respondents are neutral, 0.7% respondents disagree and, 0% of the respondents strongly disagree.

4.1.16 RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	66	43.1
2	Agree	75	49.0
3	Neutral	9	5.9
4	Disagree	3	2.0
5	Strongly Disagree	0	0.0
TOTAL		153	100

4.1.16 CHART REPRESENTS RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM WITH PROFITABILITY OF THE COMPANY



Interpretation:

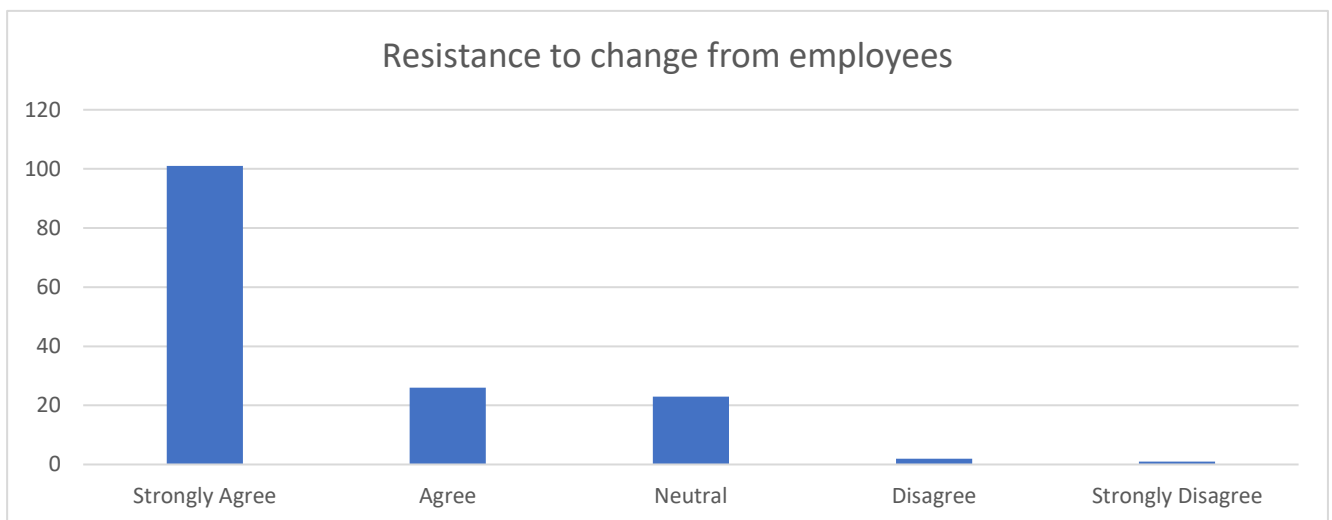
From the above table, 43.1% respondents strongly agree, 49% respondents agree, 5.9% respondents are neutral, 2% respondents disagree and, 0% of the respondents strongly disagree.

4.1.17 CHALLENGES FACED BY THE COMPANY IN IMPLEMENTING AND USING MIS IN OPERATIONS?

4.1.17.1 RESISTANCE TO CHANGE FROM EMPLOYEES

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	101	66
2	Agree	26	17
3	Neutral	23	15
4	Disagree	2	1.3
5	Strongly Disagree	1	0.7
Total		153	100

4.1.17.1 CHART REPRESENTS RESISTANCE TO CHANGE FROM EMPLOYEES



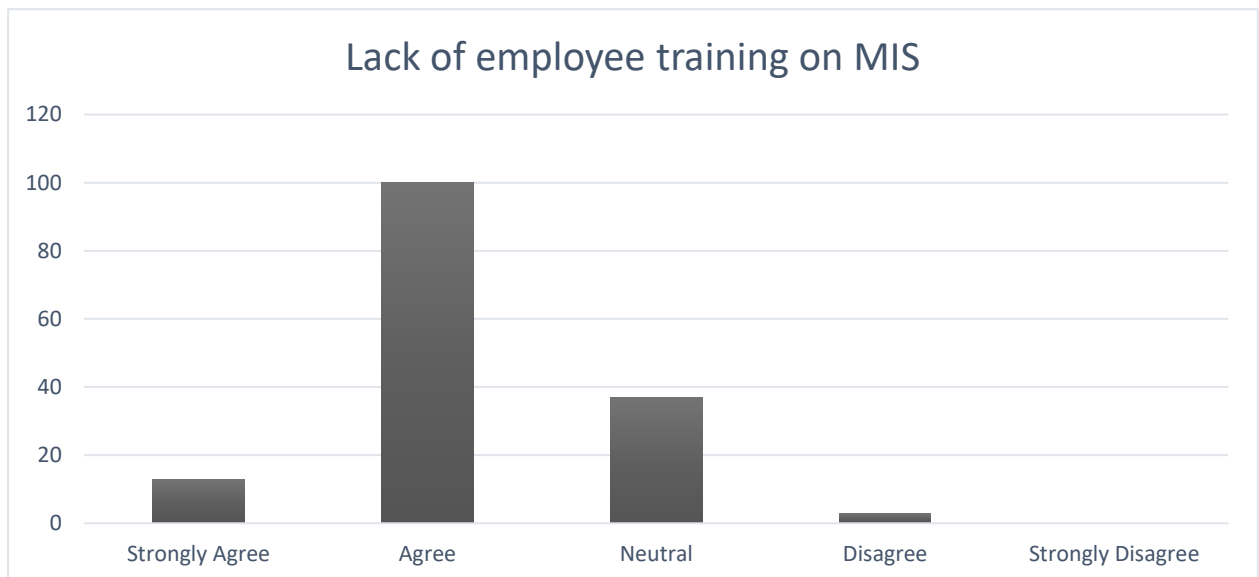
Interpretation:

From the above table, 66% are strongly agree, 17% are Agree, 15% are Neutral, 1.3% are Disagree and 0.7% are Strongly Disagree with Resistance to change from employees.

