



**The Impact of Professional Training Programs on Project
Management Efficiency in Public and Private Organizations in
Saudi Arabia**

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DEDICATION

To those who had the greatest influence on my academic journey after Almighty God,
To my beloved parents who instilled in me the love of knowledge and perseverance, and who
have always been a constant source of support and encouragement throughout every stage of
my life.

To my dear family who stood by my side and supported me during the years of study,
And to everyone who provided moral support and encouragement until the completion of this
work.

I dedicate this humble effort to them with gratitude and appreciation,
Praying that God will make it beneficial knowledge and a contribution to society.

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Abstract

Background: Modern business landscapes increasingly utilize project management as a core method to streamline organizational goals and develop business functions. Various economic and organizational changes are occurring in the Kingdom of Saudi Arabia which aim to enhance the efficiency of project management as a way to aid in the successful execution of projects and attainment of national development goals in alignment with Saudi Vision 2030.

Objective: The primary aim of this study is to evaluate how professional training programs influence the efficiency of project management in Saudi Arabia's public and private organizations. Priority is given to the dimensions of professional training programs such as, training relevance, quality of instruction, the degree to which the training is practical, and the provision of organizational support.

Methodology: In a quantitative study, cross-sectional survey methodology is used. From several public and private organizations, a structured questionnaire was used to collect data from employees and professionals engaged in project management. 288 valid responses were collected and analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, correlation, regression analyses, and independent sample t-tests were included in the analysis.

Results: The findings show a statistically significant *at least one positive correlation** between professional training programs and efficient project management. Among the training dimensions, the strongest influence on the improved performance of project management was related to the training relevance. In order, the other dimensions were, instructional quality, practical applicability, and organizational support. Additionally, the findings show small differences for the public and private sectors, where private organizations showed a slight advantage in the efficiency of managing projects.

Conclusion: The study concludes that spending on professional training programs is a significant factor in increasing the efficiency of project management and, therefore, the organizational performance. The findings stress that the training programs developed should cater to the needs of the practitioners' workplace and advocate management for the provision of ample support to employees to pursue continuous education.

Keywords: Project management, professional training programs, project management efficiency, organizational performance, human capital development, Saudi Arabia.

الملخص

خلفية الدراسة: شهدت بيئة الأعمال الحديثة زيادة ملحوظة في اعتماد المؤسسات على إدارة المشاريع كوسيلة لتحقيق الأهداف الاستراتيجية وتنفيذ المبادرات التنموية. وفي ظل التحولات الاقتصادية والتنظيمية التي تشهدها المملكة العربية السعودية، وخاصة في إطار رؤية المملكة 2030، أصبحت الحاجة إلى تطوير كفاءة إدارة المشاريع أمراً بالغ الأهمية لضمان نجاح المشاريع وتحقيق الأهداف التنموية.

هدف الدراسة: تهدف هذه الدراسة إلى تحليل أثر برامج التدريب المهني على كفاءة إدارة المشاريع في المؤسسات الحكومية والخاصة في المملكة العربية السعودية. وقد ركزت الدراسة على أربعة أبعاد رئيسية لبرامج التدريب المهني وهي: ملاءمة التدريب، جودة التدريب، التطبيق العملي للتدريب، والدعم التنظيمي.

منهجية الدراسة: اعتمدت الدراسة على المنهج الكمي باستخدام أسلوب المسح الميداني من خلال استبانة تم توزيعها على العاملين في مجال إدارة المشاريع في عدد من المؤسسات الحكومية والخاصة. وقد بلغ عدد الاستجابات الصالحة للتحليل (288) استبانة. وتم تحليل البيانات باستخدام برنامج الحزم الإحصائية للعلوم الاجتماعية (SPSS)، حيث تم استخدام مجموعة من الأساليب الإحصائية مثل الإحصاءات الوصفية، وتحليل الارتباط، وتحليل الانحدار، واختبار الفروق بين القطاعات.

نتائج الدراسة: أظهرت نتائج الدراسة وجود تأثير إيجابي معنوي لبرامج التدريب المهني على كفاءة إدارة المشاريع. كما بينت النتائج أن ملاءمة التدريب كانت أكثر العوامل تأثيراً في تحسين أداء إدارة المشاريع، تليها جودة التدريب، ثم التطبيق العملي للتدريب، وأخيراً الدعم التنظيمي. كما أظهرت النتائج وجود فروق طفيفة بين القطاعين العام والخاص لصالح القطاع الخاص فيما يتعلق بكفاءة إدارة المشاريع.

الاستنتاج والتوصيات: تخلصت الدراسة إلى أن الاستثمار في برامج التدريب المهني يمثل عاملاً مهماً في تحسين كفاءة إدارة المشاريع وتعزيز الأداء التنظيمي. وتوصي الدراسة بضرورة تطوير برامج تدريبية متخصصة في إدارة المشاريع تتناسب مع احتياجات العمل الفعلية، وتعزيز الدعم المؤسسي للتعلم المستمر، بما يساهم في رفع كفاءة الكوادر البشرية وتحقيق أهداف التنمية الوطنية.

