

Midocean University
College of Management
Department / Major: Project Management

Initial Research Proposal:

The Impact of Digital Transformation on Project Management

An Applied Study on Private-Sector (Industrial and Service) Companies in the Kingdom of Saudi Arabia

Prepared by:

Mohammed Faisal AlQahtany

Student ID: 261002818

Supervised by:

Dr. Alfaisal Abdulhameed Mohammed and Dr. Fayez Ali

Academic Year:

2026

Table of Contents

4	1. Introduction
6	2. Operational Definitions
7	3. Statement of the Problem
9	4. Significance of the Study
10	5. Objectives of the Study
11	6. Research Questions
12	7. Research Hypotheses
13	8. Study Model (Variables)
14	9. Literature Review
19	10. Research Gap
20	11. Theoretical Foundations
21	12. Methodology
22	13. Population and Sample
23	14. Study Instrument
26	15. Statistical Analysis Methods
26	16. Expected Results

27	17. Proposed Timeline
28	18. Limitations of the Study
28	References

1. Introduction

Over the past two decades, the world has witnessed rapid transformations driven by the digital revolution, which has reshaped the way organizations operate and manage their various activities. Among the fields most affected by this transformation is project management, which represents one of the fundamental pillars for achieving organizational goals and implementing developmental strategies. With the emergence of artificial intelligence, cloud computing, big data analytics tools, and enterprise resource planning systems, project planning, execution, monitoring, and control practices have increasingly come to rely on integrated digital solutions rather than traditional paper-based methods and manual procedures.

The Kingdom of Saudi Arabia has not been isolated from this global trend. Saudi Vision 2030 placed technology and innovation at the heart of its development priorities through executive programs such as the National Transformation Program and the Digital Government Authority, aiming to accelerate digital transformation across both public and private sectors. This trend has directly affected the industrial and service company sector in the Kingdom, which is now required to restructure its internal systems and adopt modern tools and technologies to manage its projects with higher efficiency, lower cost, and reduced risk.

In the context of this study, digital transformation refers to the process of integrating modern digital technologies across all stages of the project life cycle — from planning and scheduling, through execution and communication among project teams, to monitoring, control, and project closure — such

that it is not limited to introducing new tools and software, but extends to a shift in organizational culture, decision-making style, and the leadership approach accompanying this transformation.

Despite the growing interest in digital transformation within management literature, the relationship between this transformation and the success of project management — in terms of adherence to schedule, cost, quality, and stakeholder satisfaction — still requires further study and applied analysis, particularly in the context of Saudi private companies, whose organizational and competitive environment differs from that of other countries addressed in most prior studies (Kozarkiewicz, 2020; Wang et al., 2024). Building on this, the present study seeks to uncover the impact of various dimensions of digital transformation on project management success indicators in a sample of Saudi industrial and service companies.

Studying this relationship carries particular importance at the current stage, as Saudi Arabia is witnessing a notable acceleration in digital infrastructure projects as well as major industrial and service projects. It is expected that the findings of this study will provide local companies with an evidence-based perspective on the best ways to leverage digital transformation to enhance project success and achieve a tangible return on their technological investments.

This proposal addresses, in its subsequent sections, the statement of the problem, its significance, objectives, questions, and hypotheses, in addition to a critical analytical review of the most relevant prior studies, identification of the research gap the current study seeks to fill, the theoretical

foundations and proposed methodology for conducting the field study, and finally the proposed timeline for completing the project.

2. Operational Definitions

To ensure clarity of the core concepts used in this study, the following operational definitions are adopted:

- **Digital Transformation:** The process through which a company relies on modern digital technologies (such as cloud computing, resource planning systems, and digital analytics tools) to reshape its internal systems and processes, including the practices used in planning, executing, and monitoring projects.
- **Project Management:** The set of managerial activities and processes related to planning, organizing, executing, and controlling a project from initiation to closure, in a manner that achieves its defined objectives within the available time, cost, and quality constraints.
- **Project Management Success:** In this study, refers to the extent to which a project adheres to its set schedule and approved budget, achieves the required quality level, and attains the satisfaction of its relevant stakeholders.
- **Industrial Companies:** Companies operating in manufacturing and production activities within the Kingdom of Saudi Arabia and classified within the industrial sector according to official classifications.

