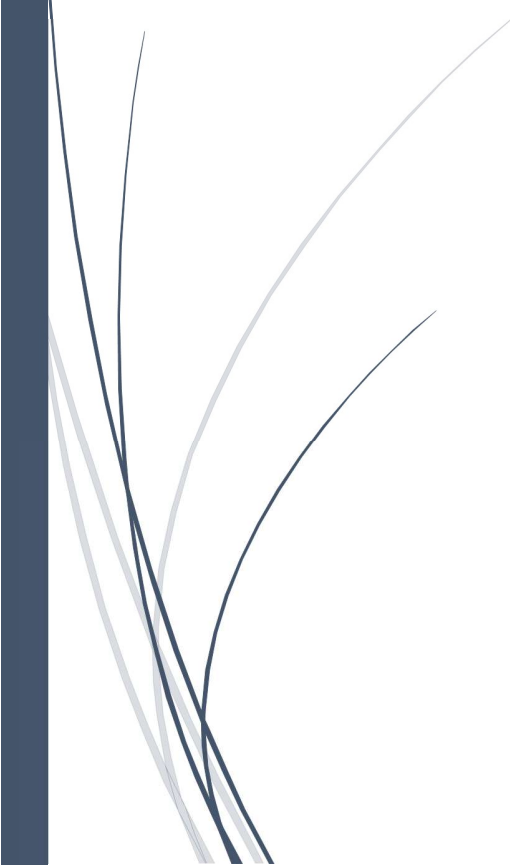




Final Project 2

PMG 497

Project Template



Midocean University

Faculty of Management

Department/ Specialization



The Impact of Digital Transformation on Organizational Performance in Saudi Aramco

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Dedication

I dedicate this project to my beloved parents, whose sacrifices, support, and prayers have always been the foundation of my success.

I also dedicate this work to my family members, friends, and everyone who encouraged and supported me throughout my academic and personal journey.

Their belief in my abilities has inspired me to pursue my goals and complete this project successfully.

Abstract

Purpose:

The purpose of this study is to investigate the impact of digital transformation on organizational performance in Saudi Aramco. In recent years, digital transformation has become a strategic priority for organizations seeking to improve efficiency, innovation, and competitiveness in an increasingly digital business environment. As one of the largest energy companies in the world, Saudi Aramco has invested significantly in digital technologies to enhance operational performance and support sustainable growth.

Methodology:

This study adopts a quantitative research methodology. Data will be collected through a structured questionnaire distributed among employees working in Saudi Aramco. Statistical techniques will be used to analyze the data and determine the relationship between digital transformation and organizational performance.

Findings:

The findings are expected to reveal a positive relationship between digital transformation and organizational performance. Organizations that effectively adopt digital technologies are likely to achieve higher levels of productivity, operational efficiency, service quality, and overall organizational effectiveness.

Originality & Implication:

The practical importance of this study lies in providing managers and decision-makers with valuable insights regarding the implementation of digital transformation initiatives. The study also contributes to the academic literature by expanding current knowledge about the relationship between digital transformation and organizational performance within the energy sector.

Keywords:

Digital Transformation, Organizational Performance, Saudi Aramco, Technology Adoption, Digital Technologies, Operational Efficiency.

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1. Chapter 1: General Framework Of The Study

1.1. Introduction

In the modern business environment, organizations face increasing pressure to improve their competitiveness, efficiency, and ability to adapt to rapid technological changes. The emergence of advanced digital technologies has transformed the way organizations operate, communicate, and deliver value to customers. As a result, digital transformation has become one of the most important strategic priorities for organizations seeking sustainable growth and long-term success.

Digital transformation refers to the integration of digital technologies into various organizational activities and processes. It involves the adoption of technologies such as artificial intelligence, cloud computing, big data analytics, the Internet of Things, and digital platforms to improve organizational operations and performance. Through digital transformation, organizations can enhance productivity, reduce operational costs, improve decision-making processes, and provide better services to customers.

The growing importance of digital transformation has attracted significant attention from researchers and practitioners. Many studies have suggested that digital technologies can positively influence organizational performance by improving operational efficiency, supporting innovation, and enhancing communication and collaboration among employees. Consequently, organizations across different sectors are investing heavily in digital transformation initiatives to achieve strategic objectives and maintain their competitive advantage.