4.1.17.2. LACK OF EMPLOYEE TRAINING ON MIS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	13	8.5
2	Agree	100	65.4
3	Neutral	37	24.2
4	Disagree	3	2.0
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.17.2 CHART REPRESENTS LACK OF EMPLOYEE TRAINING ON MIS



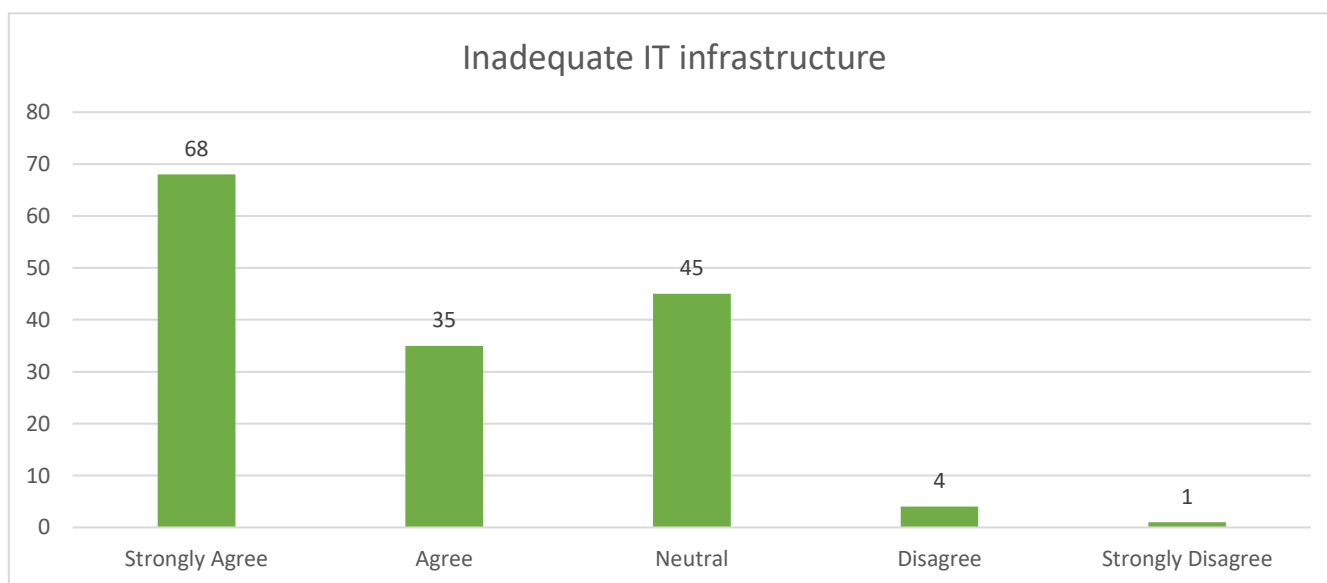
Interpretation:

From the above table, 8.5% respondents strongly agree, 65.4% respondents agree, 24.2% respondents are neutral, 2% respondents disagree and, 0% of the respondents strongly disagree towards Lack of employee training on MIS.

4.1.17.3. INADEQUATE IT INFRASTRUCTURE

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	68	44.4
2	Agree	35	22.9
3	Neutral	45	29.4
4	Disagree	4	2.6
5	Strongly Disagree	1	0.7
Total		153	100.0

4.1.17.3 CHART REPRESENTS INADEQUATE IT INFRASTRUCTURE



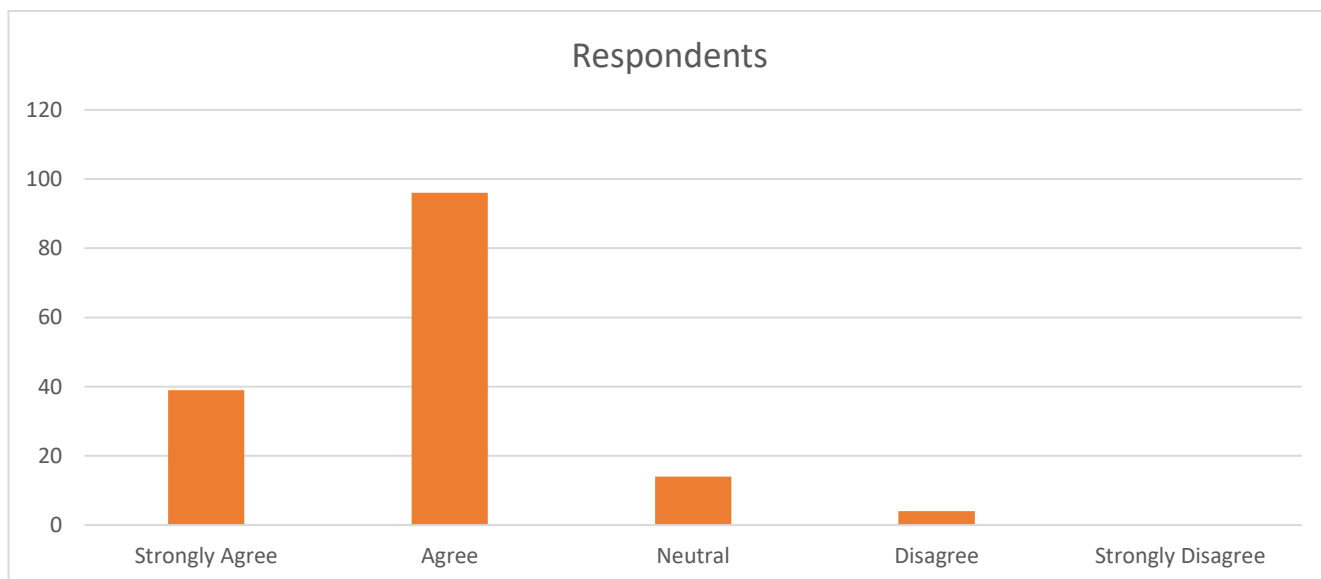
Interpretations

From the above table, 44.4% respondents strongly agree, 22.9% respondents agree, 29.4% respondents are neutral, 2.6% respondents disagree and, 0.7% of the respondents strongly disagree towards Inadequate IT infrastructure.

