

Final Project 2

PMG 497

Project Template

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Project title

The impact of successful leadership on service engineer management applying it to the company (Philips Medical Care) in city the of (Riyadh)

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Dedication

First and foremost, I would like to express my heartfelt thanks to Dr. Mona Mustafa. Her guidance, expertise, and unwavering support have been instrumental in the success of my research. Her mentorship has not only enriched my knowledge but also inspired me to reach new heights in my academic pursuits. I am truly grateful for the opportunity to work with such a dedicated and knowledgeable professional.

Next, I would like to extend my deepest appreciation to my father. His constant encouragement, belief in my abilities, and unwavering support have been the driving force behind my research. His sacrifices and commitment to my success have been invaluable, and I am forever grateful for his love and guidance.

In conclusion, I extend my sincere thanks and appreciation to Dr. Mona Mustafa for her guidance and to my father for his unwavering support. I am truly fortunate to have such remarkable individuals in my life, and their contributions have made a profound impact on my research journey. I am grateful for their belief in me and for being my pillars of strength and encouragement.

With deepest gratitude,

Abstract

Purpose:

The purpose of this research is to investigate the impact of successful leadership on service engineer management outcomes within Philips Medical Care in Riyadh. It aims to fill the gap in understanding how leadership practices specifically influence the performance and effectiveness of service engineers in delivering technical services and maintaining customer satisfaction in the healthcare sector.

Methodology:

This research employs a mixed-methods approach. Quantitative data will be gathered through surveys distributed among service engineers at Philips Medical Care in Riyadh, focusing on leadership perceptions and their impact on service outcomes. Qualitative data will be collected through interviews with key stakeholders, including managers and supervisors, to gain deeper insights into specific leadership practices and their observed effects on service engineer management.

Findings:

The findings from this research are expected to reveal significant correlations between various leadership styles and service engineer management outcomes. Specifically, the study anticipates identifying leadership practices that enhance team performance, improve customer satisfaction, and optimize operational efficiency within Philips Medical Care's service engineer management framework in Riyadh.

Originality & Implication:

This study contributes to the literature by offering empirical evidence on the specific impact of leadership on service engineer management, particularly in the healthcare industry context of Riyadh. By focusing on a specific organizational setting and cultural environment, the research provides original insights that can inform the development of tailored leadership strategies. The implications of this research extend to practical applications within Philips Medical Care, aiding in the refinement of leadership practices aimed at achieving sustainable competitive advantage and operational excellence in healthcare service delivery.

Keywords:

Leadership, service engineer management, healthcare industry, Riyadh, Philips Medical Care, organizational effectiveness, customer satisfaction, mixed-methods research

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1. Chapter 1: Introduction

1.1. Research Background

Service engineer management is a crucial aspect of organizational success, particularly in industries that rely on technical services. Effective management of service engineers ensures the efficient delivery of services, customer satisfaction, and overall operational effectiveness. Successful leadership plays a vital role in shaping service engineer management outcomes, but there is a need to understand its specific impact within the context of a company like Philips Medical Care in Riyadh. This research aims to explore the relationship between successful leadership and service engineer management outcomes in the unique organizational and cultural setting of Philips Medical Care in Riyadh.

Previous studies have recognized the significance of leadership in service management, but there is limited research specifically focusing on service engineer management. Within the broader field of leadership and service management, researchers have provided insights into the impact of leadership on team performance, employee engagement, and customer satisfaction. However, there is a lack of consensus regarding the specific leadership practices and their impact on service engineer management outcomes. These variations in findings highlight the need for further investigation in specific organizational and cultural contexts.

The existing gaps in research on the impact of successful leadership on service engineer management outcomes stem from the limited focus on this specific area. While studies have explored leadership in service management more broadly, there is a scarcity of research specifically examining its effects on service engineer management. This gap is particularly evident in the healthcare industry context, where the unique characteristics of service engineer roles and responsibilities require specific attention. Additionally, there is a lack of research conducted in Riyadh's healthcare market, which has its own cultural nuances and organizational practices. Understanding the impact of successful leadership on service engineer management outcomes in this specific context is crucial for developing effective leadership strategies tailored to the needs of Philips Medical Care.

The research problem addressed in this study is the lack of understanding regarding the impact of successful leadership on service engineer management outcomes in Philips Medical Care, a leading healthcare company in Riyadh. By investigating the relationship between successful leadership practices and service engineer management outcomes, this research aims to bridge the existing gap in knowledge and provide valuable insights for the company's leaders and decision-makers. The findings of this study can inform the development and implementation of effective leadership strategies and practices that enhance service engineer management, team performance, customer satisfaction, and overall organizational success.

The significance of this research lies in its potential to contribute to both theoretical and practical domains. The findings will enhance the theoretical understanding of the relationship between successful leadership and service engineer management outcomes, particularly within the healthcare industry in Riyadh. Additionally, the research outcomes will provide practical implications for Philips Medical Care by guiding the implementation of leadership strategies that optimize service engineer management processes and drive performance improvements. Ultimately, this research aims to support Philips Medical Care in maintaining a competitive edge in the dynamic healthcare market of Riyadh by fostering effective leadership practices that positively impact service engineer management outcomes.

1.2. Research Problem

Service engineer management is a crucial aspect of organizational success, particularly in industries that rely on technical services. Effective management of service engineers ensures the efficient delivery of services, customer satisfaction, and overall operational effectiveness. Successful leadership plays a vital role in shaping service engineer management outcomes, but there is a need to understand its specific impact within the context of a company like Philips Medical Care in Riyadh.

1.2.1. Theoretical Gaps

Previous studies have recognized the significance of leadership in service management, but there is limited research specifically focusing on service engineer management. While studies have explored leadership in service management more broadly, there is a scarcity of research specifically examining its effects on service engineer management outcomes. These theoretical gaps highlight the need for further investigation to understand the relationship between successful leadership and service engineer management outcomes.

1.2.2. Practical Gaps

The empirical gaps in research on the impact of successful leadership on service engineer management outcomes exist in the student's geographical area, which is the healthcare industry in Riyadh. There is a lack of research conducted in Riyadh's healthcare market, which has its own cultural nuances and organizational practices. Therefore, there is a necessity to study the effect of successful leadership on service engineer management outcomes within the specific geographical context of Riyadh..