الكلمات المفتاحية: إدارة المشاريع، برامج التدريب المهني، كفاءة إدارة المشاريع، الأداء التنظيمي، تنمية رأس المال البشري، المملكة العربية السعودية.

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Due to the increasing dependence on project-based assignments for executing strategic initiatives and organizational transformations, project management has emerged as a core managerial discipline across contemporary businesses. From both the public and private sectors, businesses depend on structured management of projects to attain organizational strategic goals, deliver cutting-edge products and services, and to gain a competitive advantage in dynamic business environments. Good project management balances trade-offs and satisfaction of stakeholders and the organization, on Performance (Kerzner, 2022).

The importance of project management has amplified in times of globalization, technological evolution, and economic changes. Modern-day businesses find themselves in a complicated set of circumstances characterized by ambiguity, fast-paced changes, and growing competition, making it vital for the organization to sustain its long-term growth through the successful attainment of the goals set out for its various projects. As per the Project Management Institute (PMI), an organization refines its operations, and focuses its projects on the strategic goals, to improve its overall performance (Project Management Institute [PMI], 2021).

In the last couple of years, in the last couple of years, Saudi Arabia has implemented important economic and structural changes in line with the Vision 2030 national development program, which aims to diversify the national economy, improve efficiency in the public sector, and boost the national economy. Saudi Arabia has commenced a major national development program called Vision 2030. Vision 2030 has brought about the completion of numerous large-scale development projects across multiple target sectors, including but not

limited to, infrastructure, healthcare, tourism, digital transformation, renewable energy, and industrial development. These initiatives have increased the demand for skilled project managers to help with the growing number of complicated projects that need to be dealt with (Al-Harthi & Al-Rashidi, 2022).

The rapid growth of project initiatives in the Saudi economy has made the ability to manage projects an important organizational capability. Both public and private organizations have come to realize that the success of a project and the success of an organization depend on the effective use of project management systems. However, the management of complicated and large projects needs the use of systems that have a range of skills that include technical, managerial, and leadership) skills. These skills need to be developed and maintained through a program of professional development and learning (Too & Weaver, 2014).

Professional training programs help create a better skill set for effective project management. These programs help training support employees' knowledge and capabilities by going through a set of guided activities, such as workshops, learning simulations, seminars, and coaching, and training through mentoring. These programs help and improve their technical behavior, which are their problem-solving ability, and their behavioral. Also, their competency with risk, project budgeting, management, and teammates, and their communication, leadership, and stakeholder engagement (Noe, 2020).

Professional development and training are highly essential components of an organization's human resource development plan. Training is an investment in employees. Training is a key element of any organization seeking to improve productivity, as an investment in training increases the knowledge and skills of the workforce and is directly correlated with an improvement in the organization's performance (Becker, 1993). Training programs, in regard to project management, are important because they enable project

managers to cope with project complexity. Additionally, it is important for the project managers to be able to integrate and coordinate team members, and to provide effective and timely decisions during the course of project implementation.

Additionally, organizations continue to implement internationally accepted training frameworks and certification programs for project managers, such as Project Management Professional (PMP) Certification, PRINCE2, and Agile project management certifications. These certifications attempt to add value to the pre and post processes of project planning, execution, monitoring, and controlling processes, thus increasing project success (Kerzner, 2022).

The increased use of professionally accepted training programs does not seem to solve the already existing problems with successful execution of projects. Many researchers state that a large number of projects seem to not achieve any of the goals, in terms of time, money, and quality, with respect to the original targets. Project time overruns, cost overruns, changes in the scope, and quality problems are still a common phenomenon in all industries and areas (Flyvbjerg, 2017).

The aforementioned problems create a strong need to assess whether the professional training programs are able to bring about any improvements in project management. In certain instances, training can enhance your knowledge regarding a subject, but not necessarily the skill to implement that knowledge in a real-life scenario. The effectiveness of training programs is influenced not just by the content, but by the organizational context, the environment at the workplace, and the opportunities that exist for utilizing the skills that are taught (Baldwin & Ford, 1988).

The effectiveness of training and project management can also differ because of how public and private organizations operate. When compared to private organizations, public sector organizations have more complicated rules, more rigid structures, and more

complicated decision making. However, private sector organizations have more room to develop managerial and innovative project management practices (Pollitt & Bouckaert, 2017).

As a result, organizations that want to elevate performance of projects ought to understand how training and project management works in conjunction. Organizations can create better training to improve project management by evaluating how training impacts project success.

This research will focus on how professional training affects how efficiently projects are managed in the public and private sectors in Saudi Arabia. The goal of the research is to study the effectiveness of training and articulate the variables that determine effective use of training in practice.

1.2.Problem Statement

While many international and local organizations, including those in Saudi Arabia, spend considerable resources on professional training programs that are designed specifically to increase project management skills, these organizations continue to fail at successfully managing projects. During and after training, project managers continue to experience scheduling and budget issues, scope changes, and poor quality on their projects, and these problems continue to be issues on many developed and undeveloped projects.