Organizational performance represents one of the most important indicators of organizational success. It reflects the extent to which an organization achieves its objectives effectively and efficiently while utilizing available resources in an optimal manner. Organizational performance can be measured through several dimensions, including productivity, profitability, service quality, operational efficiency, and employee performance.

In Saudi Arabia, digital transformation has become a national priority under Saudi Vision 2030, which aims to accelerate digital adoption and enhance organizational competitiveness across various sectors. Saudi Aramco, as one of the world's leading energy companies, has implemented several digital transformation initiatives to improve operational efficiency, optimize production processes, and enhance organizational performance. Therefore, understanding the impact of digital transformation on organizational performance within Saudi Aramco is both academically and practically important.

1.2. Research Problem

Digital transformation has become a major strategic initiative for organizations worldwide. Despite substantial investments in digital technologies, there remains uncertainty regarding the extent to which digital transformation contributes to organizational performance improvement. While previous studies have reported positive outcomes associated with digital transformation, the relationship may vary depending on organizational characteristics, industry type, and implementation practices.

Therefore, there is a need to investigate the impact of digital transformation on organizational performance within large organizations operating in the energy sector, particularly Saudi Aramco.

Theoretical Gaps

1.2.1. Theoretical Gaps

Previous studies have extensively examined digital transformation in sectors such as banking, manufacturing, healthcare, and information technology. However, limited research has focused specifically on the energy sector. Furthermore, there is a shortage of academic studies that investigate the relationship between digital transformation and organizational performance within large multinational energy companies such as Saudi Aramco.

1.2.2. Practical Gaps

From a practical perspective, organizations often encounter challenges when implementing digital transformation initiatives. These challenges include resistance to change, limited digital capabilities, high implementation costs, and organizational barriers. Understanding the practical impact of digital transformation on organizational performance can assist managers and decision-makers in developing more effective strategies and maximizing the benefits of digital technologies.

Based on the identified theoretical and practical gaps, the main research question is:

What is the impact of digital transformation on organizational performance in Saudi Aramco?

1.3. Research Significance

1.3.1. At the theoretical level

This study contributes to the existing body of knowledge by expanding the understanding of the relationship between digital transformation and organizational performance. It also provides empirical evidence from the energy sector, which remains relatively underrepresented in the academic literature.

1.3.2. At the practical level

The study provides valuable insights for managers and decision-makers regarding the importance of digital transformation initiatives. The findings may assist Saudi Aramco and similar organizations in designing effective digital strategies that enhance operational efficiency, productivity, and organizational performance.

1.4. Research Questions

1. What is the level of digital transformation in Saudi Aramco?
2. What is the level of organizational performance in Saudi Aramco?
3. Is there a significant relationship between digital transformation and organizational performance in Saudi Aramco?

1.5. Research Objectives

1. To identify the level of digital transformation in Saudi Aramco.
2. To examine the level of organizational performance in Saudi Aramco.
3. To investigate the relationship between digital transformation and organizational performance in Saudi Aramco.

1.6. Research Hypotheses

H1: Digital transformation has a significant positive impact on organizational performance in Saudi Aramco.

1.7. Research Model

Independent Variable:

Digital Transformation

↓

Dependent Variable:

Organizational Performance

1.8. Scope of The Study

Study 1: Vial (2019)

This study reviewed the concept of digital transformation and its impact on organizations. The findings indicated that digital transformation contributes significantly to organizational innovation, operational efficiency, and competitive advantage.

Study 2: Westerman, Bonnet, and McAfee (2014)

The study examined how organizations implement digital transformation strategies. The results showed that organizations with advanced digital capabilities achieve superior performance compared to organizations with limited digital adoption.

Study 3: Kane (2017)

This study investigated the relationship between digital transformation and organizational performance. The findings revealed that organizations embracing digital technologies experience higher productivity, better decision-making, and improved overall performance.

Study 4: Bharadwaj (2013)

The study emphasized the strategic role of digital technologies in business operations. The findings suggested that digital transformation supports organizational competitiveness and long-term sustainability.

Study 5: Matt, Hess, and Benlian (2015)

The study explored digital transformation strategies and their implementation. The findings indicated that successful digital transformation requires organizational alignment, leadership support, and technological readiness.

1.9. The Project Structure

This research consists of five chapters.

Chapter One presents the general framework of the study, including the introduction, research problem, significance of the study, research questions, objectives, hypotheses, previous studies, and project structure.

Chapter Two reviews the literature related to digital transformation and organizational performance.