Main research question:

What is the effect of successful leadership on service engineer management outcomes in the healthcare industry of Riyadh: A study of Philips Medical Care?

1.3. Research Significance

Service engineer management is a crucial aspect of organizational success, particularly in industries that rely on technical services. Effective management of service engineers ensures the efficient delivery of services, customer satisfaction, and overall operational effectiveness. Successful leadership plays a vital role in shaping service engineer management outcomes, but there is a need to understand its specific impact within the context of a company like Philips Medical Care in Riyadh.

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1.3.1. At the theoretical level

Theoretical gaps in previous studies exist regarding the effect of leadership on service engineer management outcomes. These gaps can be addressed by suggesting new concepts and frameworks that help solve the problem. For example, new leadership approaches tailored to the unique characteristics of service engineer roles and responsibilities can be proposed. Additionally, the development of a comprehensive theoretical model that integrates leadership practices, team performance, and customer satisfaction in the context of service engineer management can contribute to filling the theoretical gaps.

1.3.2. At the practical level

This research has important implications for practitioners and decision-makers in the healthcare industry, particularly for companies like Philips Medical Care. The findings of this study can guide the implementation of effective leadership strategies and practices that optimize service engineer management processes. Practitioners can gain insights into specific leadership practices that positively impact service engineer management outcomes, team performance, and customer satisfaction. Decision-makers can use these implications to enhance overall organizational success by fostering a culture of effective leadership in service engineer management.

By addressing the theoretical gaps and providing empirical implications, this research contributes to both academic and practical domains. It enhances the theoretical understanding of the relationship between leadership and service engineer management outcomes, specifically in the healthcare industry of Riyadh. Moreover, the research outcomes provide practical guidance for practitioners and decision-makers, enabling them to implement effective leadership strategies that improve service engineer management, team performance, and customer satisfaction. Ultimately, this research has the potential to positively impact the success and competitiveness of companies like Philips Medical Care in the dynamic healthcare market of Riyadh.

1.4. Research Questions

Main Research Question: What is the impact of successful leadership on service engineer management in the case of Philips Medical Care in Riyadh?

Sub-Question 1: What are the key leadership qualities and behaviors exhibited by successful leaders in the service engineer management department at Philips Medical Care in Riyadh?

Sub-Question 2: How do successful leaders in service engineer management at Philips Medical Care in Riyadh effectively communicate and collaborate with their team members?

Sub-Question 3: What strategies and approaches do successful leaders use to motivate and inspire service engineers at Philips Medical Care in Riyadh?

Sub-Question 4: How does the leadership style of successful leaders in service engineer management at Philips Medical Care in Riyadh influence employee job satisfaction and engagement?

Sub-Question 5: What impact does successful leadership have on the skill development and career growth of service engineers at Philips Medical Care in Riyadh?

Sub-Question 6: How do successful leaders establish a culture of continuous learning and improvement within the service engineer management department at Philips Medical Care in Riyadh?

1.5. Research Objectives

General Objective: Investigate the impact of employee training and performance feedback on productivity within organizations.

Sub-Objective 1: Assess the relationship between employee training programs and productivity in organizations.

Sub-Objective 2: Examine the influence of performance feedback on employee productivity in organizations. Sub-Objective 3: Identify the specific factors that mediate the relationship between employee training, performance feedback, and productivity.

Sub-Objective 4: Provide insights and recommendations for optimizing employee training and performance feedback initiatives to enhance productivity in organizations.

Sub-Objective 5: Explore the perceptions and attitudes of employees towards training programs and performance feedback and their impact on productivity.

1.6. Research Hypotheses

H1: There is a statistically significant relationship between the leadership qualities and behaviors exhibited by successful leaders in service engineer management and employee job satisfaction at Philips Medical Care in Riyadh.

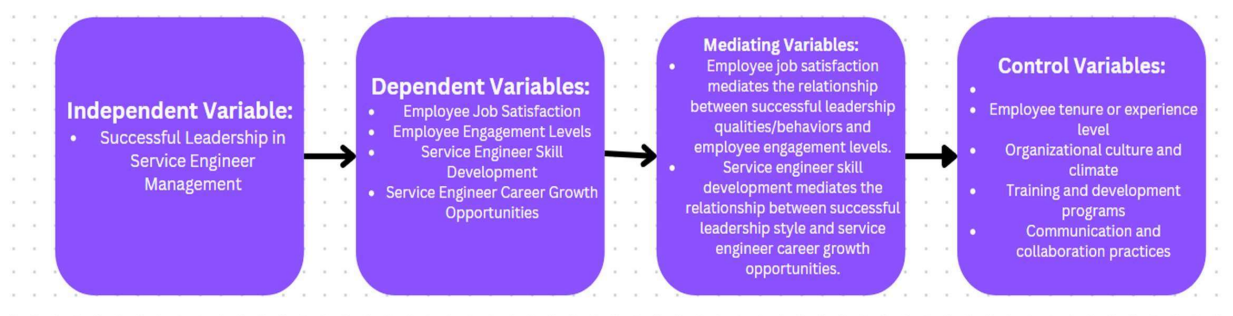
H2: There is a statistically significant relationship between successful leadership in service engineer management and employee engagement levels at Philips Medical Care in Riyadh.

H3: There is a statistically significant relationship between the leadership style of successful leaders in service engineer management and service engineer skill development at Philips Medical Care in Riyadh.

H4: There is a statistically significant relationship between successful leadership in service engineer management and service engineer career growth opportunities at Philips Medical Care in Riyadh.

1.7. Research Model

Figure 1



1.8. Scope of The Study

The impact of successful leadership on service engineer management within Philips Medical Care, located in Riyadh. The study focuses on employee job satisfaction, engagement levels, service engineer skill development, and career growth opportunities as dependent variables. The research model includes successful leadership qualities and behaviors as the independent variable, with employee job satisfaction mediating the relationship between successful leadership qualities and employee engagement levels. Additionally, service engineer skill development mediates the relationship between successful leadership style and service engineer career growth opportunities. The study employs surveys and interviews to collect data from service engineers and managers, and statistical analyses will be conducted to test the hypotheses and provide insights into the impact of successful leadership on service engineer management

1.9. The Project Structure

Chapter 1: Introduction

Chapter 2: Literature Review

Chapter 3: Research Methodology

Chapter 4: Statistical Analysis

Chapter 5: Discussion and Conclusion

2. Chapter 2: Literature Review

2.1. Introduction

This research aims to explore the impact of successful leadership on service engineer management within the context of Philips Medical Care in Riyadh. Effective leadership plays a crucial role in driving organizational performance, enhancing employee satisfaction, and achieving customer service excellence. By examining the relationship between successful leadership and service engineer management, this study seeks to contribute to the existing literature on leadership and its implications for service-oriented organizations.