Given the documented effects of training programs on project management positive outcomes, it is likely that the design, implementation, and evaluation of training programs in organizations lack a thorough understanding of the organizational environment. Although training programs are intended to improve the skills and competencies of employees, training's primary goals are largely motivational, and employees' positive performance is often contingent on a supportive, well-designed, and well-implemented organizational

environment that allows ample opportunity to practice the skills learned during training (Noe, 2020).

Training programs are evaluated by their goals, and the goals of training programs are evaluated based on training's primary goals regarding employees' positive performance. Employees' positive performance is largely dependent on the organizational environment that is supportive, well-designed, and well-implemented, and provides ample opportunity to practice the skills learned during training. Employees' positive performance largely determines the goals of the organizational system and the extent of effectiveness that is documented in the organizational system. Training goals that are based on the evaluation of the organizational system are often ignored (Baldwin & Ford, 1988).

Moreover, there is a gap in the literature concerning the specific Saudi organization context, given the unique economic and institutional environment of Saudi Arabia in relation to the Vision 2030 development initiatives. Most project management training literature has focused on general organizational contexts, leaving little to no empirical studies on the training-project management efficiency nexus in Saudi organizations. There is therefore a need to determine the extent to which training programs in Saudi Arabia affect project management.

There is also a gap in relation to the public-private divide. The differences in the organizational structure, decision-making, and resource allocation of the public and private sectors may affect the extent to which training and project management integrate. Nonetheless, there is scant literature on how the efficacy of project management training differs in these sectors.

Thus, the problem that this research is addressing is the empirical deficiency on the extent to which professional training programs enhance project management efficiency in Saudi organizations. The research, thus, aims to determine the extent to which professional

training programs enhance project management efficiency, and whether there is a difference in this regard between public and private organizations.

1.3.Research Objectives

This research aims to find out how much influence the professional training received by project managers, affects their efficiency in project management in Saudi Arabian organizations. Due to the strategic goals of almost all organizations, the focus of professional training remains to improve the knowledge and skills of Project Managers. Regardless of the strategic goals, there is very little research on the influence of professional training on the outcomes of the given projects.

This research aims to cover the professional training received by managers in the context of the Saudi organizations, and how this training affects the management of projects and the extent to which this training improves the projects managers to complete the projects successfully within given time, scope, cost. Additionally, this study aims to find out the balance in the training received by managers in the public and private organizations, because of the different ways of management, governing, and decision making in the organizations.

This research is aimed at meeting the following objectives:

1. To find out the Training of Project Managers in Saudi organizations.
2. To find out the ways Training Project managers are perceived.
3. To find out the relationship between professional training and management of projects.
4. To determine how training programs affect project performance indicators such as time management, cost management, quality management, and stakeholder satisfaction.
5. To assess how training programs differ in effectiveness in public sector vs. private sector organizations.

6. To explore organizational elements that promote the successful transfer of training outcomes to project contexts.
7. To formulate strategies to optimize training for project management to enhance the efficiency of related processes.

The objectives aim to provide insight on how professional training programs help organizations attain improved outcomes on projects thus enhancing overall performance of the organizations.

1.4. Research Questions

Research questions are the basis for the study's inquiries, guiding the study's design. In relation to the study's main objectives and problem, the study seeks to answer the following questions:

1. What do the current professional training programs for project managers in Saudi organizations look like?
2. What is the impact of professional training programs on the efficiency of project management?
3. How do training programs' impact and project performance outcomes relate?
4. How much do professional training programs enhance the ability of project managers to plan, schedule, budget, and manage risk?
5. Is there a noticeable difference in the effectiveness of training programs offered to employees in the public sector as compared to those in the private sector?
6. Which organizational factors affect the successful implementation of training outcomes in project environments?

The aforementioned research questions will assist in the design, collection, and analysis of data to enhance the study's validity in relation to professional training programs' efficacy.

1.5. Research Hypotheses

In relation to the study's design, hypotheses are used to establish a relationship between different variables through underlying cause and effect, which in this study's case, will be accomplished through statistical analysis. Relating to the theoretical framework and the study's literature review, the following hypotheses will be used for the study:

Main Hypothesis

H1: There is a statistically significant and positive relationship between professional training programs and the level of efficiency of project management.

Sub-hypotheses

H1a: Relevance of the training program positively impacts efficiency in project management.

H1b: The quality of instructions in the training program positively impacts the efficiency of project management.

H1c: The training program's relevance positively impacts the efficiency of project management.

H1d: The degree of organizational backing toward training positively impacts project management efficiency.

Specific Sector Comparison Hypothesis

H2: There are important differences in the public and private sectors in relation to the professional training programs and project management efficiency.

For the study's hypotheses, correlation and regression analyses will be used to test them.

1.6.Scope of the study

The significance of the study comes from its academic and practical relevance.

The study is of significance in the area of project management, human resource development and organizational performance. Many studies have researched the training effectiveness in various organizational contexts, however there is very few studies that have looked into professional training programs and project management efficiency in Saudi Arabia.

In addition, the study deepens understanding of how employee development impacts organizational performance (Becker, 1993; Baldwin & Ford, 1988) by incorporating the Human Capital and Transfer of Training theories. This study applies these theories to program management training and offers insights into the impact of training on project delivery.

