

MIDOCEAN UNIVERSITY

Faculty of Management

Department / Specialization: Project Management

CHAPTER 3: RESEARCH METHODOLOGY

Impact of Time Management Practices on Project Success in Saudi Organizations

Prepared by

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3. Chapter 3: Research Methodology

3.1 Introduction

This chapter explains the methodology adopted to examine the impact of project time management practices on project success in Saudi organizations. The methodology was selected to answer the research questions and test the proposed hypotheses in a systematic, objective, and replicable manner. The chapter presents the operational definitions of the research variables, the research design, the population and sampling approach, the data collection instrument, the types of data used, the procedures for data collection, the planned statistical analysis, and the ethical safeguards applied throughout the study.

The study focuses on the relationship between project time management practices as the independent variable and project success as the dependent variable. Project time management is represented by four dimensions: schedule planning, activity prioritization and sequencing, progress monitoring and schedule control, and schedule change management. Project success is represented by timely completion, cost performance, quality of deliverables, achievement of project objectives, and stakeholder satisfaction.

3.2 Operational Definitions for Research Variables

Operational definitions specify how each research variable will be observed and measured. They convert broad theoretical concepts into measurable dimensions and questionnaire statements. This improves consistency, reliability, and validity by ensuring that the meaning of each variable is clear to both the researcher and respondents.

3.2.1 Project Time Management Practices (Independent Variable)

Project time management practices are operationally defined as the extent to which project teams systematically plan, organize, monitor, control, and adjust the time required to complete project activities. The variable will be measured through respondents' perceptions of four dimensions using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Dimension	Operational Definition	Items
Schedule planning	The extent to which project activities, durations, resources, milestones, dependencies, and	5

	deadlines are realistically defined before and during execution.	
Activity prioritization and sequencing	The extent to which activities are arranged in a logical order and prioritized according to urgency, dependency, criticality, and strategic importance.	5
Progress monitoring and schedule control	The extent to which actual progress is regularly compared with the approved schedule and corrective actions are taken when variances occur.	5
Schedule change management	The extent to which schedule changes are documented, evaluated, approved, communicated, and reflected in the project baseline.	5

3.2.2 Project Success (Dependent Variable)

Project success is operationally defined as the extent to which a project achieves its intended results while meeting reasonable expectations related to time, cost, quality, objectives, and stakeholders. The variable will be measured through five dimensions using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Dimension	Operational Definition	Items
Timely completion	The degree to which the project and its major milestones are completed within the approved or formally revised schedule.	2
Cost performance	The degree to which project expenditure remains within the approved or formally revised budget.	2
Quality of deliverables	The degree to which project outputs satisfy defined quality standards	2

	and technical requirements.	
Achievement of objectives	The degree to which the project delivers its intended scope, benefits, and strategic objectives.	2
Stakeholder satisfaction	The degree to which key stakeholders are satisfied with the project process and outcomes.	2

3.3 Research Design

The research design was developed using the research onion framework. The selected methodological choices are consistent with the objective of testing predefined hypotheses about the relationship between measurable variables. The study adopts positivism as its research philosophy, a deductive approach, a survey strategy, a quantitative mono-method choice, and a cross-sectional time horizon. Data will be collected using a structured questionnaire and analyzed statistically.

Methodological Layer	Selected Choice	Justification
Research philosophy	Positivism	The study assumes that the relationship between time management practices and project success can be measured objectively through observable data.
Research approach	Deductive	The study begins with theory and prior research, develops hypotheses, and tests them using empirical data.
Research strategy	Survey	A questionnaire enables data to be collected from a relatively large group of project professionals.
Research choice	Quantitative mono-method	Numerical responses are required to measure variables, compare perceptions, and test statistical

		relationships.
Time horizon	Cross-sectional	Data will be collected once during 2026 to provide a snapshot of current practices and outcomes.
Analysis techniques	Descriptive and inferential statistics	The study will use descriptive statistics, reliability and validity tests, correlation, and multiple regression.