4.1.17.4. INCOMPATIBLE SYSTEMS AND DATA SOURCES

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	39	25.5
2	Agree	96	62.7
3	Neutral	14	9.2
4	Disagree	4	2.6
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.17.4 CHART REPRESENTS INCOMPATIBLE SYSTEMS AND DATA SOURCES



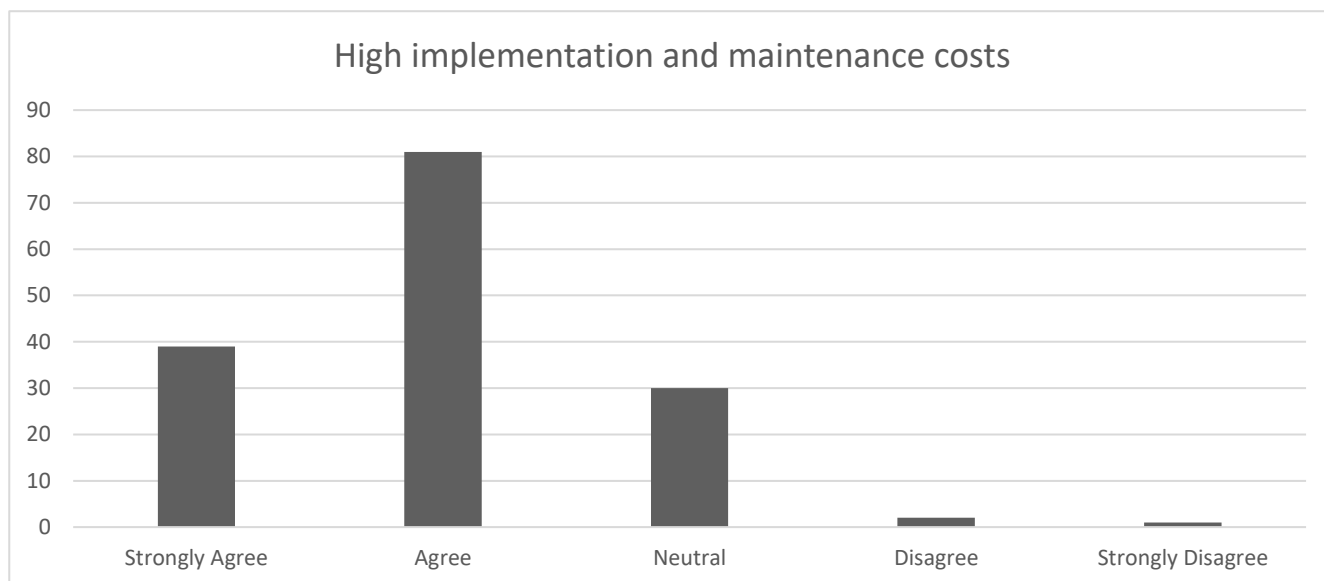
Interpretations

From the above table, 25.5% respondents strongly agree, 62.7% respondents agree, 9.2% respondents are neutral, 2.6% respondents disagree and, 0% of the respondents strongly disagree towards Incompatible systems and data sources.

4.1.17.5. HIGH IMPLEMENTATION AND MAINTENANCE COSTS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	39	25.5
2	Agree	81	52.9
3	Neutral	30	19.6
4	Disagree	2	1.3
5	Strongly Disagree	1	0.7
Total		153	100.0

4.1.17.5. CHART REPRESENTS HIGH IMPLEMENTATION AND MAINTENANCE COSTS



Interpretation:

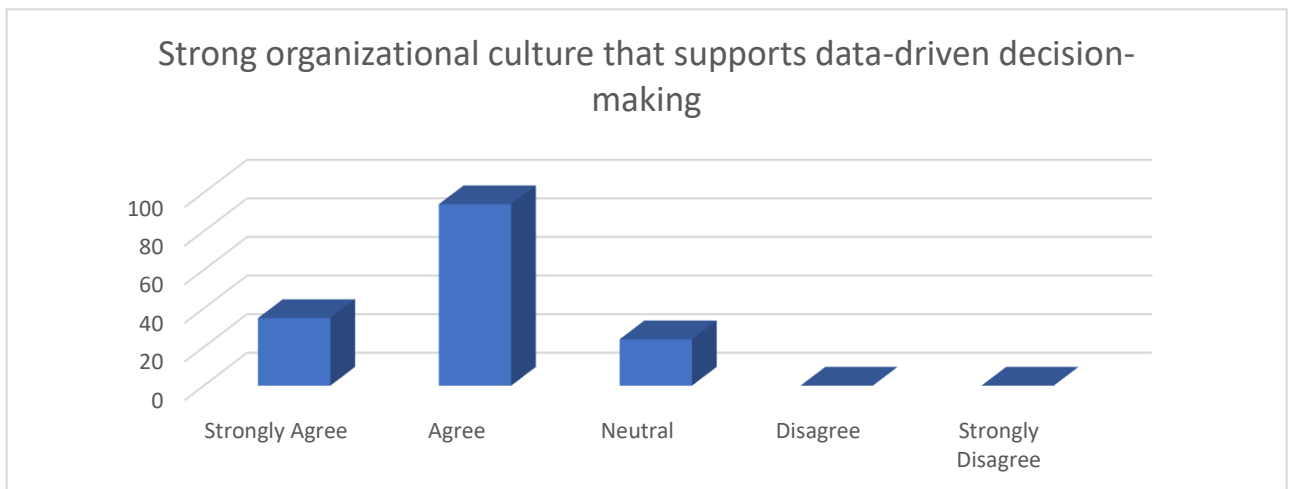
From the above table, 25.5% respondents strongly agree, 52.9% respondents agree, 19.6% respondents are neutral, 1.3% respondents disagree and, 0.7% of the respondents strongly disagree towards High implementation and maintenance costs.