- Service Companies: Companies operating in the provision of services (such as logistics, consulting, and financial services, among others) within the Kingdom of Saudi Arabia, classified within the service sector.

3. Statement of the Problem

Despite the growing investments companies are channeling into digital transformation initiatives, numerous professional reports indicate that a considerable proportion of projects managed using modern digital tools still suffer from schedule overruns or budget overruns, and some fail to achieve their objectives altogether. Part of this shortfall is attributed to the gap between the availability of technology on one hand, and the capacity of project teams and managers to make optimal use of it on the other (Qadir et al., 2025).

In the Saudi context specifically, and despite substantial government support for the digital transformation journey under Vision 2030, many private-sector companies — particularly industrial and service companies — still face challenges in embedding digital tools within their actual project management practices, whether due to weak technical infrastructure readiness, limited digital skills among work teams, or organizational resistance to change. The need for a deeper understanding of this relationship grows more pressing in light of the scarcity of sufficient applied studies addressing the impact of various digital transformation dimensions — such as technical infrastructure, digital culture, and digital leadership — on project success indicators in terms of adherence to time, cost, quality, and stakeholder satisfaction within the Saudi private company environment.

The following indicators can be observed as evidence of this problem in practice:

- Noticeable variation among companies in the maturity level of adopting digital transformation tools within project management practices.
- Continued cases of project delivery delays or budget overruns despite the use of digital systems to manage them.
- Variation in project teams' capabilities to work with available digital data and analytics to support decision-making.
- Limited local studies that have statistically measured this relationship within the Saudi private company environment.

The choice to focus specifically on private-sector industrial and service companies, rather than the government sector, stems from the fact that private companies operate under direct competitive pressure that makes digital transformation decisions more closely tied to performance and profitability indicators. Additionally, combining two sectors that differ in the nature of their operations (industrial companies, which tend to be operationally and production-oriented, and service companies, which tend to be customer-interaction-oriented) allows for a broader comparison of the impact of digital transformation on project management success across diverse operational contexts.

Accordingly, the problem of the study is defined by the following main question:

“What is the impact of digital transformation, across its various dimensions, on the success of project management in industrial and service companies within the private sector in the Kingdom of Saudi Arabia?”

4. Significance of the Study

a) Theoretical Significance

- This study contributes to enriching Arabic management literature concerning the relationship between digital transformation and project management, a field that remains relatively recent compared to Western and Asian studies (Kozarkiewicz, 2020; Wang et al., 2024).
- It provides an integrated theoretical framework linking the dimensions of digital transformation (technical infrastructure, digital culture, digital leadership, data and analytics) with the dimensions of project success (time, cost, quality, stakeholder satisfaction).
- It fills part of the research gap related to the scarcity of applied studies addressing this topic specifically within the Saudi private company environment, compared to the notable focus in the literature on the construction and manufacturing sectors in other countries (Qadir et al., 2025).
- It opens the way for future studies to compare its findings with those from other Arab and Gulf environments.

b) Practical Significance

- It provides decision-makers in industrial and service companies with practical findings and recommendations that can be leveraged when formulating digital transformation strategies related to project management.
- It helps project managers prioritize investment in the digital tools and skills that yield the highest impact on the success of their projects.
- It offers a measurement instrument (questionnaire) that other institutions can use in the future to assess their digital maturity in the field of project management.
- It supports government entities concerned with monitoring digital transformation in the private sector through applicable measurement indicators.

5. Objectives of the Study

General Objective:

To analyze the impact of digital transformation, across its various dimensions, on the success of project management in industrial and service companies within the private sector in the Kingdom of Saudi Arabia.

Specific Objectives:

1. To determine the level of digital transformation adoption in Saudi industrial and service companies from the perspective of project management staff.

2. To measure the level of project management success in these companies according to its four dimensions (time, cost, quality, stakeholder satisfaction).
3. To analyze the relationship between each dimension of digital transformation (technical infrastructure, digital culture, digital leadership, data and analytics) and project management success.
4. To identify statistically significant differences in the level of digital transformation adoption according to demographic variables (sector type, company size, years of experience).
5. To determine the most influential dimension of digital transformation on project management success from the perspective of sample members.
6. To provide a set of practical recommendations for enhancing the utilization of digital transformation to improve project management practices.