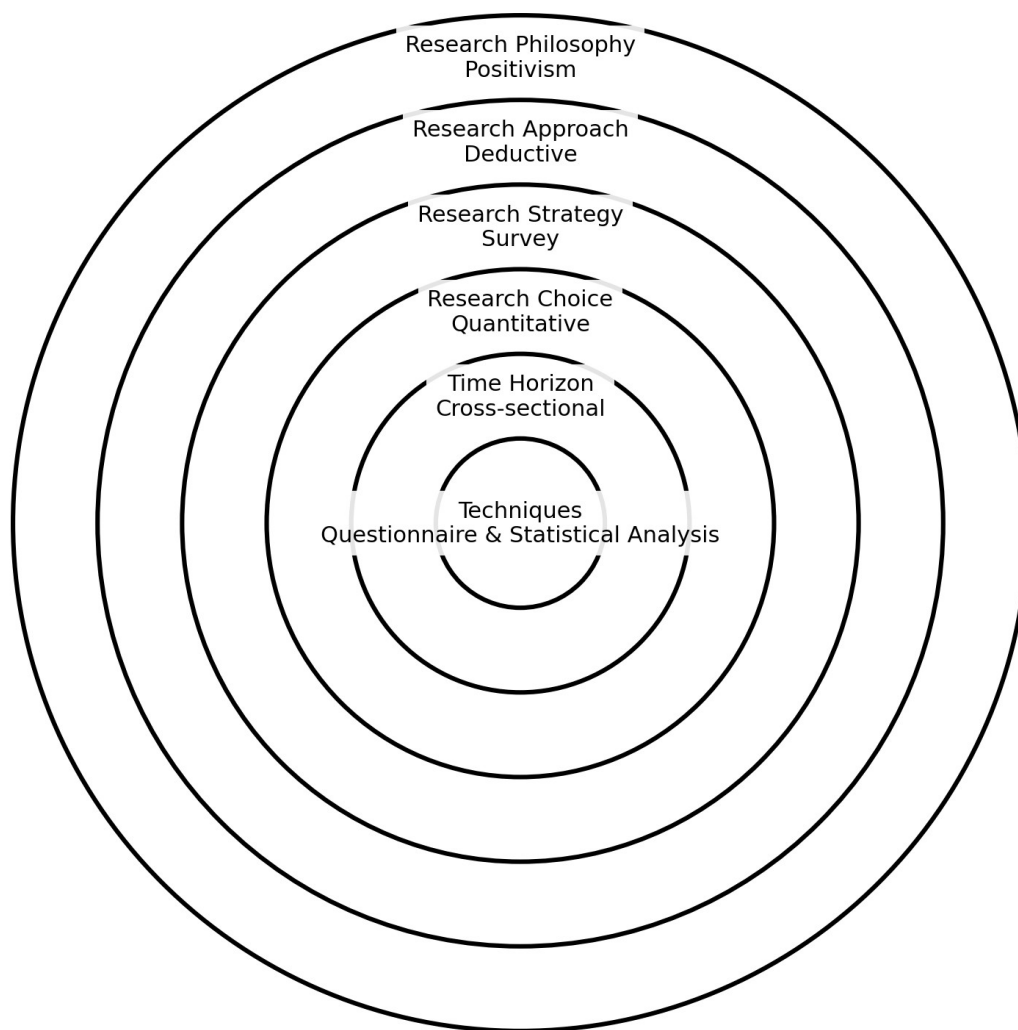


Figure 3.1. Research onion choices adopted for the study.

3.4 Research Population and Sampling Methods

This section identifies the population to which the study relates and explains how eligible respondents will be selected. The study concerns professionals who have direct experience of projects and can reasonably evaluate project time management practices and project outcomes. Because the research covers multiple organizations and sectors, the exact size of the total population is not known with certainty.

3.4.1 Research Population

The target population consists of employees and professionals working in public and private organizations in Saudi Arabia who have participated in at least one project during the previous three years. Eligible participants may include project managers, project coordinators, project management office staff, team leaders, functional specialists, engineers, analysts, consultants, and project team members. The population spans sectors such as financial services, government, technology, construction, consulting, entertainment, healthcare, education, and other service industries.