4.1.18 KEY SUCCESS FACTORS FOR IMPLEMENTING AND USING MIS IN OPERATIONS

4.1.18.1 STRONG ORGANIZATIONAL CULTURE THAT SUPPORTS DATA-DRIVEN DECISION-MAKING

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	35	22.9
2	Agree	94	61.4
3	Neutral	24	15.7
4	Disagree	0	0.0
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.18.1 CHART REPRESENTS STRONG ORGANIZATIONAL CULTURE THAT SUPPORTS DATA-DRIVEN DECISION-MAKING



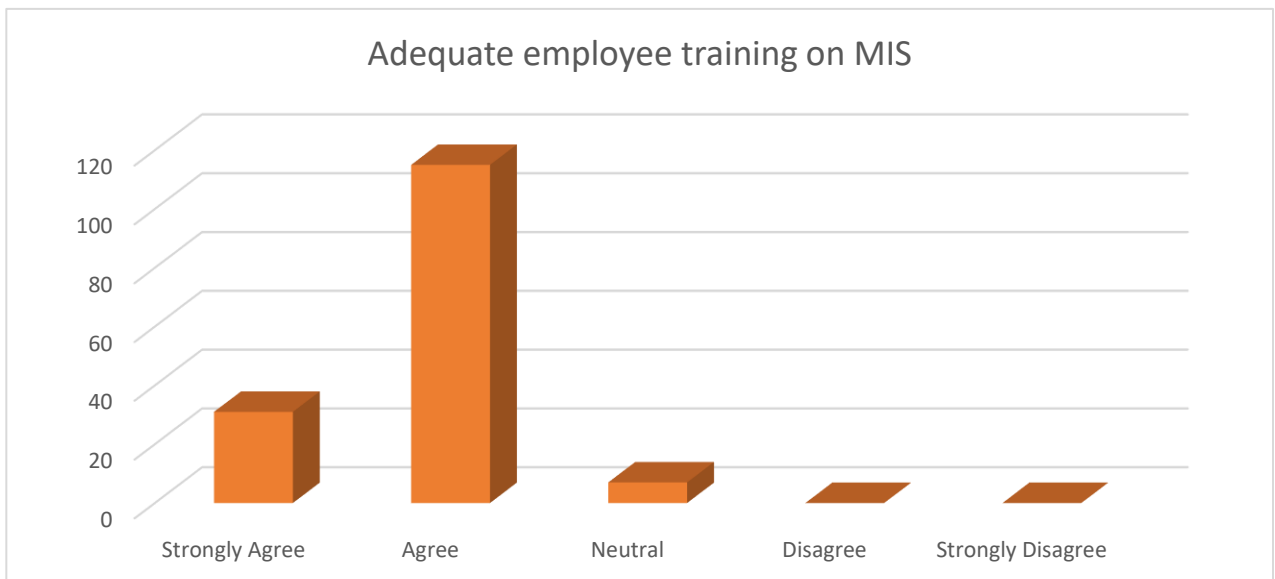
Interpretation:

From the above, 22.9% are strongly agree, 61.4% are Agree, 15.7% are Neutral, 0% are Disagree and Strongly Disagree with Strong Organizational Culture that supports a data driven decision-making.

4.1.18.2 ADEQUATE EMPLOYEE TRAINING ON MIS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	31	20.3
2	Agree	115	75.2
3	Neutral	7	4.6
4	Disagree	0	0.0
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.18.2 CHARTS REPRESENTS ADEQUATE EMPLOYEE TRAINING ON MIS



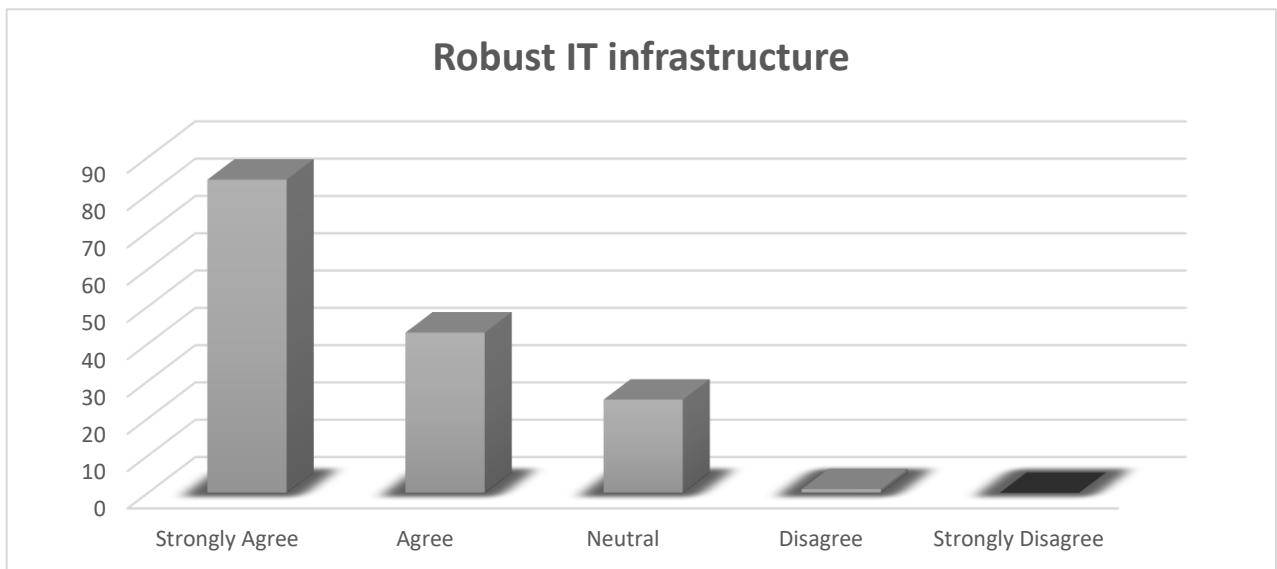
Interpretations:

From the above table 20.3% respondents strongly agree, 75.2% respondents agree, 4.6% respondents are neutral, 0% respondents disagree and, 0% of the respondents strongly disagree to Adequate employee training on MIS.