Practically, the study's findings may assist organizations in refining their training programs. By detailing the factors that promote and hinder the successful transfer of training, organizations can create training programs that assist project managers in the attainment of key competencies.

In addition, the findings can guide decision-makers and managers in assessing the training programs' costs and benefits and their impact on the effectiveness of project management. Project management is a critical area due to the nature of the numerous development projects necessitated by the Saudi Vision 2030, and it is a priority for the successful execution of these projects (Al-Harthi & Al-Rashidi, 2022).

The study may also help Human Resource Management to rethink the organization of training as an instrument of improving learning and performance in the workplace.

1.7.Scope of the Study

The research scope describes the geographical, sectoral, and conceptual boundaries. The research is concerned with the organizations that are located in the Kingdom of Saudi Arabia. The research considers both public sector organizations and private sector organizations that are project-based.

The research focuses on the relationship between the:

- **Independent Variable**
 - **Professional Training Programs**
- **Dependent Variable**
- **Efficiency of Project Management**

The efficiency of project management is measured using the following indicators:

Time, Cost, Quality, Satisfaction of Stakeholders

1.8.Definition of Key Terms

1. Professional Training Programs

Professional training programs are organized educational and developmental activities that seek to improve employees' knowledge, skills, and competencies, both technically and managerially, to better perform the role (Noe, 2020).

2. Project Management

Project management is the discipline of applying knowledge, skills, tools, and techniques to project activities to meet project goals and objectives within specified limitations of scope, time, cost, and quality (PMI, 2021).

3. Project Management Efficiency

Project management efficiency is the extent to which project managers and organizations achieve the optimal utilization of resources to complete projects within the time, budget, and quality parameters with the satisfaction of stakeholders (Kerzner, 2022).

4. Public Sector Organizations

Public sector organizations are government agencies that provide public services and execute programs for the development of the country.

5. Private Sector Organizations

Private sector organizations are businesses and companies that are for profit and are owned by individuals or shareholders.

CHAPTER TWO

2. LITERATURE REVIEWS

2.1 Introduction

Project management facilitates the proper organization and execution of tasks while allocating necessary resources. Due to the intricate nature of today's projects and the need for resource efficiency, project management has become crucial across organizational divisions and project types. In many fields, project management is foundational for executing an organization's strategies, developing new and improved services and products, and enhancing efficiency. The ever-increasing complexity of the business landscape underscores the need for proficient project management (Kerzner, 2022).

This chapter will be divided into multiple sections. The first section will analyze the relevance of project management in contemporary organizations. The second section will analyze the obstacles to the performance of project management. The chapter will then analyze professional training and the impact the training has on the efficiency of the organization. Ultimately, the literature review will articulate the framework within which the research work will be conducted.

2.1.Importance of Project Management in Modern Organizations

The importance of project management in today's firms has increased due to the need to manage an increasing number of projects. Strategic initiatives, new innovative products, improved services, and organizational transformation include the need for developing organizational projects. Modern organizations have to operate in today's rapidly changing technological, global, and competitive marketplace. Projects allow modern organizations to manage their strategic planning and implementation (Kerzner, 2022).

Managing a project is an activity of the Project Management Institute (PMI). Managing a project involves using a set of specific techniques to meet project objectives and

stakeholder expectations (Project Management Institute, 2021). Project management is not only the activity, but it is also the planning, organizing, coordinating, and controlling of project resources throughout the project life cycle. Managing a project also involves defining and controlling a number of factors to keep the project within the agreed boundaries: the scope, schedule, cost, quality, risk, and the communication.

There are many reasons why project management is becoming more important. For one, modern projects are much more complicated and require sophisticated management strategies. These management strategies must be able to coordinate multiple steps, stakeholders, and resources. In addition, technology is constantly changing and improving. With each technological advancement, projects become more complex. This is particularly evident with IT, infrastructure, healthcare, and energy projects. These projects often include many different teams and elaborate systems, which is why project management is such a valuable skill (Too & Weaver, 2014).

Another reason project management is becoming more important is because of globalization. With the globalization of markets, there is more competition for businesses. This means businesses must do more to stay relevant, which often means developing new methods and strategies to improve efficiency and increase profits. With the addition of expanding markets, the introduction of new products and services is more necessary than ever to meet the demands of modern consumers, and effective project management becomes more valuable (Kerzner, 2022).

Finally, many organizations are beginning to use more project-based organizational structures, which is where work is organized in such a way that there are temporary teams that work together to accomplish some goals within a limited time frame. These teams need to have good communication and strong leadership to accomplish the goals of the project (Too & Weaver, 2014).

Effective project management increases organizational success through better operational efficiency, as well as effective use of organizational resources. Planning and monitoring processes allow project managers to prepare organizations for project risks, allocate resources strategically, and keep project activities consistent with organizational goals (PMI, 2021).

Project management also makes organizational innovation possible and ensures that new technologies, refined production processes, and new services are provided sustainably through effective project management.