The unit of analysis is the individual project professional. Respondents will be asked to answer with reference to a project with which they are sufficiently familiar. This approach allows the study to obtain informed assessments rather than general opinions from individuals who have no project exposure.

3.4.2 Research Sample

Because the total target population is large and not precisely known, the study will aim for a sample of 384 respondents. This target corresponds to the maximum sample size commonly shown in the Krejcie and Morgan (1970) table for large populations at a 95% confidence level and a 5% margin of error. A minimum of 150 usable responses will be considered sufficient for preliminary multivariate analysis, but the researcher will seek the larger target to improve statistical power, representation, and the reliability of the findings.

The intended sample will include respondents from different job levels, organizational sectors, years of experience, and project roles. The questionnaire will therefore capture demographic information including gender, age group, education, sector, job level, years of professional experience, years of project experience, and primary project role.

3.4.3 Sampling Method and Technique

The study will use a non-probability sampling technique combining purposive and convenience sampling. Purposive sampling is appropriate because respondents must meet a specific eligibility condition: prior participation in projects. Convenience sampling will support practical access through professional networks, organizations, email, and online communication channels. Although this approach limits statistical generalization, it is suitable for an applied undergraduate study involving a dispersed professional population and restricted access to complete sampling frames.

To reduce sampling bias, the questionnaire will be distributed through several channels and to respondents from different sectors and roles. The invitation will clearly state the eligibility criteria, and incomplete or ineligible responses will be excluded before analysis.

3.5 Data Collection Method

Primary quantitative data will be collected using a self-administered online questionnaire. The questionnaire will be designed in clear English and, where required, an Arabic version will be provided using translation and back-translation to preserve meaning. The instrument will contain four sections: an introduction and consent statement, demographic questions, statements measuring project time management practices, and statements measuring project success.

The questionnaire will use a five-point Likert scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The proposed instrument contains 30 scale statements: 20 statements for project time management practices and 10 statements for project success. Items will be adapted from established project management concepts and prior studies, including the Project Management Institute's scheduling guidance and recognized project-success literature. The final wording will be reviewed by the project supervisor and, where possible, by subject-matter experts.

3.5.1 Instrument for the Independent Variable

Project time management practices will be measured using 20 statements distributed equally across four dimensions. The statements will assess the extent to which schedules are realistically planned, activities are logically sequenced and prioritized, progress is monitored and controlled, and schedule changes are formally managed.

Dimension	Number of Items	Source
Schedule planning	5	Adapted from PMI scheduling concepts and researcher-developed items
Activity prioritization and sequencing	5	Adapted from PMI scheduling concepts and researcher-developed items
Progress monitoring and schedule control	5	Adapted from PMI scheduling concepts and researcher-developed items
Schedule change management	5	Adapted from PMI scheduling concepts and researcher-developed items
Total	20	

3.5.2 Instrument for the Dependent Variable

Project success will be measured using 10 statements distributed across five dimensions. The statements will capture success in terms of schedule performance, cost performance, deliverable quality, achievement of objectives, and stakeholder satisfaction. This broader measurement avoids treating completion time as the only indicator of success.

Dimension	Number of Items	Source
Timely completion	2	Adapted from project-success literature
Cost performance	2	Adapted from project-success literature
Quality of deliverables	2	Adapted from project-success literature
Achievement of objectives	2	Adapted from project-success literature
Stakeholder satisfaction	2	Adapted from project-success literature

Total	10	
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3.5.3 Pilot Study, Validity, and Reliability

Before full distribution, the questionnaire will be pilot-tested with approximately 20 to 30 eligible respondents. The pilot will assess clarity, completion time, wording, sequence, and technical functionality. Feedback will be used to revise ambiguous or repetitive statements.

Content validity will be assessed through review by the supervisor and, where available, project management or research-methodology specialists. Construct validity will be examined using exploratory factor analysis if the final sample size is adequate. Reliability will be assessed using Cronbach's alpha. A coefficient of 0.70 or above will generally be treated as acceptable for each scale, while item-total correlations and alpha-if-item-deleted statistics will be reviewed to identify weak items.