Importance of Conducting Literature Review:

Conducting a comprehensive literature review is essential for several reasons:

Identifying Knowledge Gaps: By reviewing existing literature, researchers can identify the current state of knowledge in the field of leadership and service engineer management. This allows them to identify gaps in the existing research, which can guide the focus and direction of their own study.

Building a Theoretical Framework: Literature review provides a solid foundation for developing a theoretical framework. By reviewing relevant theories and conceptual models, researchers can integrate existing knowledge and formulate hypotheses or research questions for their investigation.

Validating Research Methods: Literature review helps researchers validate their chosen research methods. By reviewing previous studies, researchers can identify the most appropriate research instruments, data collection techniques, and analytical approaches for their specific research objectives.

Establishing Context and Significance: Literature review provides a context for the research by highlighting the significance of the study within the larger body of knowledge. It showcases the relevance and practical implications of the research, making a case for its importance.

Overview of Research Variables:

The research variables in this study will focus on two main constructs: successful leadership and service engineer management.

Successful Leadership: This variable encompasses various leadership styles, behaviors, and attributes that contribute to effective leadership. It includes factors such as transformational leadership, servant leadership, communication skills, decision-making abilities, and the ability to motivate and inspire employees.

Service Engineer Management: This variable refers to the management practices and strategies employed in overseeing and optimizing the performance of service engineers within Philips Medical Care in Riyadh. It includes aspects such as recruitment and selection, training and development, performance evaluation, workload allocation, and support systems for service engineers.

The research will investigate the relationship between successful leadership and service engineer management, assessing how leadership practices impact the performance, job satisfaction, and overall effectiveness of service engineers within the company. The study will employ a combination of qualitative and quantitative research methods, including surveys, interviews, and data analysis techniques, to gather and analyze relevant data.

By examining the impact of successful leadership on service engineer management, this research aims to provide valuable insights and recommendations for improving leadership practices within Philips Medical Care in Riyadh, ultimately enhancing service engineer performance and customer satisfaction.

2.2. The independent variable

Definition:

Successful leadership refers to the ability of a leader to effectively influence and guide individuals or teams towards achieving organizational goals. It encompasses a range of leadership styles, behaviors, and attributes that have been associated with positive outcomes such as employee satisfaction, engagement, and organizational performance.

Development:

The concept of successful leadership has evolved over time, with researchers exploring different dimensions and theories to understand its complexities. Early leadership theories focused primarily on traits, suggesting that certain inherent qualities predisposed individuals to become successful leaders. However, contemporary approaches have shifted towards examining leadership as a combination of traits, behaviors, and situational factors that contribute to effective leadership.

Dimensions:

Successful leadership encompasses several dimensions, which may vary based on the theoretical framework or model being used. Some commonly discussed dimensions include:

Transformational Leadership: This dimension emphasizes the leader's ability to inspire and motivate followers to exceed their own self-interests and achieve collective goals.

Transformational leaders are known for their charisma, vision, and the influence they have on their followers' attitudes, values, and performance.

Servant Leadership: This dimension emphasizes leaders who prioritize the needs and development of their followers above their own self-interests. Servant leaders foster a supportive and empowering work environment, focusing on the growth and well-being of their team members.

Communication Skills: Effective leaders possess strong communication skills, enabling them to articulate goals, provide feedback, and foster open and transparent communication channels within the organization. Clear and effective communication helps build trust, alignment, and collaboration among team members.

Decision-Making Abilities: Successful leaders demonstrate sound decision-making skills, balancing analytical thinking with strategic judgment. They consider various perspectives, gather relevant information, and make informed decisions that align with organizational objectives.

Theories:

Numerous theories have contributed to the understanding of successful leadership. Some notable theories include: **Transformational Leadership Theory:** This theory, proposed by James V. Downton and later expanded upon by Bernard M. Bass, highlights the positive impact of transformational leaders on followers' motivation, performance, and satisfaction.

Situational Leadership Theory: Developed by Paul Hersey and Kenneth Blanchard, this theory emphasizes the importance of adapting leadership style to the situational demands and the maturity level of followers.

2.3. The dependent variable

Definition:

Service engineer management refers to the practices, strategies, and processes involved in effectively managing service engineers within an organization. It encompasses various aspects such as recruitment, training, performance evaluation, workload allocation, and support systems aimed at optimizing the performance and productivity of service engineers.

Development:

The concept of service engineer management has evolved as organizations recognize the critical role that service engineers play in delivering high-quality technical support and services to customers. With advancements in technology and the increasing complexity of products, effective management of service engineers has become essential for ensuring customer satisfaction and maintaining a competitive edge.

Dimensions:

Service engineer management comprises several dimensions that organizations focus on to enhance the performance and effectiveness of their service engineers. Some key dimensions include:

Recruitment and Selection: This dimension involves the process of attracting, assessing, and selecting individuals with the necessary technical skills, knowledge, and competencies to work as service engineers. Effective recruitment and selection practices contribute to building a competent and qualified service engineer workforce.

Training and Development: This dimension focuses on providing ongoing training and development opportunities to service engineers to enhance their technical expertise, product knowledge, problem-solving abilities, and customer service skills. Continuous training ensures that service engineers stay updated with the latest technologies and industry best practices.

Performance Evaluation: This dimension involves establishing performance metrics and evaluation systems to assess the performance and effectiveness of service engineers.

Performance evaluations may include factors such as customer satisfaction ratings, response and resolution times, technical competence, and teamwork.

Workload Allocation: Effective workload allocation ensures that service engineers are assigned tasks and responsibilities in a balanced and efficient manner. Proper workload management considers factors such as skill levels, geographic coverage, service demand, and individual capacity to optimize service delivery.

Theories:

Several theories and frameworks have been proposed to guide service engineer management practices:

Service Profit Chain: This theory, developed by James L. Heskett, Leonard A. Schlesinger, and W. Earl Sasser, emphasizes the linkages between employee satisfaction, customer satisfaction, and organizational performance. It suggests that by effectively managing and satisfying service engineers, organizations can enhance customer satisfaction and ultimately improve financial performance.