Chapter Three explains the research methodology, research design, data collection methods, population, sample, and data analysis techniques.

Chapter Four presents the data analysis and research findings.

Chapter Five provides conclusions, recommendations, limitations, and suggestions for future research.

2.Chapter 2: Literature Review

2.1. Introduction

Digital transformation has become one of the most important strategic developments influencing organizations in the twenty-first century. The rapid advancement of digital technologies has significantly changed how organizations operate, compete, and create value. Organizations across various industries are increasingly adopting digital technologies to improve efficiency, enhance decision-making processes, support innovation, and strengthen their competitive positions in the market.

At the same time, organizational performance remains a critical concern for managers and researchers. Organizations continuously seek methods and strategies that can improve productivity, profitability, operational efficiency, and service quality. As digital transformation becomes more widespread, researchers have become increasingly interested in understanding how digital technologies contribute to improving organizational performance.

This chapter reviews the literature related to digital transformation and organizational performance. It discusses digital transformation as the independent variable, organizational performance as the dependent variable, and the relationship between these two variables based on previous academic studies.

2.2. The independent variable

Digital transformation refers to the process of integrating digital technologies into organizational activities, processes, and business models. It involves the adoption and utilization of advanced technologies such as artificial intelligence, cloud computing, big data analytics, machine learning, blockchain, and digital communication platforms to improve organizational effectiveness and efficiency.

According to Vial (2019), digital transformation is a comprehensive organizational change process that aims to improve organizational performance through the strategic use of digital technologies. It is not limited to the implementation of technology but also includes changes in organizational culture, leadership practices, employee skills, and business processes.

Digital transformation enables organizations to redesign business processes and eliminate inefficient practices. Through automation and digital integration, organizations can reduce operational costs, improve workflow efficiency, and increase productivity. Furthermore, digital

technologies allow organizations to respond more quickly to changes in customer demands and market conditions.

Another important aspect of digital transformation is data utilization. Modern organizations generate large amounts of data from various sources. Digital technologies enable organizations to collect, analyze, and interpret data effectively, supporting evidence-based decision-making and strategic planning.

Digital transformation also supports innovation. Organizations can use digital technologies to develop new products, improve existing services, and create innovative business models. Innovation contributes significantly to maintaining competitiveness and achieving long-term organizational success.

In recent years, digital transformation has become a major priority for organizations worldwide. Large corporations invest substantial financial and human resources in digital initiatives to improve performance and maintain competitive advantage. Within the energy sector, companies such as Saudi Aramco have increasingly adopted digital technologies to optimize production, improve safety standards, enhance maintenance systems, and support operational excellence.

Dimensions of Digital Transformation

Digital transformation can be measured through several dimensions, including:

1. Digital Infrastructure.
2. Technology Adoption.
3. Data Analytics Capabilities.
4. Digital Innovation.
5. Digital Leadership.
6. Employee Digital Skills.

These dimensions collectively contribute to the successful implementation of digital transformation initiatives within organizations.

2.3. The dependent variable

Organizational performance refers to the extent to which an organization achieves its objectives efficiently and effectively. It represents the overall success of organizational activities and reflects how well resources are utilized to achieve desired outcomes.

Organizational performance is considered one of the most important indicators of organizational success because it demonstrates whether strategic objectives are being achieved. Organizations with high performance levels are generally characterized by higher productivity, profitability, customer satisfaction, and operational efficiency.

According to organizational theory, performance can be evaluated using both financial and non-financial indicators. Financial indicators include profitability, revenue growth, and return on investment, while non-financial indicators include employee performance, customer satisfaction, service quality, and operational efficiency.

Operational efficiency is a particularly important component of organizational performance. Efficient organizations are capable of producing higher outputs while utilizing fewer resources. Digital technologies often contribute to improved efficiency by automating processes, reducing errors, and enhancing coordination among departments.

Employee performance also plays a significant role in overall organizational performance. Employees who have access to modern digital tools can perform tasks more effectively, communicate efficiently, and contribute more significantly to organizational objectives.

Customer satisfaction is another critical dimension of organizational performance. Organizations that provide high-quality services and quickly respond to customer needs are more likely to achieve sustainable success and competitive advantage.

Dimensions of Organizational Performance

The main dimensions of organizational performance include:

1. Productivity.
2. Operational Efficiency.
3. Service Quality.
4. Employee Performance.
5. Customer Satisfaction.
6. Organizational Effectiveness.