6. Research Questions

1. What is the level of digital transformation adoption in private-sector industrial and service companies in the Kingdom of Saudi Arabia?
2. What is the level of project management success in these companies?
3. Is there a statistically significant impact of digital technical infrastructure on project management success?

4. Is there a statistically significant impact of digital culture on project management success?
5. Is there a statistically significant impact of digital leadership on project management success?
6. Is there a statistically significant impact of the use of digital data and analytics on project management success?
7. What is the most influential dimension of digital transformation on project management success from the perspective of sample members?
8. Are there statistically significant differences in the level of digital transformation adoption attributable to demographic variables?

7. Research Hypotheses

Main Hypothesis:

There is a statistically significant impact of digital transformation, across its various dimensions, on the success of project management in industrial and service companies within the private sector in the Kingdom of Saudi Arabia.

The following sub-hypotheses branch from the main hypothesis:

- H1: There is a statistically significant impact of digital technical infrastructure on project management success.

- H2: There is a statistically significant impact of digital culture on project management success.
- H3: There is a statistically significant impact of digital leadership on project management success.
- H4: There is a statistically significant impact of the use of digital data and analytics on project management success.
- H5: There are statistically significant differences in the level of digital transformation adoption attributable to variables (sector type, company size, years of experience).

These hypotheses have been formulated in a statistically testable manner using the quantitative analysis methods outlined in the methodology section, such that each hypothesis will be accepted or rejected based on the results of regression analysis and the adopted significance level (0.05).

8. Study Model (Variables)

The following figure illustrates the main study variables and the proposed relationship between them, where digital transformation represents the independent variable across its four dimensions, while project management success represents the dependent variable, also across four dimensions:

Independent Variable: Digital Transformation	Dependent Variable: Project Management Success
- Digital Technical Infrastructure - Digital Culture - Digital Leadership - Digital Data and Analytics	- Time Adherence - Cost Adherence - Quality - Stakeholder Satisfaction

A brief definition of each dimension of the independent variable is provided below:

- Digital Technical Infrastructure: The extent to which the hardware, software, networks, and cloud systems necessary to support digital project management are available.
- Digital Culture: The degree to which employees and project teams accept the use of digital tools and their openness to technical change.
- Digital Leadership: The extent to which senior management and project managers support digital transformation initiatives and direct the resources needed for them.
- Digital Data and Analytics: The extent of reliance on real-time digital data and analytical tools to monitor project performance and support decision-making.

(Proposed relationship: The dimensions of digital transformation in the independent variable are expected to affect the dimensions of project management success in the dependent variable, whether individually or collectively.)

9. Literature Review

There are generally three main approaches to organizing a literature review: chronological order from earliest to most recent, thematic order according to the variables or concepts under study, and methodological order according to the type of method used in each study (quantitative, qualitative,

mixed). This study adopts the thematic ordering approach as the most suitable for its purposes, as it allows grouping studies related to overall organizational performance in one theme, followed by studies related specifically to project management in a second theme, creating a logical flow that culminates in a clear identification of the research gap.

Accordingly, this section reviews the most relevant prior studies related to the topic of the study, organized thematically into two main themes: digital transformation and organizational performance in general, followed by digital transformation and project management specifically, with a critical analysis of each study and its relationship to the current study, in preparation for identifying the research gap the current study seeks to address.

First: Studies Addressing Digital Transformation and Organizational Performance in General

Wang et al. (2024) aimed to uncover the relationship between digital transformation and the performance of manufacturing export companies in China, using financial data from a large sample of more than one thousand companies listed on the Shanghai and Shenzhen stock exchanges over the period from 2012 to 2019. The study drew on the Resource-Based View and Trade Theory as its theoretical framework and applied multiple statistical techniques, including regression analysis, mediation effect testing, and robustness tests. It found that digital transformation is positively and significantly associated with improved operational and export performance, through cost reduction and

increased investment in R&D and human resource development, and further showed that non-state-owned enterprises benefited from digital transformation to a greater extent than state-owned ones.

This study stands out as one of the most prominent quantitative studies documenting the positive effect of digital transformation at the overall organizational level, using a large sample and longitudinal data spanning several years, which lends it strong explanatory power. However, it focused on general financial performance indicators such as profitability and exports, without specifically addressing project management performance or its operational indicators of time, cost, and quality — a gap the current study seeks to address by focusing on the operational level of project management rather than overall organizational performance.