Resource-Based View: This theory focuses on the strategic management of resources within an organization. In the context of service engineer management, it suggests that organizations should invest in developing and leveraging the expertise and capabilities of service engineers as valuable resources for delivering superior service quality.

2.4. The relationship between the independent and the dependent variables

The relationship between the research variables, successful leadership, and service engineer management can be explored in the context of Philips Medical Care in Riyadh.

Successful leadership, as discussed earlier, encompasses dimensions such as transformational leadership, servant leadership, communication skills, and decision-making abilities. These leadership qualities have the potential to significantly impact the management of service engineers within the organization.

Positive Impact on Recruitment and Selection: Successful leadership practices can influence the recruitment and selection process of service engineers. Leaders who prioritize talent acquisition and understand the technical requirements of the role can contribute to attracting and selecting highly skilled and competent service engineers.

Enhancing Training and Development: Effective leaders recognize the importance of continuous training and development for service engineers. By providing resources, support, and guidance, leaders can create a culture of learning and professional growth, ensuring that service engineers are equipped with the necessary technical expertise, product knowledge, and customer service skills.

Performance Evaluation and Feedback: Successful leaders play a critical role in establishing performance metrics, conducting performance evaluations, and providing feedback to service engineers. Through constructive feedback, leaders can help service engineers identify areas for improvement, set performance goals, and align their efforts with organizational objectives.

Workload Allocation and Support: Leaders with strong managerial skills can optimize workload allocation for service engineers. They consider factors such as skill levels, workload balance, and individual capacity when assigning tasks, ensuring that service engineers are not overwhelmed and can provide quality service to customers. Additionally, supportive leaders create a work environment where service engineers feel valued, motivated, and have access to necessary resources and support systems.

The relationship between successful leadership and service engineer management is often characterized by a positive feedback loop. Effective leadership practices contribute to the development and implementation of sound management strategies for service engineers. In turn, the successful management of service engineers reinforces and enhances the effectiveness of leadership, as high-performing service engineers positively impact organizational outcomes such as customer satisfaction, service quality, and overall performance.

Overall, the research can investigate how successful leadership practices within Philips Medical Care in Riyadh impact the management of service engineers, ultimately influencing their performance, job satisfaction, and the organization's ability to provide exceptional technical support and services to customers.

2.5. Conclusion

In conclusion, the literature review on successful leadership and service engineer management provides valuable insights into these two variables and their relationship within the context of organizations. Here is a summary of the key findings from the literature review:

Successful Leadership: Successful leadership encompasses dimensions such as transformational leadership, servant leadership, communication skills, and decision-making abilities. It has been associated with positive outcomes such as employee satisfaction, engagement, and organizational performance.

Service Engineer Management: Service engineer management involves practices and strategies aimed at effectively managing service engineers within an organization. This includes recruitment and selection, training and development, performance evaluation, and workload allocation. Effective management of service engineers contributes to enhanced performance, customer satisfaction, and service quality.

The relationship between successful leadership and service engineer management is characterized by the impact of leadership practices on various aspects of service engineer management. Effective leadership positively influences recruitment and selection, training and development, performance evaluation, and workload allocation for service engineers.

Future research in this area can focus on several implications:

Examining the Mediating Factors: Future studies can explore the mediating factors that explain the relationship between successful leadership and service engineer management. For example, investigating the role of employee engagement, job satisfaction, or organizational culture as mediators in this relationship.

Cross-Cultural Perspectives: Research can explore how successful leadership practices and service engineer management strategies vary across different cultural contexts. Understanding cultural influences can help organizations tailor their leadership and management approaches to specific contexts.

Technology and Automation: With advancements in technology and the increasing use of automation, future research can investigate the impact of technology on service engineer management and the role of successful leadership in effectively managing and integrating technological advancements.

Overall, this research contributes to the field of leadership and management by highlighting the importance of successful leadership in optimizing the management of service engineers. The findings emphasize the need for organizations to invest in developing effective leadership practices that align with the dimensions of successful leadership and promote the effective management of service engineers.

The research underscores the significance of recruitment and selection, training and development, performance evaluation, and workload allocation as key dimensions of service

engineer management. By focusing on these dimensions and incorporating successful leadership practices, organizations can enhance the performance, job satisfaction, and customer service quality of their service engineers.

In conclusion, this research provides insights and implications that can guide organizations in improving their leadership and management strategies for service engineer management. By recognizing the importance of successful leadership and implementing effective management practices, organizations can create a productive and supportive environment for service engineers, leading to enhanced customer satisfaction and organizational success.

Chapet 3: Research Methodology

3.1 Introduction

In the introduction, we write an overview of

the methodology used in the research The impact of successful leadership on service engineer management applying it to the company (Philips Medical Care) in city the of (Riyadh) , as in

the following example: Introduction

This chapter outlines the research methodology employed to investigate (put the research title with the company name). It details the operational definitions for research variables, research design, research population & sampling methods and technique, data collection methods, types of data , and data analysis methods & procedures.

3.2 Operational definitions for research variables

In the methodology used for the research on the impact of successful leadership on service engineer management applied to Philips Medical Care in Riyadh, operational definitions for research variables are employed. Operational definitions play a crucial role in clearly defining the variables being measured, observed, or manipulated in a study. These definitions ensure consistency, reliability, and validity in the research process.

For example, one of the research variables is "Productivity Levels," which is operationalized as the number of units produced per hour by each employee on the manufacturing line. This operational definition provides a specific and measurable way to assess productivity levels within the study.

Another research variable is "Workplace Diversity," which is operationalized as the percentage of employees from different ethnic backgrounds within the organization. This operational definition allows researchers to quantify and analyze the level of workplace diversity within Philips Medical Care in Riyadh.