4.1.18.3 ROBUST IT INFRASTRUCTURE

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	84	54.9
2	Agree	43	28.1
3	Neutral	25	16.3
4	Disagree	1	0.7
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.18.3 CHART REPRESENTS ROBUST IT INFRASTRUCTURE



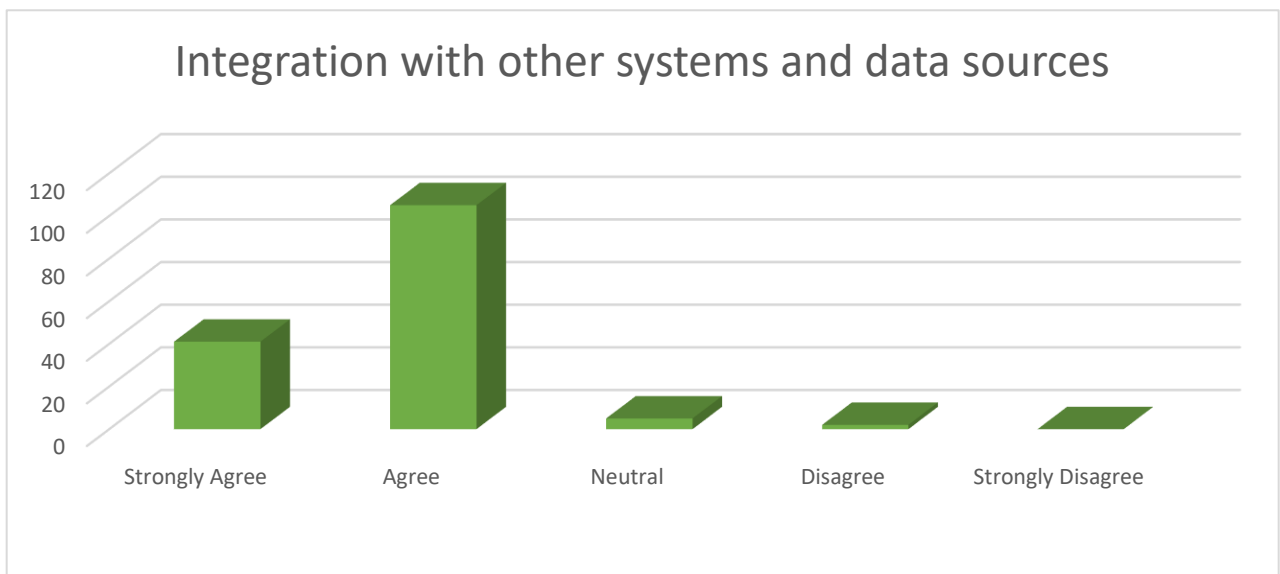
Interpretation:

26.8% respondents strongly agree, 68.6% respondents agree, 3.3% respondents are neutral, 1.3% respondents disagree and, 0% of the respondents strongly disagree towards Integration with other systems and data sources.

4.1.18.4 INTEGRATION WITH OTHER SYSTEMS AND DATA SOURCES

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	41	26.8
2	Agree	105	68.6
3	Neutral	5	3.3
4	Disagree	2	1.3
5	Strongly Disagree	0	0.0
Total		153	100.0

4.1.18.4 CHART REPRESENTS INTEGRATION WITH OTHER SYSTEMS AND DATA SOURCES



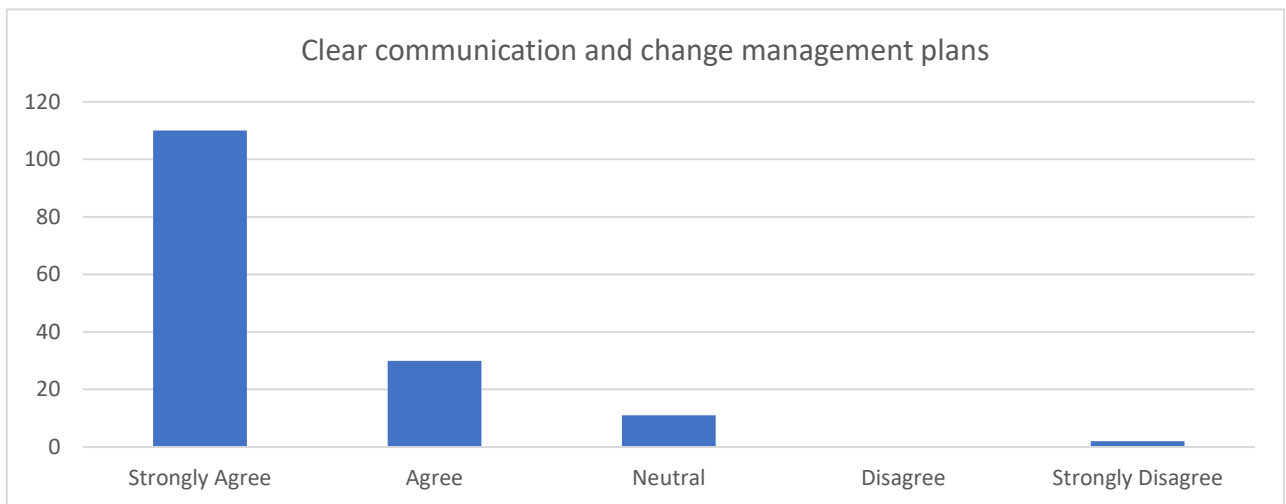
Interpretations:

From the above table, 54.9% respondents strongly agree, 28.1% respondents agree, 16.3% respondents are neutral, 0.7% respondents disagree and, 0% of the respondents strongly disagree towards Robust IT infrastructure.

4.1.18.5 CLEAR COMMUNICATION AND CHANGE MANAGEMENT PLANS

S.no	Particulars	Respondents	Percentage
1	Strongly Agree	110	71.9
2	Agree	30	19.6
3	Neutral	11	7.2
4	Disagree	0	0.0
5	Strongly Disagree	2	1.3
Total		153	100.0