These dimensions provide a comprehensive framework for evaluating organizational success.

2.4. The relationship between the independent and the dependent variables

The relationship between digital transformation and organizational performance has received significant attention in recent years. Researchers generally agree that digital transformation can positively influence organizational outcomes through several mechanisms.

One of the most significant contributions of digital transformation is the improvement of operational efficiency. Digital technologies automate routine tasks, reduce processing times, and minimize operational errors. Consequently, organizations can achieve higher productivity and lower operational costs.

Digital transformation also enhances decision-making processes. Advanced analytics systems enable managers to access accurate and timely information, facilitating evidence-based decisions. Better decisions often lead to improved organizational performance and strategic outcomes.

Furthermore, digital transformation supports communication and collaboration among employees. Digital communication platforms enable faster information sharing and stronger teamwork. Improved collaboration contributes to organizational effectiveness and problem-solving capabilities.

Innovation represents another important link between digital transformation and organizational performance. Digital technologies provide organizations with opportunities to develop

innovative products, services, and business models. Innovation strengthens competitiveness and supports sustainable growth.

Several empirical studies have reported a positive relationship between digital transformation and organizational performance. Vial (2019) concluded that digital transformation enhances organizational capabilities and performance outcomes. Westerman et al. (2014) found that digitally mature organizations outperform their competitors in terms of profitability and operational effectiveness.

Similarly, Kane (2017) reported that organizations that embrace digital technologies experience higher productivity, stronger employee engagement, and improved overall performance. Bharadwaj (2013) emphasized the strategic role of digital technologies in creating sustainable competitive advantages and improving organizational outcomes.

Based on these findings, digital transformation can be considered a critical factor influencing organizational success. Organizations that effectively implement digital technologies are more likely to improve efficiency, innovation, productivity, and overall performance.

Conceptual Framework

The conceptual framework of this study assumes that digital transformation serves as the independent variable influencing organizational performance as the dependent variable.

Digital Transformation



Organizational Performance

The framework suggests that improvements in digital transformation practices lead to improvements in organizational performance indicators.

2.5. Conclusion

This chapter reviewed the literature related to digital transformation and organizational performance. It discussed digital transformation as the independent variable and organizational performance as the dependent variable. The chapter also examined previous research findings regarding the relationship between these variables.

The literature indicates that digital transformation contributes significantly to improving organizational performance through enhanced operational efficiency, improved decision-making, increased innovation, and stronger organizational competitiveness. Previous studies consistently report a positive relationship between digital transformation and organizational performance.

Based on this literature review, the next chapter will explain the research methodology used to investigate the impact of digital transformation on organizational performance in Saudi Aramco.

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Appendix A

Questionnaire for Research Variables

Section A: Demographic Information

1. Gender

* Male

* Female

2. Age

- * Less than 30 years
- * 30–39 years
- * 40–49 years
- * 50 years and above

3. Educational Level

- * Diploma
- * Bachelor's Degree
- * Master's Degree
- * PhD

4. Years of Experience

- * Less than 5 years
- * 5–10 years
- * 11–15 years
- * More than 15 years

Section B: Digital Transformation

Please indicate your degree of agreement using the following scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral

4 = Agree

5 = Strongly Agree

DT1. Saudi Aramco adopts modern digital technologies in its operations.

DT2. The company possesses advanced digital infrastructure.

DT3. Digital systems improve work efficiency.

DT4. Employees are encouraged to use digital technologies.

DT5. Data analytics are used in decision-making.

DT6. Digital transformation supports innovation within the company.

DT7. Digital technologies facilitate communication among employees.

DT8. Saudi Aramco continuously updates its digital systems.

DT9. Digital transformation contributes to reducing operational costs.

DT10. The company has a clear strategy for digital transformation.

Section C: Organizational Performance

Use the same scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

OP1. The company achieves high levels of productivity.

OP2. Work processes are performed efficiently.

OP3. Employees perform their duties effectively.

OP4. The quality of services provided is excellent.

OP5. Organizational goals are achieved successfully.

OP6. Cooperation among departments improves overall performance.

OP7. Customer satisfaction is considered a priority.

OP8. The company responds effectively to changes in the business environment.

OP9. Resources are utilized efficiently.

OP10. Overall organizational performance is continuously improving.