Second: Studies Addressing Digital Transformation and Project Management Specifically

Kozarkiewicz (2020) aimed to identify the dimensions and scope of digital transformation's impact on the field of project management, drawing on a field survey of around one hundred project managers. The study concluded that digital transformation affects project processes, tools, and outcomes in a multidimensional manner, discussing the key opportunities and challenges associated with it in terms of changing planning, execution, and communication tools among work teams, and noted that project managers' awareness of the importance of digital transformation varies with the nature of the sector and project size.

This study is distinguished by offering a comprehensive conceptual framework for the dimensions of digital transformation in the project context. However, it relied on a relatively limited sample and a largely descriptive analysis, and did not test direct statistical relationships between specific dimensions of digital transformation and specific project success indicators such as time, cost, and quality — a gap the current study seeks to address by building a quantitative statistical model that tests these relationships through regression analysis.

Qadir et al. (2025) examined the role of digital technologies such as Building Information Modeling, the Internet of Things, and automation in enhancing construction project performance in England. The study employed the Technology-Organization-Environment framework alongside Diffusion of Innovation theory, applied to a sample of 75 professionals using Exploratory Factor Analysis and Mean Square Ranking. Their analysis showed that three separate forces — how ready a firm's technology base is, how capable its internal organization is of absorbing new tools, and the pressure created by external regulation — combine to shape whether a construction firm ends up running more efficient, safer, and more sustainable projects, with regulatory pressure standing out as a particularly strong driver within the English market.

This is one of the most recent and specialized studies linking digital technologies to project outcomes, using a relatively rigorous quantitative methodology despite the small sample size. However, it was limited to the construction sector alone within a developed-country context, which limits the

generalizability of its findings to other sectors, such as services, or to developing contexts such as Saudi Arabia, where market conditions, regulations, and technical infrastructure differ.

Tarannum, Ngereja, and Hussein (2025) aimed to build and validate a structured taxonomy to assist organizations in formulating their digital transformation project implementation strategies, through a comprehensive literature review and a survey of industry experts in Germany using a closed card-sorting technique and case study analysis. The study offered a useful practical taxonomy for project managers illustrating the stages and components of successful digital transformation projects, striking a balanced link between conceptual and applied aspects.

However, this study relied entirely on an exploratory qualitative approach and did not subject the relationship between digital transformation dimensions and project success to quantitative statistical testing or numerical measurement of effect size — a clear methodological gap the current study seeks to fill through quantitative analysis based on a questionnaire and statistical hypothesis testing.

In a recent and comprehensive systematic review, Chen, Martins, Zhang, and Dong (2025) aimed to analyze the relationship between digital transformation and project management by reviewing sixty-six peer-reviewed studies, relying on a qualitative thematic coding approach guided by Sociotechnical Systems Theory. The review revealed four interrelated themes explaining the relationship between the two fields: methodologies for the sociotechnical integration of digital tools, misalignments in the

sociotechnical interface between individuals and technology, governance and leadership supporting transformation, and transformation trajectories specific to each industry or project.

This study is among the most important recent reference works in this field, given its coverage of a large number of peer-reviewed studies and its provision of a clear classification of future research directions. However, it is a theoretical review by nature (a systematic review) and did not conduct a direct field test or quantitative measurement of the relationship between specific variables, nor did it address any Arab or Gulf context among the studies it reviewed. The current study has drawn on this review's themes, particularly those of governance/leadership and sociotechnical integration, in formulating the independent variable's dimensions related to digital leadership and digital culture.

Third: Comparison of Prior Studies and Identification of the Research Gap

Comparing the prior studies reveals that they all agree on the existence of a positive effect of digital transformation, whether on overall organizational performance (Wang et al., 2024) or specifically on project processes and outcomes (Kozarkiewicz, 2020; Qadir et al., 2025; Tarannum et al., 2025; Chen et al., 2025). A diversity of methodologies is also evident, ranging from quantitative (Wang et al., 2024; Qadir et al., 2025) to qualitative (Tarannum et al., 2025) to descriptive-analytical (Kozarkiewicz, 2020) to qualitative systematic review (Chen et al., 2025), along with variation in application sectors between manufacturing (Wang et al., 2024), construction (Qadir et al., 2025), and multiple sectors (Kozarkiewicz, 2020; Tarannum et al., 2025; Chen et al., 2025).