4.1.18.5 CHARTS REPRESENTS CLEAR COMMUNICATION AND CHANGE MANAGEMENT PLANS



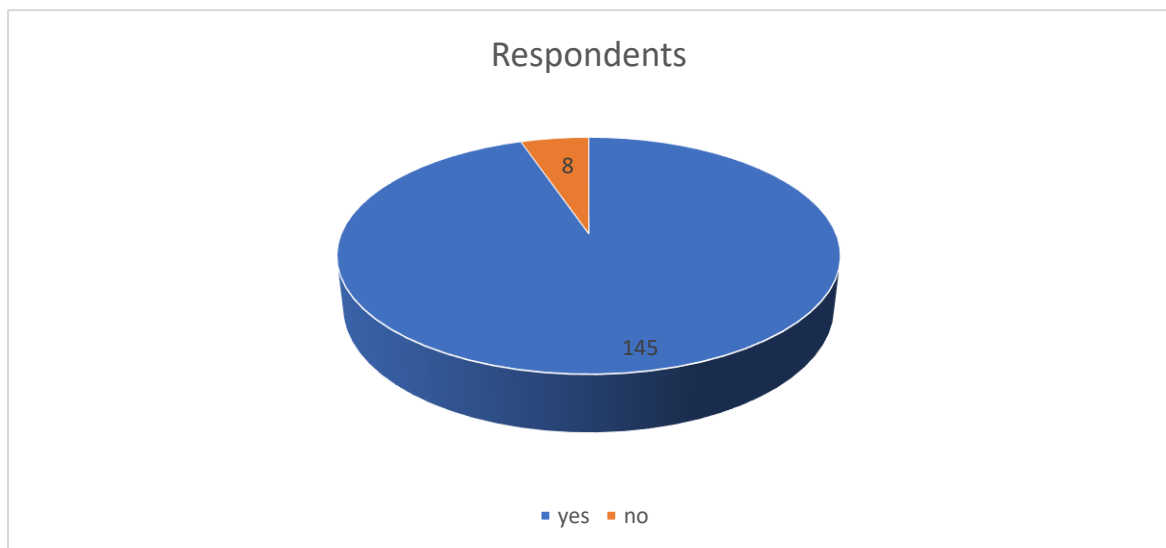
Interpretations

71.9% respondents strongly agree, 19.6% respondents agree, 7.2% respondents are neutral, 0% respondents disagree and, 1.3% of the respondents strongly disagree towards Clear communication and change management plans.

4.1.19RESPONDENTS OPINION ABOUT ADOPTING NEW TECHNOLOGIES, SUCH AS ARTIFICIAL INTELLIGENCE (AI) AND INTERNET OF THINGS (IOT), COULD FURTHER IMPROVE THE EFFECTIVENESS OF MIS IN OPERATIONS

S.no	Particulars	Respondents	Percentage
1	yes	145	94.8
2	no	8	5.2
TOTAL		153	100

4.1.19 CHART REPRESENTS RESPONDENTS' OPINION ABOUT ADOPTING NEW TECHNOLOGIES, SUCH AS ARTIFICIAL INTELLIGENCE (AI) AND INTERNET OF THINGS (IOT), COULD FURTHER IMPROVE THE EFFECTIVENESS OF MIS IN OPERATIONS



Interpretation:

From the above table, 94.8% of the respondents believes in adopting new technologies and 5.2% of the respondents not believes in adopting new technologies.

4.2 STATISTICAL ANALYSIS

4.2.1 CHI-SQUARE

Ho - There is a significance difference between Work Experience and Performance of the staff after MIS.

H1 - There is no significance relationship difference Work Experience and Performance of the staff after MIS.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
* Does the Performance of the staff become improved after using Management Information System?	153	100.0%	0	0.0%	153	100.0%

Work Experience * Does the Performance of the staff become improved after using Management Information System?

		Does the Performance of the staff become improved after using Management Information System?			Total
		1	2	3	
Less than 2 years	Count	41	43	9	93
	Expected Count	51.1	34.0	7.9	93.0
2 - 5 years	Count	37	5	3	45
	Expected Count	24.7	16.5	3.8	45.0
6-10 years	Count	2	1	0	3
	Expected Count	1.6	1.1	.3	3.0
10-15 years	Count	3	1	1	5
	Expected Count	2.7	1.8	.4	5.0
15 years	Count	1	6	0	7
	Expected Count	3.8	2.6	.6	7.0
Total	Count	84	56	13	153
	Expected Count	84.0	56.0	13.0	153.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	27.606 ^a	8	.001
Likelihood Ratio	30.102	8	.000
Linear-by-Linear Association	.291	1	.589
N of Valid Cases	153		

a. 10 cells (66.7%) have expected count less than 5. The minimum expected count is .25.

Interpretation:

Since the P value (0.001) is less than the significance value (0.05), we reject null hypothesis and accept alternate hypothesis. Hence, there is no significance relationship difference Work Experience and Performance of the staff after MIS.

4.2.2 CORRELATION

Ho – There is a positive relationship between Effectiveness of MIS in Operations and the Growth and the profitability of the company.

H1 - There is a negative relationship between Effectiveness of MIS in Operations and the Growth and the profitability of the company.

Correlations

		How effective do you believe MIS has been in improving Operations processes?	Is there any direct relationship between Management Information System with growth of the Company?
How effective do you believe MIS has been in improving Operations processes?	Pearson Correlation	1	.058
	Sig. (2-tailed)		.477
	N	153	153
Is there any direct relationship between Management Information System with growth of the Company?	Pearson Correlation	.058	1
	Sig. (2-tailed)	.477	
	N	153	153

Interpretation:

Since P value is (0.58), more than the significance value (0.05). we accept null hypothesis and reject alternate hypothesis. Hence There is a positive relationship between Effectiveness of MIS in Operations and the Growth and the profitability of the company.

4.2.3 ANOVA

Ho – There is a significance difference between Sped up internal communication and effectiveness of MIS in increase in production.

H1 - There is no significance difference between Sped up internal communication and effectiveness of MIS in increase in production.

Does Management Information System speedup the internal communication?

Duncan^{a,b}

Does the Management Information System helpful in the increase of Production of products?	N	Subset for alpha = 0.05		
		1	2	3
Strongly Agree	79	1.19		
Agree	57		1.67	
Neutral	13			2.31
Disagree	4			2.50
Sig.		1.000	1.000	.407

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 11.201.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Interpretation:

Since P value is (0.407), more than the significance value (0.05). we accept null hypothesis and reject alternate hypothesis. Hence, there is a significance difference between Sped up internal communication and effectiveness of MIS in increase in production.

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

- Majority (64.7%) of the respondent's age are between under 25 years.
- Majority (76.5%) of the respondents are Male.
- Majority (82.4%) of the respondents are Bachelor degree Graduate.
- Majority (64.1%) of the Respondents has less than 2 years' work experience.
- Majority (84.3%) of the company using Enterprise Resource Planning (ERP) systems.
- Majority (74.5%) of the respondents' company is using MIS for 1 – 3 years.
- Majority (65.4%) of the respondents believes MIS is somewhat effective in improving Operations process.
- Majority (58.8%) of the respondents strongly agree that MIS speedup internal Communication.
- Majority (54.9%) of the respondents Strongly agree with Performance of the staff become improved after using Management Information System.
- Majority (57.5%) of the respondents strongly agree that the staff members have improved their analytical skills after the usage of Management Information System.
- Majority (51.6%) of the respondents Strongly agree that the Management Information System helpful in the increase of Production of products.
- Majority (53.6%) of the respondents feels very helpful that MIS system integrate with other systems used in Operations, such as inventory management or production planning.