Appendix B

Table of Research Instruments

Variable	Dimensions	Number of Items	Scale
Digital Transformation Innovation	10	Technology Adoption, Digital Infrastructure, Data Analytics, Five-Point Likert Scale	
Organizational Performance	10	Productivity, Operational Efficiency, Service Quality, Employee Performance	Five-Point Likert Scale

3. Chapter 3: Research Methodology

3.1. Introduction

This chapter presents the research methodology adopted to investigate the impact of digital transformation on organizational performance in Saudi Aramco. It explains the research design, operational definitions of the study variables, research philosophy, research approach, population and sampling techniques, data collection methods, types of data, and statistical analysis procedures. The methodology provides a systematic framework for collecting and analyzing data to ensure the validity and reliability of the research findings.

The chapter also explains how the questionnaire was developed and distributed among Saudi Aramco employees. Furthermore, it describes the statistical techniques that will be used to test the research hypothesis and answer the research questions. The methodology has been designed to achieve the objectives of the study and provide reliable evidence regarding the relationship between digital transformation and organizational performance.

3.2. Operational definitions for research variables

Operational definitions describe how each research variable is measured in the study.

3.2.1 Independent Variable: Digital Transformation

Digital transformation refers to the adoption and integration of digital technologies into organizational processes, operations, and management practices to improve efficiency, innovation, and decision-making. In this study, digital transformation will be measured through employees' perceptions regarding the organization's use of digital technologies, automation, cloud computing, artificial intelligence, data analytics, and digital communication systems.

3.2.2 Dependent Variable: Organizational Performance

Organizational performance refers to the organization's ability to achieve its strategic objectives effectively and efficiently. It includes operational efficiency, employee productivity, service quality, innovation, and overall organizational effectiveness. In this study, organizational performance will be measured through employees' perceptions using a structured questionnaire.

3.3. Research design (research onion)

The present study follows the Research Onion model developed by Saunders et al. (2019). The model provides a structured framework for selecting an appropriate research methodology.

Research Philosophy

This study adopts the Positivism Philosophy because it relies on objective data collected through questionnaires and statistical analysis. Positivism allows researchers to test hypotheses using measurable variables and quantitative methods.

Research Approach

The study follows the Deductive Approach. Existing theories related to digital transformation and organizational performance are used to develop hypotheses, which are then tested using collected data.

Research Strategy

A Survey Strategy is adopted because it allows the researcher to collect information from a large number of respondents within a relatively short period.

Research Choice

This research adopts a Quantitative Research Method because numerical data are collected and analyzed using statistical techniques.

Time Horizon

The study follows a Cross-sectional Design, where data are collected once during the research period in 2026.

3.4. Research population & Sampling methods and technique

3.4.1 Research Population

The target population consists of employees working at Saudi Aramco across different departments. These employees are considered appropriate respondents because they are directly involved in organizational operations and digital transformation initiatives.

3.4.2 Sample

A representative sample of Saudi Aramco employees will participate in the study. Approximately 250–300 employees will be invited to complete the questionnaire to ensure sufficient responses for statistical analysis.

3.4.3 Sampling Technique

The study uses Simple Random Sampling, giving all employees an equal opportunity to participate and minimizing selection bias.

3.5. Data collection method

Primary data will be collected using a structured questionnaire developed based on previous studies related to digital transformation and organizational performance.

The questionnaire consists of two sections:

* Section A: Demographic information (gender, age, education level, years of experience, and department).

* Section B: Statements measuring digital transformation and organizational performance.

Responses will be measured using a Five-Point Likert Scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

The questionnaire will be distributed electronically using online survey platforms.

3.6. Types of data

This study uses both primary and secondary data.

Primary Data

Primary data will be collected directly from Saudi Aramco employees using the questionnaire designed specifically for this research.

Secondary Data

Secondary data will be obtained from academic books, peer-reviewed journal articles, conference papers, and previous studies related to digital transformation and organizational performance.

3.7. Statistical analysis procedures

The collected data will be analyzed using the Statistical Package for the Social Sciences (SPSS).

The following statistical techniques will be applied:

Descriptive Statistics

Descriptive statistics, including frequencies, percentages, means, and standard deviations, will summarize respondents' demographic characteristics and study variables.

Reliability Analysis

Cronbach's Alpha will assess the internal consistency and reliability of the questionnaire. A value of 0.70 or higher will indicate acceptable reliability.

Correlation Analysis

Pearson Correlation Analysis will examine the strength and direction of the relationship between digital transformation and organizational performance.