However, a notable observation across these studies collectively is that they were conducted in non-Arab geographic contexts (China, England, Poland, Germany), and none specifically addressed the Saudi private company environment despite the considerable momentum the Kingdom is witnessing in digital transformation under Vision 2030. Most of them also focused on a single sector without combining industrial and service companies within a single analysis, and none tested the detailed impact of specific digital transformation dimensions — particularly digital leadership and digital culture — on the four dimensions of project success (time, cost, quality, stakeholder satisfaction) within a single statistical model. This study comes to fill this gap through a quantitative applied study on a sample of Saudi industrial and service companies.

The current study has drawn on this comparison in formulating its four sub-hypotheses (H1 through H4), such that each hypothesis corresponds to one dimension of digital transformation addressed individually by prior studies, while the main hypothesis brings these dimensions together in a single model not tested collectively by any prior study within the Saudi context — representing the primary methodological contribution of this study relative to the prior literature.

10. Research Gap

In light of the above, the research gap this study seeks to address can be summarized as follows:

- The scarcity of Arabic, and specifically Saudi, studies addressing the relationship between digital transformation and project management success using a quantitative approach.

- The absence of a model that combines the four selected dimensions of digital transformation with the four dimensions of project success within a single measurement framework.
- The limited number of studies that have combined industrial and service companies within a single sample for comparative purposes.
- The scarcity of studies that have tested the effect of demographic variables (sector type, company size, years of experience) on the level of digital transformation adoption in the context of project management.

11. Theoretical Foundations

This study draws on several management theories that explain the relationship between digital transformation and project success, most notably:

1. Diffusion of Innovation Theory: Explains how organizations adopt new digital technologies through successive stages beginning with knowledge, then persuasion, decision, implementation, and confirmation, helping to understand the maturity level of digital transformation adoption in the companies studied and where each company sits on the adoption curve.
2. Technology-Organization-Environment (TOE) Theory: Explains that the decision to adopt technology is influenced by three main dimensions: technological readiness, organizational

capability, and environmental/competitive pressures, and has been used in prior similar studies to explain the adoption of digital technologies in project settings (Qadir et al., 2025).

3. Resource-Based View: Explains how digital tools and skills can constitute a rare and difficult-to-imitate strategic resource, granting the company a competitive advantage that is reflected in the efficiency of its project management (Wang et al., 2024).

The current study builds on an integration of these three theories into a unified framework, positing that the level of technological readiness, an organizational culture supportive of digitalization, effective digital leadership, and the utilization of data and analytics together represent key drivers of project management success within the Saudi business environment — a proposition that will be tested empirically through the proposed statistical model.

This theoretical integration aligns with the direction recommended by Chen et al.'s (2025) review, which calls for viewing digital transformation as a complex sociotechnical phenomenon whose dimensions are not limited to the technical aspect alone, but extend to organizational, human, and leadership dimensions as well — which justifies the current study's choice of four integrated dimensions for the independent variable rather than confining itself to the technical dimension alone, as some prior studies have done.

12. Methodology

In terms of research type, this study is classified as descriptive-applied research: descriptive in that it seeks to describe the level of digital transformation adoption and the level of project management success in the companies studied, and applied in that its findings are directed at solving a concrete practical problem facing Saudi industrial and service companies, rather than merely contributing to abstract theory.

This study adopts the descriptive-analytical method based on a quantitative approach, as the most suitable for the nature of the study's objectives, which seek to measure the relationship between two main variables — digital transformation and project management success — and to test statistically measurable hypotheses. The quantitative approach was preferred over qualitative and mixed approaches at this stage for several considerations, most notably the ability to reach a larger sample size, which enhances the generalizability of findings; the clarity of the measurement and statistical analysis procedures associated with it; and the fact that most similar prior studies in this field adopted comparable quantitative instruments (Wang et al., 2024; Qadir et al., 2025), which facilitates comparing the findings of the current study with theirs.

Primary data for the study will be collected through an electronic questionnaire directed at project management staff in industrial and service companies within the private sector, while secondary data — consisting of books, prior studies, official reports, and peer-reviewed journals — will be used to build the theoretical framework and review the relevant literature.