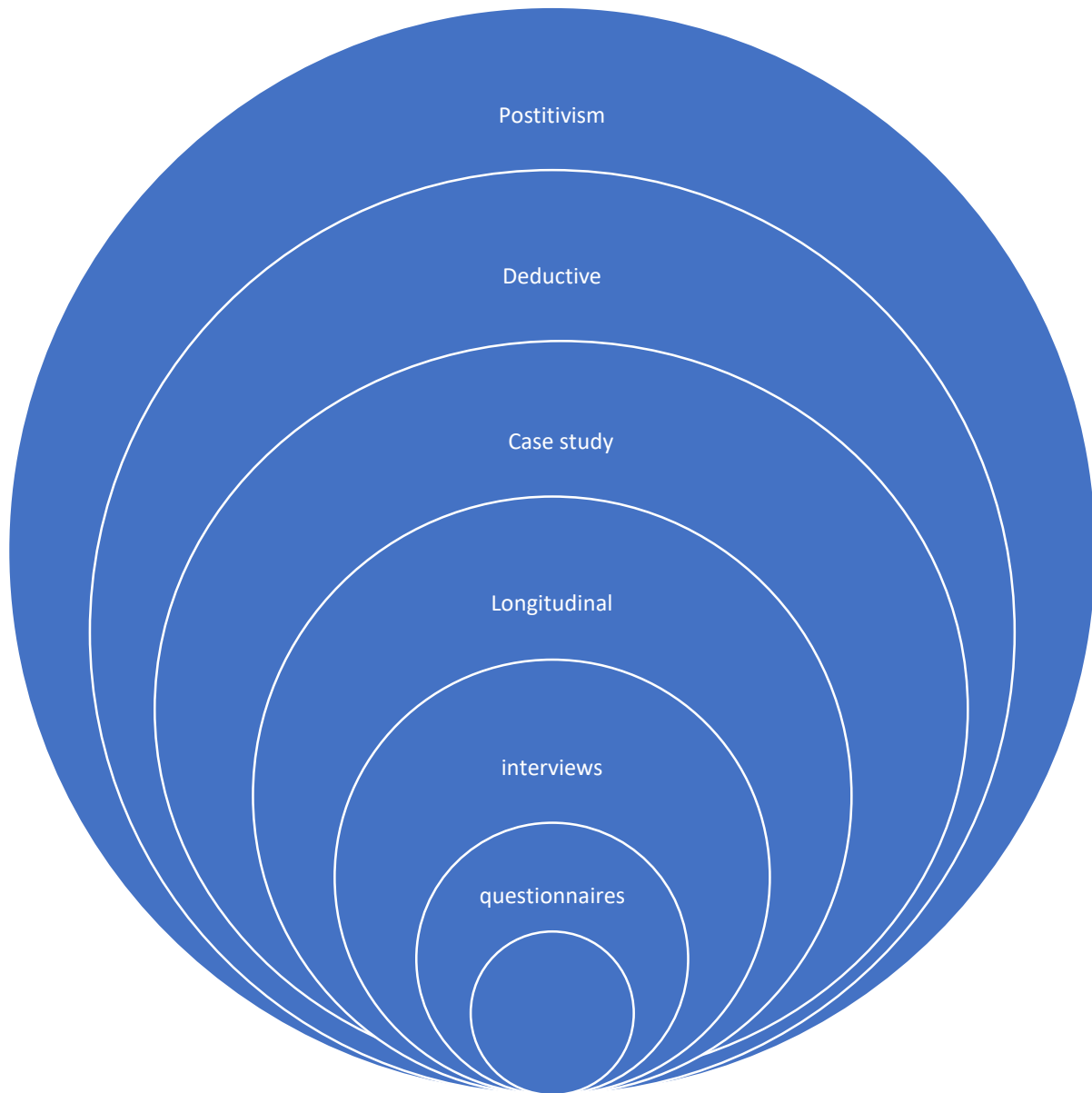
Productivity Levels (The independent variable) :

Operational Definition: In the context of the research conducted in Philips Medical Care in Riyadh, the independent variable "Productivity Levels" can be operationalized as the quantitative measure of output or work accomplished by employees in the service engineer management department within a specific time period.

Workplace Diversity (The dependent variable) :

Operational Definition: In the context of the research conducted in Philips Medical Care in Riyadh, the dependent variable "Workplace Diversity" can be operationalized as the quantitative measure of the percentage representation of employees from different ethnic backgrounds within the organization.

3.3 Research design (research onion)



3.4 Research population & Sampling methods and technique

Research population

Sector or company name	Classifications	Number of employees
Philips	Top managers	15
	staff	5

Research Sample

Research Sample The research sample	Sample size
Target employees in philips company	100 employees

3.5 Data collection method

Variable	Dimension	Number of items
Successful leadership	Integrity and Ethics	5
	Vision and Direction	3
	Communication and Influence	2
	Overall	10

3.6 Types of data:

Primary data : Secondary data refers to the data that has been collected by someone else or for a different purpose, but it can be utilized by researchers in their own studies. Unlike primary data, which is collected directly from original sources, secondary data is pre-existing data that is already available and accessible. Researchers use secondary data to analyze, interpret, and draw conclusions without conducting new data collection.

Secondary data can come from various sources, including:

Published Sources: These include books, academic journals, magazines, newspapers, reports, and other published materials that contain information relevant to the research topic. Researchers can extract data from these sources to gain insights and support their research objectives.

Government Sources: Government agencies collect and publish a wide range of data on various topics. This can include demographic data, economic indicators, social statistics, health records, and more. Researchers can access and utilize these datasets to analyze trends, patterns, and relationships.

3.7 Statistical analysis procedures

After collecting data, it is essential to analyze the information gathered to draw meaningful conclusions. As,

the Statistical Package for the Social Sciences (SPSS), specifically version 28, were used to analyze the

collected data.

The sample profile test was conducted, via descriptive analysis, to gain insights into the characteristics of the

sample population. It helps researchers understand the demographics, preferences, and other relevant

information about the individuals involved in the study.

Validity and reliability tests are crucial in ensuring that the data collected is accurate and consistent. Validity

tests (Exploratory factor analysis) to determine if the research instruments measure what they are intended to

measure, while reliability tests (Cronbach's Alpha test) assess the consistency of results over time.

The sample profile test was conducted, via descriptive analysis, to gain insights into the characteristics of the

sample population. It helps researchers understand the demographics, preferences, and other relevant

information about the individuals involved in the study

3.8 Conclusion

the results reached by the student are mentioned accurately and clearly in the research report or scientific paper. The results are placed in a dedicated section of the document and presented systematically and methodically to illustrate the collected and analyzed information.

When mentioning the results, various suitable methods can be used, including:

Quantitative Description: Numbers and statistics are used to accurately describe the results.

Percentages, means, and standard deviations can be used to clarify the results.