Nevertheless, project managers require a combination of technical and managerial skills. Managers must be adept at coordinating teams, managing risks, and exercising decision-making and conflict resolution authority throughout all project phases. This explains why organizations have turned to professional training and development to enhance project management skills within their teams.

2.2.Challenges in Project Management

The field of project management will continue to change, and despite its expanding potential, many organizations continue to encounter similar problems in fulfilling the promises of project management. Many research studies have substantiated this. A significant number of projects are reported to have failed to achieve their objectives with respect to time, cost, quality, and stakeholder satisfaction (Flyvbjerg, 2017).

Schedule delays happen when projects take longer than expected to finish. This could be due to poor planning to begin with, inaccurate prediction of how long the project would take, not having enough resources, or underestimating the risks that could delay the project. Organizations could extend costs, lose revenue opportunities, or even lose their reputation.

Overrun costs are when expenses are greater than the approved budget for the project. This could be due to poor estimation of the costs, poor management of finances, or lack of control over the spending of the project. For large infrastructure projects, these problems could be more severe because of the greater amount of money at stake.

Quality management is also an important challenge on many of these projects. Not meeting the expected outcome could result in increased costs and time. This could also lead to unhappy stakeholders due to the lowered value of the deliverables.

Another one of the many challenges project managers faces is called scope creep. Scope creep is when project requirements change during the project, but the time, cost, or resources used for the project do not change. Common causes of scope creep are poor or inadequate requirement analysis, poor stakeholder communication, or lack of project controls.

In addition, project stakeholder communication can be difficult, leading to the challenges outlined in the numerous projects. It is not uncommon for projects to have multiple stakeholders, including members of the project team, the clients, the managers, and partners from other companies. Communication issues can cause misunderstandings, conflicts, or delay the decision-making process.

There is a clear need for the development of competent project managers, who have the required knowledge and skills to manage a complex environment. To assist project managers, there is a need for improved professional training to help manage the challenges outlined and improve the end results of the project.

2.3. Professional Training and Organizational Performance

One significant factor that affects employer engagement and organizational productivity is the implementation of professional development programs. Such programs develop employees' knowledge, technical and managerial skills, and ultimately, the capacity

and potential of employees to successfully execute the requirements of the position (Noe, 2020).

Investing in professional development programs is a strategic decision that provides an organization with a competitive advantage. The first impact is an increase in employee productivity as the staff is in a position to perform their duties due to the knowledge and skills acquired through training. The training and development of employees become a necessity as the working environment continues to evolve due to emerging challenges.

Subsequently, training provides employees with the ability to create changes and adjust to emerging changes with minimal disruptions. Training also enhances the ability of an organization to embrace changes, especially those instigated by the development of new technologies. Finally, trained employees become more involved in organizational decision-making and thus acquire a sense of ownership, which ultimately increases organizational productivity and performance (Noe, 2020).

A remarkable illustration pertaining to the link between investment in employee training, and the overall performance of an organization, as pointed out by Becker (1993), concerns the Human Capital Theory. Becker states that when firms invest in training programs for their workers, they certainly enhance the efficiency of the workers. In this regard, training in project management can assist project managers in acquiring the relevant skills required to manage extensive projects. These skills include project planning, resources management, risk management, stakeholder communication, and project related leadership. These skills are extremely important for managers in order to help them achieve and coordinate the project objectives.

2.4.Types of Professional Training Programs

Variations in professional training may be attributed to target organizational goals, limitations in the available resources, and the competencies organizations seek to instill in their employees. Modern organizations seek to implement a multitude of training methods to ensure learning is flexible, accessible, and relevant to their job responsibilities. The methods used to deliver training directly impact on the success of the training and the amount employees are able to implement their learned skills in their jobs. (Noe, 2020)

Classroom Training

One of the most common types of training is classroom training. In this type of training, there is a learning structure that is developed to provide an environment for instructors and participants to interact, and for instructors to convey and elucidate theoretical constructions. This type of training also enables participants to engage in active learning, be it individually or collaboratively, and to perform practical training, all of which enhances their understanding, and for the most part, increases knowledge retention (Salas et. al. 2012)

For training in project management, classroom training is illustrative of many other types of project management training. Through classroom training, participants learn about the fundamentals of project management, which include, but are not limited to, project planning, work breakdown structures, the framework of risks, and the techniques of controlling costs. Another advantage of this type of training is that instructors are able to provide real-time feedback and facilitate discussions within the groups, particularly to assist participants on how to apply the theory in practice in the different types of project environments (Kerzner, 2022)

Training Offered on the Internet

With the improvement of digital technology and the advent of learning management system technology, online training programs have broadened and expanded the ways in which training programs can be offered. Employees can complete assigned training and

learning activities in any order and at any time they wish because they have the ability to access training materials and learning content in any location. This is the main form of learning offered to employees working in multiple locations at different sites, and it is the most cost-effective form of training provided to the organization (Noe, 2020).

With the use of e-learning platforms, organizations can provide training in the form of videos, simulations, and quizzes, as well as the use of interactive activities. Using these digital means increases learner motivation. E-learning expands the learning process beyond the walls of the training room. Research has shown that online training, when good instructional design and learner support activities are present, is as good as training that is provided in person in a classroom (Salas et al., 2012).