- Majority (56.2%) of the respondents agree that the control system been more effective than before using Information System.
- Majority (69.3%) of the respondents strongly agree that there is a direct relationship between Management Information System with growth of the Company.
- Majority (56.2%) of the respondents strongly agree that there is a direct relationship between Management Information System with Profitability of the Company.
- Majority (49%) of the respondents agree that after arrival of Information System it provides easy access to information for the customers.
- Biggest Challenges faced by the company after implementing and using MIS,
 - Majority (66%) of the respondents strongly agree to Resistance to change from employees.
 - Majority (65.4%) of the respondents strongly agree to Lack of employee training on MIS.
 - Majority (44.4%) of the respondents strongly agree to Inadequate IT infrastructure.
 - Majority (62.7%) of the respondents agree to Incompatible systems and data sources.
 - Majority (52.9%) of the respondents agree to High implementation and maintenance costs.
- Key Success factors for implementing and using MIS in Operations,
 - Majority (61.4%) of the respondents agree to strong organizational culture that supports data-driven decision-making.
 - Majority (75.2%) of the respondents agree to Adequate employee training on MIS.

- Majority (54.9%) of the respondents strongly agree to Robust IT infrastructure.
- Majority (68.6%) of the respondents agree to Integration with other systems and data sources.
- Majority (71.9%) of the respondents strongly agree to Clear communication and change management plans.
- Majority (94.8%) of the respondents said yes to adopting new technologies, such as Artificial Intelligence (AI) and Internet of Things (IoT), could further improve the effectiveness of MIS in Operations.

5.2 SUGGESTIONS

- Company must implement management information system to each and every department of the organization on automation because anyone in the organization could use information to make timely decision based on that information at different levels.
- Company must use MIS to eliminate the communication gap between top level management, middle level management and lower-level management.
- Workers and staff should be aware of MIS and should know how to use it for the development of the company.
- Company should create more awareness on MIS to the staffs to improve the effectiveness of the MIS.
- Management should know how to efficiently use MIS for the company to reduce the cost of maintenance.

5.3 LIMITATION OF THE STUDY

- The study is confined to Thanjavur District only.
- The study is based upon the study on the effectiveness of MIS and its impact in Operations with special reference Sastha Technologies.
- The data collected for the research is fully on primary data given by the respondents.
- There is chance for personal bias. So, the result is not accurate.
- Due to storage of time and other constraints, the study has been limited 153 respondents only.

5.4 CONCLUSION

From the analysis we have reached the conclusion that Management Information System (MIS) is helpful to enhance performance of the organization in the sense of profitability, innovation, and growth. Sastra Technologies had manufactured good quality products for the customers and there are so many competitions for this industry now, and since some of the employees just started working and some lack experience and some refuse to adapt to new technologies and MIS, the company cannot get its full potential. Since the city is developing it is hopeful to say that the employees will adapt towards the new technologies to compete in the market. Since it's been only 3 years since the company is started, they perform too well for a startup. Since the competition is too high, they might need an advanced MIS technology to compete against the competitors in the future. The MIS plays the role of information generation, communication, problem identification and helps in the process of decision-making.

BIBLIOGRAPHY

1. Krajewski, L. J., Malhotra, M. K., & Ritzman, L. P. (2018). Operations Management: Processes and Supply Chains, Pearson, 12th edition, pg, 45-54.
2. Piccoli, G. (2012). Information Systems for Managers: Texts and Cases, John Wiley & Sons, 2nd edition, pg 172-178.
3. Watson, R. T., & Wixom, B. H. (2007). The current state of business intelligence. Computer, 40(9), 96-99
4. Cao, Q., Chen, L., & Hou, J. (2015). The impact of management information systems adoption in operational performance: An empirical study. Journal of Business Research, 68(7), 1426-1428

REFERENCES

- Awan, A.G. & Syeda Zurait-ul Zahra (2014) "Impact of Innovation on Consumers' behavior: A case study of Pak Electron Ltd", European Journal of Business and Innovation Research, 2(6):93-108.
- Awan, A.G. & Asia Khan (2015) "Determination of the Role of Branch Managers in Promotion of innovations in Commercial Banks of Pakistan", International Journal of African and Asian Studies, Vol 14: 21-28.
- Awan, A.G. & Ayesha Javed (2015) "Impact of Innovation on Employees performance" International Journal of Management and Information Technology, Vol 10 (11).
- Awan, A.G., Shaukat Malik, Shehla Majeed (2015) "Impact of Management Support and Training of IT employees on productivity of an organization: Evidences from Textile sector in Pakistan" Science International, 27.
- Cunningham, M., Kerr, K., McEune, R., Smith, P., & Harris, S. (2004). Laptops for teachers: An evaluation of the first year of the initiative. ICT in Schools Research and Evaluation, 19. Coventry/London: Becta/DfES. Available http://www.becta.org.uk/page_documents/research/lft_evaluation.pdf
- Dawam, S. R., Ahmad, K. A., Jusoff, K., Tajuddin, T., Elias, S. J., & Mansor, S. W. (2009). The use of ICT in public and private institutions of higher learning, Malaysia. Computer and Information Science, 2 (4), 122–128.
- Demir, K. (2006). School management information systems in primary schools. The Turkish Online Journal of Educational Technology, 5 (2), 32–45.
- Granville, S., Russell, K., & Bell, J. (2005). Evaluation of the Masterclass Initiative. Edinburgh: Scottish Executive. Available at <http://www.scotland.gov.uk/Publications/2005/12/13133428/34291>
- Zain, M. Z., Atan, H., & Idrus, R. M. (2004). The impact of information and communication technology (ICT) on the management practices of Malaysian Smart Schools. International Journal of Educational Development, 24 (2), 201–211.