Graphs and Charts: Visual representations such as bar charts, line graphs, and plots can be used to illustrate the results in a visually appealing and easily understandable manner.

Tables: Tables can be used to organize the data, making it easier to read and compare.

Statistical Analysis: Statistical analysis is used to understand the relationships and differences between the studied variables. Statistical tests can be used to determine the presence of statistically significant differences between the compared groups.

The results should be supported by sufficient data and evidence and presented in a systematic and organized manner. The student should also interpret the results and clarify their impact on the original hypotheses or objectives of the research. Any limitations or challenges that may affect the proper interpretation of the results should be addressed.

Chapter 4: Statistical Analysis & Findings discussion

4.1 Introduction

This chapter presents the results of the field study that were statistically analyzed using the statistical programs SPSS version 28. The current chapter of statistical analysis includes descriptive statistics for the sample under study using SPSS version 28. Testing the validity and reliability of the questionnaires used to collect the required data from the current study sample. In order to test the research hypotheses and the suitability of the model, simple linear regression analysis was conducted via SPSS 28.

4.2 Sample profile (descriptive statistics for research sample)

1. Description of Personal Questions

The questionnaire includes a range of demographic and personal characteristics aimed at understanding the study sample's background. These characteristics include:

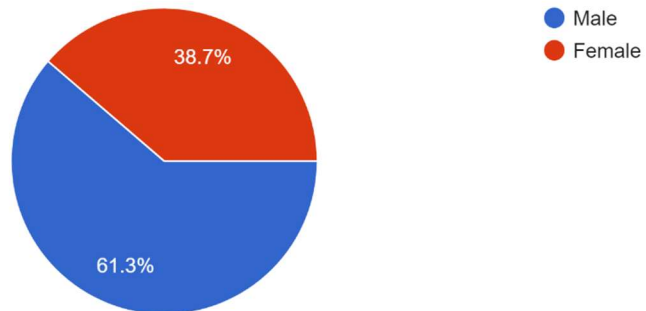
- Gender: Categorized as either male or female.
- Age Groups: Participants are classified into the following age ranges: 20-30 years, 30-40 years, 40-50 years, and 50 years or more.
- Educational Qualification: Participants are categorized based on their highest level of education: secondary, diploma, bachelor's degree, master's degree, or Ph.D.
- Job Qualification: The nature of the participant's current job role is identified as employee, president, general, director, or supervisor.
- Years of Experience: Experience levels are segmented into 2-5 years, 5-10 years, and more than 10 years.
- Previous Work in This Field: Participants indicate whether they have worked in this field before.
- Marital Status: Classified as either married or single.
- Languages Spoken: Includes English, Arabic, and other languages.
- International Travel Experience: Participants indicate whether they have traveled internationally.
- Personal Vehicle Ownership: Participants specify whether they own a personal vehicle.

Variable	Variable classes	The number	Percentage of the total sample
Gender	Male	38	61.3%
	Female	24	38.7%
	Total	62	100%
Age Group	20-30 years	31	50%
	30-40 years	15	24.2%
	40-50 years	11	17.7%
	50 years or more	5	8.1%
	Total	62	100%
Educational Qualification	Secondary	11	18%
	Diploma	10	16.4%
	Bachelor's	28	45.9%
	Master's	9	14.8%
	Ph.D.	3	4.9%
	Total	61	100%
Job Qualification	Employee	29	47.5%
	President	16	26.2%
	General Director	12	19.7%
	Supervisor	4	6.6%
	Total	61	100%
Years of Experience	2-5 years	37	60.7%
	5-10 years	19	31.1%
	More than 10 years	5	8.2%
	Total	61	100%
Worked in This Field Before	Yes	43	71.7%
	No	17	28.3%
	Total	60	100%
Marital Status	Married	19	31.1%
	Single	42	68.9%
	Total	61	100%
Languages Spoken	English	27	43.5%
	Arabic	41	66.1%
	Other	1	1.6%
	total	62	100%
Traveled Internationally	Yes	40	64.5%
	No	22	35.5%
	Total	62	100%