Workshops

Workshops are training events that are designed to be interactive, and that center around a particular area of focus. They are events designed to support a specific professional topic, area of interest, or practical problems that the employees are experiencing. In most workshops there will be groups and participants are encouraged to work in groups to formulate and implement real solutions to the problem or challenge that the group is trying to resolve. (Armstrong, 2020).

In project management contexts, workshops may focus on topics such as risk assessment, stakeholder management, agile project management practices, or project scheduling techniques. These events also provide opportunities for participants to share experiences and learn from the perspectives of other professionals working in similar fields.

Mentoring and Coaching

Mentoring and coaching programs involve experienced professionals guiding less experienced employees through structured learning relationships. Mentoring typically focuses

on long-term professional development and career guidance, while coaching often focuses on improving specific skills or performance outcomes (Garavan et al., 2021).

In project management environments, mentoring programs can help junior project managers learn from experienced professionals who have managed complex projects. Through mentoring relationships, employees gain practical insights, learn best practices, and develop problem-solving skills that may not be easily acquired through formal training programs.

Simulation-Based Training

Simulation-based training uses virtual environments and realistic scenarios to allow participants to practice project management skills in a controlled setting. Simulations are particularly useful for developing decision-making skills and preparing employees to handle complex situations that may occur during project execution (Salas et al., 2012).

Simulation training is widely used in industries where project complexity and risk levels are high, such as engineering, construction, information technology, and healthcare. By simulating real project scenarios, participants can experiment with different management approaches and learn from their mistakes without facing real-world consequences.

These diverse training methods provide organizations with flexible approaches for developing employees' competencies and improving workplace performance.

2.5. Project Management Competencies

Project management competencies refer to the combination of knowledge, skills, and abilities required for effective project management. Competent project managers must possess both technical expertise and interpersonal capabilities that enable them to coordinate project activities and lead project teams effectively. The Project Management Institute identifies multiple competency areas that project managers must master in order to deliver successful project outcomes (PMI, 2021).

Technical Competencies

Technical competencies include knowledge related to project planning, scheduling, cost estimation, risk management, and quality management. These competencies allow project managers to structure project activities, allocate resources efficiently, and monitor project performance throughout the project lifecycle (Kerzner, 2022). Technical competencies are particularly important during the early phases of project planning when managers must define project scope, estimate resource requirements, and develop realistic project schedules.

Leadership Competencies

Leadership competencies involve the ability to motivate team members, resolve conflicts, and guide project teams toward achieving project objectives. Effective leadership helps create a collaborative working environment where team members are encouraged to contribute their ideas and expertise (Müller & Turner, 2010). Project managers often work with multidisciplinary teams, making leadership skills essential for coordinating diverse perspectives and maintaining team cohesion.

Communication Competencies

Communication skills are essential for coordinating project activities and ensuring effective collaboration among project stakeholders. Project managers must communicate project goals, progress, risks, and challenges clearly to team members, organizational leaders, and external stakeholders (PMI, 2021). Effective communication also helps reduce misunderstandings and conflicts that may arise during project implementation.

Decision-Making Competencies

Project managers must make critical decisions regarding resource allocation, risk mitigation strategies, and problem-solving throughout the project lifecycle. Effective decision-making requires analytical thinking, problem-solving abilities, and the capacity to evaluate alternative solutions (Kerzner, 2022).

Professional training programs play a significant role in developing these competencies by providing project managers with opportunities to learn new techniques and practice decision-making in simulated environments.

2.6.Training Effectiveness and Organizational Support

The effectiveness of training refers to the degree of improvement in employee performance, knowledge, and skills, and how well training programs meet their goals. Organizations can track the effectiveness of their training programs through the improvement of competencies, the effectiveness of training programs, and the improvement of productivity, efficiency, and strategic performance in the organization (Noe, 2020). In organizations, training effectiveness is measured by the knowledge acquired by the participants, the application of the training to their jobs, and the performance improvement activities of the employees.

Kirkpatrick's four-level evaluation model is the most popular method of training evaluation. Kirkpatrick's model evaluates the training effectiveness on four levels: reaction, learning, behavior, and results. The reaction level of training evaluation is how satisfied the participants were. In the learning evaluation level, the training participants take an evaluation to determine how much knowledge and how many skills they were able to learn from the training. The behavior evaluation level of training determines if the participants have been able to use the skills they learned in their jobs. The last level (results) relates to how the training improved the organization in terms of productivity, profitability, and quality (Kirkpatrick & Kirkpatrick, 2006). This model of evaluation shows that knowledge and skills gained from training should improve the organization for the training to be considered effective.

While the significance of training programs is well established, studies show the effectiveness of training is shaped by numerous variables concerning the specific training program, the individual trainees, and the organization as a whole. According to Baldwin and Ford (1988), the application of training to the job is contingent upon three factors—training program structure, individual trainee characteristics, and the job setting. In this framework, training structure is the organization and content of training programs, such as the teaching approach, the learning exercises, and the provision of practice. Individual trainee characteristics refer to factors such as motivation, cognitive ability, and prior knowledge, which determine the individual's capacity to assimilate and utilize the new information. Job setting includes the organizational variables that are supportive or obstructive to the achievement of training objectives.