- Awan, A.G. & Rana Ejaz A.Khan (2014) "The Engima of US Productivity Slowdown: A Theoretical Analysis", American Journal of Trade and Policy, Vol 1 (1):7-15
- Alshawi, S., & Al-Khafaji, A. (2017). The impact of management information systems adoption in managerial decision making: A review literature. *Journal of Information Systems and Technology Management*, 14(3), 297-316.
- Hwang, Y., Kim, J., & Lee, S. (2018). The role of management information systems (MIS) and its impact on supply chain management: A literature review. *Sustainability*, 10(10), 3578.
- Amiri, M., & Gharakhani, M. (2019). Management information systems and quality management: A systematic review. *Journal of Enterprise Information Management*, 32(1), 98-116.
- Kabir, G., Ferdous, R., & Sultana, S. (2021). Management information system and sustainable supply chain management: A review. *Journal of Cleaner Production*, 291, 125783.
- Wang, Y., Kung, L., & Byrd, T. A. (2017). The effects of information systems implementation and organizational culture on business performance in Chinese SMEs. *Journal of Organizational and End User Computing (JOEUC)*, 29(1), 1-15.
- Dong, Y., Neufeld, D., & Higgins, C. (2017). Exploring the impact of management information systems (MIS) on process innovation: A case study of a Chinese manufacturing firm. *Journal of Manufacturing Technology Management*, 28(1), 84-106.
- Ma, Q., & Wu, L. (2018). The impact of management information systems on job satisfaction: A study in the hospitality industry. *Journal of Hospitality and Tourism Technology*, 9(2), 203-215.
- Le, T. M., Le, Q. H., & Nguyen, D. H. (2019). The effects of management information system (MIS) on firm performance: An empirical study in Vietnam. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 62.
- Wang, Y., Huang, Q., & Kung, L. (2019). The impact of management information systems implementation on operational performance: An empirical study. *Journal of Business Research*, 95, 160-170.
- Iqbal, A., Khan, F., Ali, A., & Hussain, A. (2018). Role of management information systems in customer relationship management: A review. *Journal of Customer Behaviour*, 17(4), 295-308.
- Khan, N. A., Islam, T., Ali, A., & Sadiq, S. (2018). The impact of management information systems on customer relationship management: A review. *International Journal of Research in Management, Economics and Commerce*, 8(1), 107-112.
- Ali, A., Hussain, A., Ali, M., & Ashraf, M. (2019). The role of management information systems in sustainable operations management: A review. *Journal of Cleaner Production*, 212, 1304-1318.
- Ghazali, Z., Raza, S. A., & Waqas, M. (2019). The impact of management information systems on sustainable operations: A systematic review. *Journal of Cleaner Production*, 231, 1089-1106.

- Kumar, S., & Singh, S. (2018). Management information systems for sustainability: A review. *International Journal of Management Reviews*, 20(2), 432-450.
- Basu, R., & Wright, J. N. (2018). Management information systems and production planning and control: A review. *International Journal of Production Research*, 56(7), 2526-2547.
- Wang, D., Chen, D., & Zhao, X. (2019). Management information systems in supply chain management: A comprehensive review. *IEEE Access*, 7, 172042-172055.

WEBSITES

<https://www.britannica.com/topic/management-information-systems>

<https://www.managementstudyguide.com/mis-in-operations-management.htm>

https://www.researchgate.net/publication/337929927_Management_Information_Systems_in_Operations_Management

<https://www.sciencedirect.com/science/article/pii/S2212827115003107>

<https://www.educba.com/mis-in-operations-management/>

<https://www.sciencedirect.com/topics/business-accounting-medicine-and-allied-research/management-information-systems-in-operations-management>

QUESTIONNAIRE

1. Name

2. Age

Under 25 Years

25 - 34

35 - 44

45 - 54

55 and above

3. Gender

Male

Female

4. Education

High school, diploma or equivalent

Bachelor's degree

Master's degree

Doctoral degree

5. Work Experience

less than 2 years 2 - 5 years

6 - 10 years

10 - 15 years

above 15 years

6. Which types of MIS are used in your Company? (Check all that apply)

Enterprise Resource Planning (ERP) systems

Business Intelligence (BI) tools

Supply Chain Management (SCM) systems

Other (please specify)

7. How long has your Company been using MIS in its Operations function? *

less than a year 1 - 3 years

4 - 6 years

7 - 9 years

10 years and above

8. How effective do you believe MIS has been in improving Operations processes?

Highly effective

somewhat effective

not at all effective

Somewhat ineffective

Highly ineffective

9. Does Management Information System speedup the internal communication?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

10. Does the Performance of the staff become improved after using Management Information System?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

11. Whether the staff members have improved their analytical skills after the usage of * Management Information System?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

12. Does the Management Information System helpful in the increase of Production of products?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

13. How well does the MIS system integrate with other systems used in Operations, such as inventory management or production planning?

Very Helpful

Somewhat Helpful

Not at all helpful

Somewhat unhelpful

Very unhelpful

14. Has the control system been more effective than before using Information System?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

15. Is there any direct relationship between Management Information System with growth of the Company?

Strongly agree

agree

neutral

Disagree

Strongly

Disagree

16. Is there any direct relationship between Management Information System with Profitability of the Company?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

17. Is it true that after arrival of Information System it provides easy access to information for the customers?

Strongly agree

agree

neutral

Disagree

Strongly Disagree

18.

18. What are the biggest challenges your Company has faced in implementing and using MIS in Operations?

Mark only one oval per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Resistance to change from employees	☐	☐	☐	☐	☐
Lack of employee training on MIS	☐	☐	☐	☐	☐
Inadequate IT infrastructure	☐	☐	☐	☐	☐
Incompatible systems and data sources	☐	☐	☐	☐	☐
High implementation and maintenance costs	☐	☐	☐	☐	☐

19.

19. What are the key success factors for implementing and using MIS in Operations, in your opinion?

Mark only one oval per row.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Strong organizational culture that supports data- driven decision- making	☐	☐	☐	☐	☐
Adequate employee training on MIS	☐	☐	☐	☐	☐
Robust IT infrastructure	☐	☐	☐	☐	☐
Integration with other systems and data sources	☐	☐	☐	☐	☐
Clear communication and change management plans	☐	☐	☐	☐	☐

20. Do you believe that adopting new technologies, such as Artificial Intelligence (AI) and Internet of Things (IoT), could further improve the effectiveness of MIS in Operations?

Yes

No