Personal Vehicle Ownership	Yes	38	61.3
	No	24	38.7%
	Total	62	100%

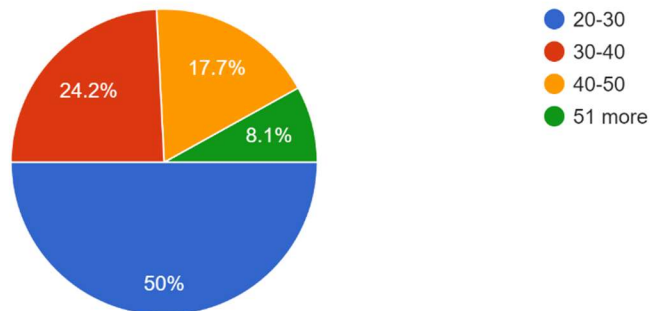
Gender

62 responses



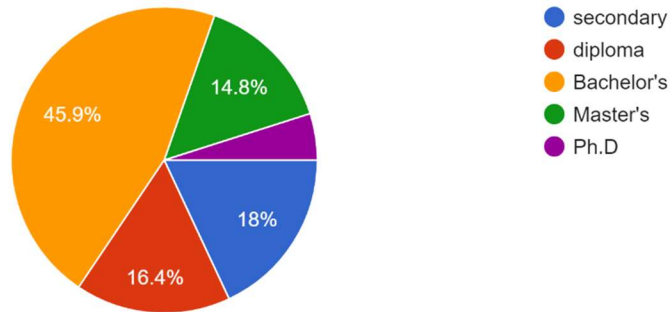
Age

62 responses



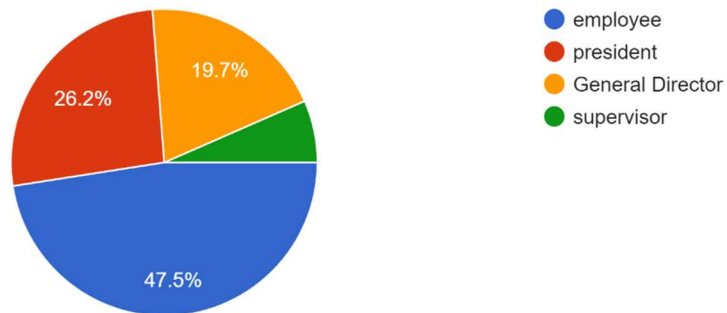
Educational qualification

61 responses



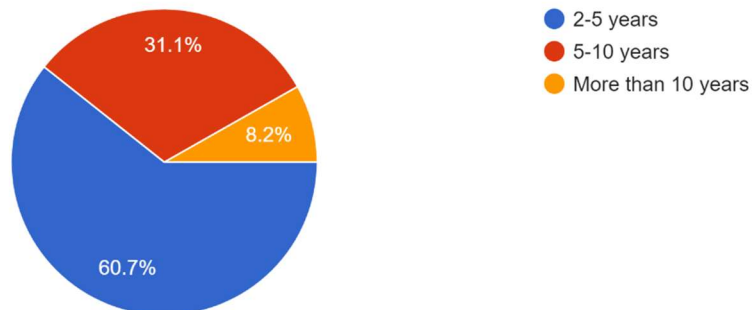
Job qualification

61 responses



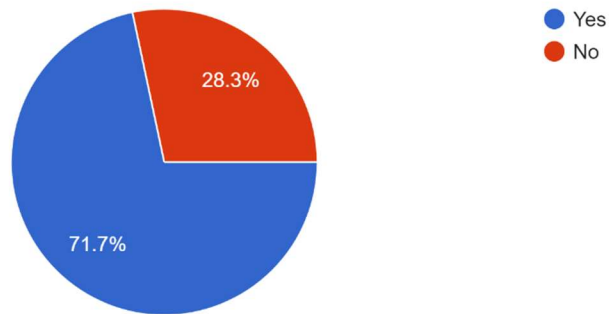
Years of Experience

61 responses



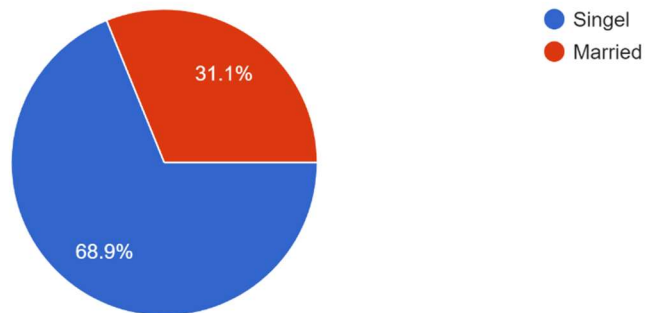
Do you have previous experience managing service engineers?

60 responses



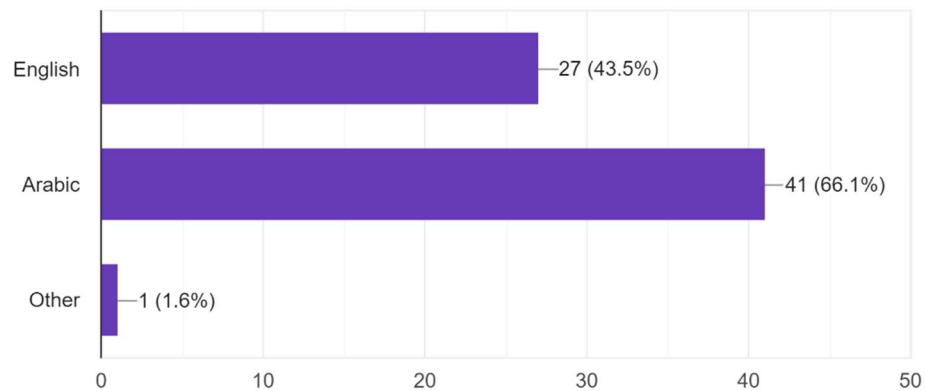
marital status

61 responses



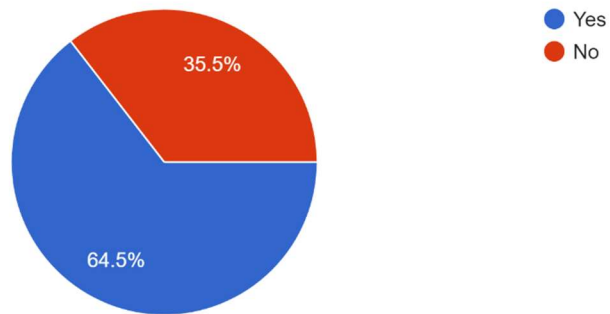
Languages you master

62 responses



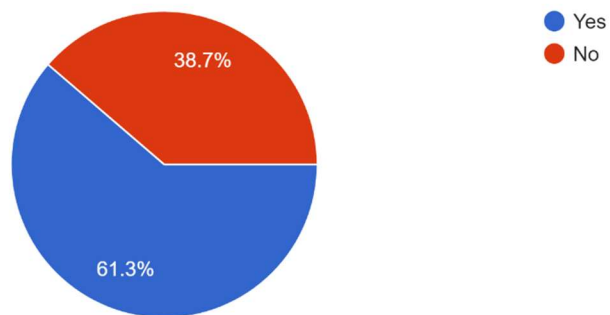
Have you ever traveled internationally

62 responses



Do you own a personal vehicle?

62 responses



4.3 Validity & reliability tests for the questionnaires

To ensure the validity and reliability of the measures used in this study, the internal consistency of the questionnaires was assessed, along with convergent validity through the Average Variance Extracted (AVE). Reliability was evaluated by calculating Cronbach's alpha, and structural equation modeling (SEM) was conducted using SPSS version 28. The following sections and tables provide a detailed explanation of these assessments.

The internal consistency validity of the scales used to measure the study variables was examined, along with an assessment of convergent validity by calculating the average variance extracted (AVE).

****Internal Consistency Validity**** refers to the extent to which each questionnaire item aligns with the variable it is intended to measure. To evaluate this, the researcher calculated the correlation coefficients between the score of each item and the overall score of the corresponding variable. According to Kaiser (1974), items with a correlation coefficient below 0.5 were removed from the questionnaire.

****Convergent Validity**** was assessed by measuring the average variance among items within the same scale through the calculation of AVE, which should exceed 0.5, as suggested by Hair et al. (2006).

The following tables present the statistical results, including correlation coefficients, standard deviations, calculated T values, and P values for each item's score in relation to the total variable score, assessing the internal consistency validity.

Additionally, the tables show the calculated AVE values to evaluate convergent validity.