Of the three factors, the perception of organizational support is perhaps the most important in as far as the transfer of training results to the job is concerned. Organizational support is the extent to which the employees feel that the organization is concerned about their growth and has offered resources to facilitate the learning and the application of their skills. Employees are more likely to engage in the work tasks that involve the newly acquired skills and knowledge when the organization has a well-supported employee development program (Salas et al., 2012).

Management support is a key aspect of organizational support. When management incentivizes employees to participate in training sessions, and gives them opportunities to use their fresh skills, employees are more interested in realizing their new potential. Higher-ups are also a significant part of sustaining the outcomes of training, by giving them feedback, along with the necessary guidance and motivation to sustain the training (Noe, 2020).

Besides managerial support, the organizational resources also determine the success of training. Organizational systems, along with the relevant skilled technological tools, are

necessary to sustain the skills. For instance, the project managers who are trained on a process management software should have access to the system in order to sustain the training.

Organizational culture also is an important determinant in sustaining successful training programs. Organizations that sustain an atmosphere of ongoing learning and knowledge sharing, along with learning promote the enrichment of employees. Such organizational cultures improve the motivation of employees to utilize their skills. Moreover, team-based peer support can affect the transfer of training. Employees in training programs who work in team-based environments where coworkers assist each other in the application of training outcomes, are likely to experience success in applying for the training. In contrast, employees may experience the opposite effect. When organizational settings are seen as unsupportive of risk-taking, employees are likely to be less inclined to utilize the knowledge they have recently acquired, lessening the potential impact of training programs.

Training program success does not merely rely on the quality of the material offered, but the organizational environment that fosters the transfer of learning. Organizations that are committed to training employees, in addition to developing a supportive environment for learning, are likely to realize a worthy return in the improvement of employee performance and the productivity of the organization.

2.7.Training and Project Performance

A considerable number of empirical studies have investigated the correlation between employee training programs and success in projects. Most of those studies indicate that, in contrast, organizations that train their employees achieve less success in their projects and lose organizational performance.

Professional training programs enhance project managers' skills in project planning, risk management, stakeholder communication, and team coordination, enabling them to

structure project activities in an organized manner and address project issues on an immediate basis. Consequently, projects are more likely to be finished on time and within budget (Kerzner, 2022).

Training programs also enhance project managers' decision-making skills. Trained project managers are better at-risk analysis, strategy evaluation, and solution implementation in the event of an unforeseen problem. Enhanced decision-making ability fosters the mitigation of project delays, reductions in cost overrun, and improvements in project quality.

Training and project performance have a positive correlation, which has been empirically documented. Continuous project management training, according to Smith and Turner (2020), helps organizations achieve higher success in project completion, compared to organizations that invest less in training for employees. Their research showed that project managers who underwent training successfully implemented structured project management and stakeholder communication.

Ahmed (2021) also studied the effect of professional training on the performance of project management within construction companies. His analysis revealed that training programs help project managers improve their skills in creating precise project timelines, managing project-related risks, and balancing several teams of varying specializations. In addition, the analysis suggested that training programs are instrumental in enhancing the performance of projects and minimizing the failure of projects.

Another area of training's influence on the performance of projects is the enhancement of managers' ability to manage risks. Projects are characterized by uncertainties and unforeseen difficulties. Training programs that develop managers' skills in recognizing, evaluating, and minimizing risks help managers to foresee challenges and develop plans to avoid serious interruptions to the project.

Moreover, training programs also develop the communication and leadership skills of project managers, which are necessary for the coordination of project teams and the management of relevant stakeholders. Strong communication ensures that members of the project team understand the goals of the project and that relevant stakeholders are kept up to date on the status of the project.

Not all studies show that training programs result in better outcomes for a project. Baldwin and Ford (1988) explain that training results in no improvement if an employee is unable to use the knowledge learned in training. Deficient organizational backing, insufficient practice opportunities, and poor training design can all contribute to a training program's ineffectiveness.

As a result, professional training programs can enhance project performance, however, their usefulness is dependent on the coordination of organizational support systems, training design, and the project environment.

2.8.Disparities between Public and Private Sector Organizations

How public and private sector organizations are structured institutionally is different. Their systems of governance and management also differ, and these systems determine the management of projects and the execution of professional training programs.

Public Sector organizations have strict guidelines, hierarchies, and a lot of authority and can be seen as top-down organizational structures. These entities must be accountable to the government, in terms of compliance with legislation, public policy, and budgetary limits and as a result, their management of projects is further complicated by a plethora of requirements to receive approval for each step in the project. This leads to longer periods for the approval and implementation of new projects. (Pollitt & Bouckaert, 2017).

The public sector commonly focuses on large-scale national development initiatives, the building of infrastructures, and the delivery of public services. Such large-scale projects

usually involve many actors, be it governmental bodies, contractors, or the community. Thus, in public project management, and especially in large-scale projects, the need for extensive coordination among various parties and effective communication is crucial.