The study will observe the ethical considerations generally accepted in scientific research when administering the questionnaire, by clarifying the purpose of the study to participants, obtaining their voluntary consent to participate, and ensuring the confidentiality of data such that it is used only for scientific research purposes, without requesting any identifying personal information that would reveal the identity of participants or the companies they work for.

13. Population and Sample

The study population consists of all project managers and staff in project management departments of industrial and service companies operating in the private sector within the Kingdom of Saudi Arabia. Given the difficulty of precisely enumerating this population, a stratified random sampling approach will be adopted to ensure the representation of both industrial and service companies, by dividing the population into two main strata (industrial and service) and then selecting a random sample from each stratum in proportion to its relative size.

In determining the final sample size, the nature of the study population will be taken into account using established statistical formulas for sample size determination, such as the widely used Krejcie and Morgan formula in similar management studies, targeting a sample size of no less than 200 respondents to ensure the statistical power of the analysis and the accuracy of the results — a size considered sufficient to conduct multiple regression analysis with acceptable statistical confidence according to the statistical rules commonly followed in this type of study.

Industrial chamber of commerce directories in the main cities (Riyadh, Jeddah, Dammam) and databases of companies registered with relevant government entities will be used as the sampling frame to reach the targeted industrial and service companies, taking care in selecting participants to ensure they have direct practical experience in project management or participation in project teams, so that their responses reflect the actual practice of digital transformation within their companies.

14. Study Instrument

An electronic questionnaire will be designed as the primary data-collection instrument, consisting of three main parts:

- Part One: Demographic and job-related data (sector type, company size, job title, years of experience).
- Part Two: A five-point Likert scale measuring the dimensions of digital transformation, including: Digital Technical Infrastructure (6 items), Digital Culture (6 items), Digital Leadership (6 items), and Digital Data and Analytics (6 items).
- Part Three: A five-point Likert scale measuring project management success, including: Time Adherence (5 items), Cost Adherence (5 items), Quality (5 items), and Stakeholder Satisfaction (5 items).

A five-point Likert scale ranging from (1 = Strongly Disagree) to (5 = Strongly Agree) will be adopted for all items in Parts Two and Three, allowing responses to be treated as interval data suitable for parametric statistical tests such as regression analysis and Pearson correlation.

The validity of the instrument will be verified by presenting it to a panel of specialized referees in the fields of project management and digital transformation (content validity), making the necessary adjustments based on their feedback. Reliability will be verified using Cronbach's Alpha after applying the instrument to a pilot sample, this being one of the most widely used and trusted reliability measures in similar quantitative studies in the field of project management and digital transformation, with a value of 0.70 adopted as the minimum acceptable threshold for instrument reliability.

To illustrate the nature of the instrument's items, the table below presents a sample of items for the “Digital Technical Infrastructure” dimension as an applied example:

No.	Item
1	The company possesses adequate technical infrastructure (hardware, networks, servers) to support digital project management.
2	The company uses cloud-based systems to manage and monitor project data.
3	The company has specialized software for project management (such as electronic scheduling tools).
4	The digital systems used within the company integrate easily with one another.

5	The company is keen to periodically update its technical tools in line with recent developments.
---	--

The remaining items for the other dimensions of digital transformation (digital culture, digital leadership, digital data and analytics) and the dimensions of project management success (time, cost, quality, stakeholder satisfaction) will be phrased in the same manner, such that each item reflects a clear, measurable behavioral or procedural indicator.

Pilot Study

Before the final administration of the questionnaire to the main study sample, a pilot study will be conducted on a small sample of 25 to 30 respondents drawn from the study population, aiming to practically verify the clarity of the instrument's items and the extent to which participants understand them, and to detect any ambiguity or linguistic difficulty in the wording of items prior to full-scale administration.

Data from this pilot study will be used to calculate the preliminary reliability coefficient (Cronbach's Alpha) for each dimension of the instrument separately, such that any item showing a weak item-total correlation with its corresponding dimension will be excluded or reworded, before finalizing the questionnaire and administering it to the main study sample of 200 or more respondents. This step is essential to ensure the quality of the data on which the hypothesis-testing results will later be based,

and is considered standard methodological practice in similar quantitative studies in the field of project management.