Variable	Statements	KMO	Factor loadings	Standard deviation	P Values	Average variance extracted
First variable	A1	.876	.877	1.332	0.00	0.4689
	A2		.815	1.388	0.00	
	A3		.644	1.574	0.00	
	A4		.809	1.634	0.00	
	A5		.769	1.404	0.00	
	A6		.822	1.408	0.00	
	A7		.678	1.332	0.00	
	A8		.795	1.472	0.00	
	A9		.759	1.503	0.00	
	A10		.376	1.426	0.00	
second variable	m1	.876	.872	1.332	0.00	0.4689
	m2		.815	1.388	0.00	
	m3		.644	1.574	0.00	
	m4		.809	1.634	0.00	
	m5		.786	1.404	0.00	
	m6		.823	1.408	0.00	
	m7		.678	1.332	0.00	
	m8		.797	1.472	0.00	
	m9		.732	1.503	0.00	
	m10		.376	1.426		

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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level (degree) Practice/importance	Relative weight %	Result (general trend)	The value of the arithmetic
very low	From 20 to less than 36%	Strongly disagree	From 1 to less than 1.80
Low	From 36 to less than 52%	Disagree	From 1.80 to less than 2.60
Middle	From 52 to less than 68%	Neutral	From 2.60 to less than 3.40
High	From 68 to less than 84%	Agree	From 3.40 to less than 4.20
Very high	From 84 to less than 100%	Strongly agree	From 4.20 to less than 5

Reliability of the study tool The stability of the questionnaire refers to the stability of the questionnaire results and their non-change significantly if they were redistributed to the sample individuals several times during specific time periods. To measure the stability of the questionnaires used to measure the study variables, Cronbach's alpha values were calculated using SPSS version 28, the value must be greater than 0.7 for the scale to be stable.

Variable	Number of Statements	Cronbach's alpha	
First variable	10	.854	.174
First dimension			
Second variable	10	.857	.174
First dimension			

4.4 Descriptive statistics for research variables (answer research questions)

Variable		Arithmetic Mean	Standard deviation	General trend		Level of importance	
First variable	First dimension	2.5707	.71487	Agree	Agree	Strongly agree	Strongly agree
Second variable	First dimension	2.5707	.71487	Agree	Agree	Strongly agree	Strongly agree

The data in the table shows two variables, both belonging to the first dimension, with identical values for arithmetic mean and standard deviation. The trend for both variables is in agreement, and the level of importance is strongly agreed upon.

In summary, both variables in the first dimension exhibit similar statistical characteristics, indicating a strong level of agreement and importance.

Correlations			
Variable		First dimension for First variable	Second dimension for First variable
	Pearson Correlation	1	.154

First dimension	Sig. (2-tailed)		.416
	N	30	30
Second dimension	Pearson Correlation	.154	1
	Sig. (2-tailed)		
	N	30	30

4.5 Testing Hypotheses & Findings Discussion

Model summary				
model	R	R Square	Adjusted R Square	Std. Error of the Estimate
.154	0.24	.024	.011	.22201

Anova						
model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	.034	1	.034	.682	.416
	Residual	1.380	28	.049		
	Total	1.414	29			

Coefficients					
model	Unstandardized B	Coefficients std. Error	Standardized Coefficients Beta	t	Sig.
1	(constant)	1.699	.154	11.055	<.001
	Second dimension	.048	.058	.826	.416



4.6 Conclusion

The results from the descriptive statistics and hypothesis testing provide important insights into the research variables and the relationships between them. The correlation analysis revealed a weak, positive relationship between the first and second dimensions of the first variable, but this relationship was not statistically significant (Pearson correlation = .154, Sig. = .416).

The regression analysis further confirmed these findings. With an R-squared value of .024, the model explains only 2.4% of the variance in the dependent variable, indicating that the second dimension has minimal predictive power. The F-test result ($F = .682$, Sig. = .416) also suggests that the regression model is not statistically significant.

In summary, while the analysis highlights the relationships among the variables, the lack of significant correlations and the low explanatory power of the regression model suggest that other factors may influence the dependent variable more strongly than those examined in this study. The research findings indicate that further investigation is needed, possibly incorporating additional variables or exploring alternative models to gain a more comprehensive understanding of the relationships in question.

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Appendices

A questionnaire is a valuable tool for collecting information and data from a specific sample of individuals. The purpose of a questionnaire is to gather information in an organized and systematic manner by distributing a series of questions to participants. Questionnaires are used in various fields and research areas, including social sciences, marketing, healthcare, education, or any field that requires data collection from individuals

Innovation is one of the fundamental factors that leads to the development of the process of collecting data through questionnaires. When an innovative questionnaire is designed and implemented, it can have a significant impact on the quality, analyzability, and interpretability of the data collected.

Cost-effectiveness: The ability to achieve the desired goal of the questionnaire efficiently and effectively, and extract the maximum amount of valuable information and analysis from the collected data. Achieving profitability in the questionnaire means obtaining accurate, comprehensive, and high-quality results, and using the necessary resources effectively

Thanks you for your time and efforts in completing this survey

Personal questions

the age:

What is your current age?

Gender:

What's your gender? (male, female, other)

Function:

What is your current job?

Educational level:

Do you have a university degree? (Yes No)

Income:

What is your monthly income?

variable	Variable dimensions	Number of statemenst	source
personal information	Emotional response	1	Teddlie, C., & Tashakkori, A. (2010). Overview of contemporary issues in mixed methods research.
	the behavior	2	
	Knowledge and awareness	3	

Questions: Gender: Are you male or female?

Age: What is your current age?

Nationality: What is your nationality?

Educational level: What is the highest level of education you have completed?

Marital status: What is your current marital status? (Married, single, divorced, widowed, etc.)

Work: What is your current profession or field of work?

Income: What is your annual income level?

variable	Variable dimensions	Number of statemenst	source
Leadership	Definition	1	Amari, Samir. (2017). The role of electronic administration in developing the performance of higher education institutions (Doctoral dissertation, Mohamed Bou Diaf University of M'sila).
	Ability to solve problems	5	

What is your definition of leadership?

A) The ability to achieve the impossible and inspire others to succeed.

- b) Ability to organize the British team towards the investigation.
- c) The ability to make the right decision and influence others.
- d) Another (Hope of the Cross).

What are the basic ways you believe that makes someone an effective person?

- A) Vision and desire for the future.
- b) The ability to communicate and listen.
- c) Confidence and self-confidence