3.5.4 Data Collection Procedure

After receiving academic approval, the questionnaire link will be distributed electronically. The first page will describe the purpose of the study, eligibility requirements, voluntary nature of participation, approximate completion time, confidentiality safeguards, and contact information. Respondents will provide informed consent before proceeding. Data collection is expected to remain open for approximately four to six weeks, with limited reminder messages issued to improve response rates.

The researcher will monitor submissions for completeness and obvious duplication. No names, employee numbers, or directly identifying information will be requested. Data will be downloaded into a password-protected file and used solely for academic purposes.

3.6 Types of Data

3.6.1 Primary Data

Primary data will consist of questionnaire responses collected directly from eligible project professionals. These data will include demographic characteristics and respondents' ratings of time management practices and project success. Primary data will be used to answer the research questions and test the hypotheses.

3.6.2 Secondary Data

Secondary data will be obtained from academic journal articles, project management standards, books, institutional publications, and relevant reports. These sources will support the theoretical framework, development of variables, operational definitions, questionnaire design, and interpretation of findings. Secondary sources will be cited using APA style.

3.7 Data Analysis Methods and Procedures

The collected data will be analyzed using the Statistical Package for the Social Sciences (SPSS), version 28 or a later available version. Data screening will be conducted before hypothesis testing. The screening process will include checking missing values, duplicate responses, out-of-range values, straight-line responses, and extreme outliers. Where appropriate, negatively worded items will be reverse-coded before calculating scale scores.

Analysis Stage	Planned Procedure
Sample profile and descriptive analysis	Frequencies and percentages will describe respondent characteristics. Means and standard deviations will summarize each questionnaire item and research dimension.
Reliability analysis	Cronbach's alpha and corrected item-total correlations will assess the internal consistency of the measurement scales.
Validity analysis	Content validity will be established through expert review. Exploratory factor analysis may be used to assess construct validity, including the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity.
Assumption testing	Normality, linearity, homoscedasticity, independence of errors, and multicollinearity will be examined before regression analysis.
Correlation analysis	Pearson correlation coefficients will identify the direction and strength of relationships between time management dimensions and project success.
Hypothesis testing	Multiple linear regression will test the overall and individual effects of schedule planning, prioritization and sequencing, monitoring and control, and schedule

	change management on project success.
Decision criteria	Hypotheses will be evaluated at a significance level of $p < .05$. Standardized beta coefficients, R-squared, adjusted R-squared, F-statistics, confidence intervals, and effect sizes will be reported.

3.7.1 Hypothesis Testing Model

The primary regression model is expressed as follows:

$$PS = \beta_0 + \beta_1(SP) + \beta_2(APS) + \beta_3(MC) + \beta_4(SCM) + \epsilon$$

Where PS represents project success, SP represents schedule planning, APS represents activity prioritization and sequencing, MC represents progress monitoring and schedule control, SCM represents schedule change management, β_0 is the constant, β_1 to β_4 are regression coefficients, and ϵ is the error term.

3.7.2 Ethical Considerations

The study will follow the principles of voluntary participation, informed consent, confidentiality, anonymity, and responsible data management. Participation will not involve deception, financial pressure, or workplace consequences. Respondents may discontinue the questionnaire at any time before submission. Only aggregated findings will be reported, and no organization or individual will be identified without explicit permission. The research file will be retained securely for the period required by the university and then deleted or archived according to applicable academic requirements.

3.8 Conclusion

This chapter presented the methodology proposed to investigate the effect of project time management practices on project success. A positivist, deductive, quantitative, survey-based, and cross-sectional design was selected. The target population consists of project professionals in Saudi organizations, and respondents will be selected through purposive and convenience sampling. Data will be collected using a structured 30-item questionnaire and analyzed using SPSS through descriptive statistics, validity and reliability tests, correlation, and multiple regression. The selected methodology provides a practical and systematic basis for answering the

study questions and testing the proposed hypotheses while protecting the rights and privacy of participants.

References

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