15. Statistical Analysis Methods

The Statistical Package for the Social Sciences (SPSS) will be used to analyze the study's data, and the statistical methods employed will include the following:

- Frequencies, percentages, means, and standard deviations; to describe the characteristics of the sample and the study variables.
- Pearson correlation coefficient; to measure the strength and direction of the relationship between study variables prior to conducting regression analysis.
- Multiple linear regression analysis; to test the effect of the dimensions of digital transformation, both collectively and individually, on project management success, and to test sub-hypotheses H1 through H4.
- Independent-samples t-test and one-way ANOVA; to detect differences attributable to demographic variables and to test hypothesis H5.
- Cronbach's Alpha coefficient; to verify the reliability of the study instrument.
- Variance Inflation Factor (VIF) test; to ensure the absence of multicollinearity among the dimensions of the independent variable prior to conducting regression analysis.

16. Expected Results

In light of the theoretical framework and the prior studies reviewed, this study is expected to yield a number of results, most notably:

- A statistically significant positive effect of the combined dimensions of digital transformation on project management success in the companies studied, consistent with the trends of prior studies (Wang et al., 2024; Qadir et al., 2025).
- A likely variation in the strength of effect of each dimension of digital transformation individually, such that digital leadership and digital culture may emerge as more influential dimensions compared to technical infrastructure alone, in line with what Chen et al. (2025) noted regarding the importance of governance and leadership.
- Possible differences between industrial and service companies in the level of digital transformation adoption, which may reflect differences in the nature of operational processes between the two sectors.

If confirmed, these results will allow for the formulation of practical recommendations directed at project managers and decision-makers in Saudi industrial and service companies to maximize the benefit of digital transformation in improving their project success indicators.

17. Proposed Timeline

The table below outlines the proposed timeline for implementing the stages of the study following approval of the initial proposal:

Proposed Duration	Phase
1 week	Completing the theoretical framework and reviewing prior studies
1 week	Designing the questionnaire and verifying its validity and reliability
1 week	Collecting field data from the study sample
1 week	Statistically analyzing the data using SPSS
1 week	Discussing the results and formulating recommendations
1 week	Final review and preparation of the complete project report

18. Limitations of the Study

a) Thematic Limitations:

The study is limited to analyzing the effect of specific dimensions of digital transformation (technical infrastructure, digital culture, digital leadership, data and analytics) on specific dimensions of project management success (time, cost, quality, stakeholder satisfaction).

b) Human Limitations:

Project managers and staff working in project management departments of private-sector industrial and service companies.

c) Spatial Limitations:

Industrial and service companies operating within the Kingdom of Saudi Arabia.

d) Temporal Limitations:

Field data collection for the study is expected to take place during the 2026 academic year.

References

- Chen, M., Martins, T. S., Zhang, L., & Dong, H. (2025). Digital transformation in project management: A systematic review and research agenda. *Systems*, 13(8), 625. <https://doi.org/10.3390/systems13080625>
- Kozarkiewicz, A. (2020). General and specific: The impact of digital transformation on project processes and management methods. *Foundations of Management*, 12(1), 237–248. <https://doi.org/10.2478/fman-2020-0018>
- Qadir, S., Alawag, A. M., Baarimah, A. O., Zia, N., Alajmi, M., Almujibah, H. R., & Alyami, H. (2025). The role of digital technologies in enhancing construction project management. *Scientific Reports*. <https://doi.org/10.1038/s41598-025-31955-6>
- Tarannum, R., Ngereja, B. J., & Hussein, B. (2025). A structured taxonomy for effective digital transformation project implementation: Development, validation, and practical insights. *International Journal of Information Systems and Project Management*, 13(1). <https://doi.org/10.12821/ijispm130102>
- Wang, Y., Wang, T., & Wang, Q. (2024). The impact of digital transformation on enterprise performance: An empirical analysis based on China's manufacturing export enterprises. *PLOS ONE*, 19(3), e0299723. <https://doi.org/10.1371/journal.pone.0299723>
- Digital Government Authority. (2024). Fundamental digital transformation standards document. Riyadh, Saudi Arabia.
- Council of Ministers General Secretariat. (2016). Saudi Arabia's Vision 2030. Riyadh, Saudi Arabia.

Note: The above represents an initial reference set for building this proposal. Before final submission, the reference list should be expanded to no less than 15–20 references as required by the department, with additional peer-reviewed Arabic and English references added via the university's academic databases.