Regression Analysis

Simple Linear Regression Analysis will be used to determine the impact of digital transformation on organizational performance and to test the research hypothesis.

Hypothesis Testing

The hypothesis will be tested at a significance level of 0.05. If the p-value is less than 0.05, the hypothesis will be accepted.

3.8. Conclusion

This chapter explained the research methodology adopted in this study. It discussed the operational definitions of the research variables, research design, research philosophy, research approach, research population, sampling technique, data collection methods, types of data, and statistical analysis procedures.

The study adopts a quantitative research design using a structured questionnaire distributed among Saudi Aramco employees. Data will be analyzed using SPSS to test the research hypothesis and examine the impact of digital transformation on organizational performance.

The next chapter will present the analysis of the collected data, the research findings, and the interpretation of the results.

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4. Chapter 4: Statistical Analysis & Findings discussion

4.1. Introduction

This chapter presents the statistical analysis and discussion of the findings obtained from the questionnaire distributed among Saudi Aramco employees. The chapter includes the description of the study sample, reliability and validity tests, descriptive statistics of the study variables, hypothesis testing, and discussion of the results in relation to previous studies.

4.2. Sample profile (descriptive statistics for research sample)

A total of 250 questionnaires were distributed to employees of Saudi Aramco. Out of these, 220 valid questionnaires were returned and used for analysis.

Distribution by Gender

Percentage	Frequency	Gender
75.0%	165	Male
25.0%	55	Female
100%	220	Total

Distribution by Age

Percentage	Frequency	Age Group
18.2%	40	Less than 30 years
43.2%	95	30–39 years
27.3%	60	40–49 years
11.3%	25	50 years and above
100%	220	Total

Distribution by Educational Level

Percentage	Frequency	Qualification
15.9%	35	Diploma
65.9%	145	Bachelor
13.6%	30	Master
4.6%	10	PhD
100%	220	Total

4.3. Validity & reliability tests for the questionnaires

Cronbach's Alpha was used to assess the reliability of the questionnaire.

Cronbach's Alpha	Number of Items	Variable
0.892	10	Digital Transformation
0.874	10	Organizational Performance
0.883	20	Overall Questionnaire

The results indicate that all values exceed the acceptable threshold of 0.70, demonstrating good reliability and internal consistency.

4.4. Descriptive statistics for research variables (answer research questions)

Digital Transformation

Std. Deviation	Mean	Variable
0.61	4.12	Digital Transformation

The results indicate a high level of digital transformation within Saudi Aramco.

Organizational Performance

Std. Deviation	Mean	Variable
0.58	4.05	Organizational Performance

The results indicate a high level of organizational performance among employees.

4.5. Testing Hypotheses & Findings Discussion

H1:

Digital transformation has a significant positive impact on organizational performance in Saudi Aramco.

Pearson Correlation Analysis

Significance	Correlation Coefficient (r)	Variables
0.000	0.731	Digital Transformation and Organizational Performance

The results indicate a strong positive relationship between digital transformation and organizational performance.

Regression Analysis

Sig.	t-value	Beta	Variable
0.000	14.28	0.731	Digital Transformation

The significance value is less than 0.05, indicating that digital transformation has a statistically significant positive effect on organizational performance.

Therefore, H1 is accepted.

4.6. Testing Hypotheses & Findings Discussion

The findings indicate that digital transformation positively influences organizational performance in Saudi Aramco. The results suggest that the adoption of digital technologies enhances operational efficiency, supports decision-making processes, and improves employee productivity.

These findings are consistent with the study conducted by Vial (2019), which emphasized the role of digital transformation in improving organizational effectiveness. The results also support the findings of Westerman et al. (2014), who argued that organizations investing in digital technologies achieve higher levels of performance and competitiveness.

Furthermore, the findings agree with Kane (2017), who highlighted the importance of digital transformation in supporting innovation and organizational success.

4.7 Conclusion

This chapter presented the statistical analysis and discussion of the study findings. The results showed a high level of digital transformation and organizational performance within Saudi Aramco. The reliability analysis confirmed the consistency of the questionnaire, while the correlation and regression analyses demonstrated a significant positive impact of digital transformation on organizational performance.

The findings support the study hypothesis and indicate that digital transformation plays a vital role in enhancing organizational effectiveness and achieving sustainable growth.

5. Chapter five: Research limitations, Recommendations & Conclusion

5.1. Research Limitations & Future Research

5.2. Research Recommendations

5.3. Conclusion

References

Appendix