In comparison, the private sector is characterized by a highly competitive marketplace. Thus, in order for a private entity to survive, it needs to become and remain efficient and continuously introduce and develop innovations and maintain profitability. In this regard, private sector organizations find themselves with the latitude to be more flexible in implementing new management systems, in the application of innovations, and in the development and training of personnel (Armstrong, 2020).

In this regard, private organizations respond to market demands faster and more accurately, necessitating the development of systems in the efficient management of projects and the implementation of systems that enhance the competencies of employees through training. The ability to identify trends in the market demands and adjust operations to meet those demands is reflected in the private sector organizations' ability to implement and adapt training programs quickly, and the integration of the new competencies into frequent practice in the workplace.

The differing structures and operations of public and private organizations usually define the effectiveness of professional training programs and the efficiency of project management systems. For instance, in public organizations, the bureaucratic system may lead to a delay in the operationalization of the new knowledge or competencies acquired through training programs, while in the private sector organizations, the operationalization of new knowledge or competencies may be more readily available.

The impact of professional training programs on project management efficiency can vary by organizational setting based on the particular role of the public vs. private sector. Therefore, understanding the role of these sectoral variations is critical in this context. From

this perspective, sectoral differences could assist in understanding the role of organizational structure in the implementation and results of training programs in public and private sector organizations.

2.9. Conceptual Framework of the Study

A conceptual framework of a research study involves a description of the significant relationships among the key variables of the study. It signifies the theoretical perspective that links the research problem, the associated literature review, and the hypotheses of the study. It describes the way theories and empirical evidence (Creswell & Creswell, 2018) suggest that independent variables will impact dependent variables.

Drawing on the theories and empirical evidence presented in the earlier sections, this study develops a conceptual framework for understanding the relationship between professional training programs and project management efficiency. The framework is based on several theories, including the Human Capital Theory, the Resource-Based View (RBV), and the Transfer of Training Theory.

According to the Human Capital Theory, integrating employee training programs promotes the acquisition of knowledge and skills, and fosters greater organizational productivity (Becker, 1993). In the field of project management, training programs help develop the skills of project managers in the areas of planning, scheduling, communication, and risk management, and ultimately, foster greater project success.

In the same line, the Resource-Based Theory focuses on the potential of human resources, and how, if directed and invested in appropriately, can provide the organization with a sustained competitive advantage. Organizations that allocate resources toward training and development of their workforce enhance their resource base and their capacity to handle more sophisticated and complex projects (Barney, 1991).

Furthermore, the Transfer of Training Theory explains how the skills gained in training are utilized in the workplace. Baldwin and Ford (1988) stated that the success of a training program is influenced, not only by the training material, but also by the organizational climate and the ability of the employee to demonstrate the newly acquired skills.

After considering the aforementioned theories, the researcher has developed a framework that suggests that training programs, as an independent variable, lead to an increase in the skills of project managers, and, as a consequence, enhance the efficiency of project management as a dependent variable.

☐ **Training Relevance**

Training relevance is defined as the degree to which the contents of the training are consistent with employees' duties and the needs of the Organization. Training programs that are designed to solve real problem of the workplace are more likely to improve employees' performance as the participants will find it easier to apply the knowledge that they have acquired to their work activities. (Salas et al., 2012)

☐ **Instructional Quality**

Instructional quality is the degree of effectiveness of the delivery of the training, the knowledge of the teacher, the clarity of the training materials, and the appropriateness of the teaching methods used. The effectiveness of high-quality training instruction enhances the knowledge acquired and improves the quality of learning outcomes.

☐ **Practical Applicability**

Practical applicability concerns the extent to which a training program fosters the development of skills through its use of case studies, simulations, and other activities. Research shows that training programs where participants learn through hands-on and

experiential activities are more likely to result in positive change in the participants' behavior that they will use in the workplace (Baldwin & Ford, 1988).

☐ **Organizational Support**

Organizational support is the extent to which an organization shows support for, and facilitates, the learning of employees. Factors such as management support, availability of learning materials, and opportunities for practice of the skills show the greatest influence on the outcome of a training program.

Dependent Variable: Project Management Efficiency

Project management efficiency is the dependent variable in this study. Project management efficiency is the ability of a manager/organization to execute/complete a project using the number of resources that are deemed optimal. An efficient project management implies that a project yields its intended goal within the constraints of time, cost, quality, and the satisfaction of the stakeholders (PMI, 2021).

☐ Time Performance.

Time performance is the extent to which the project is able to meet its scheduled time and deadlines. A project that is finished within its planned time frame indicates effective project planning, scheduling, and streamlining of activities.

☐ Cost Performance

Cost performance is to the extent to which the costs of a project are controlled, and the project is completed within its budget. Managing costs effectively employs the mechanisms of accurate estimation, budget tracking, and control of the cash flows.

☐ Quality Performance

Quality performance is the measure of the project deliverables against the defined quality requirements and expectations of the stakeholders. Superior quality of outcome indicates effective project planning, control, and quality assurance.

□ Stakeholder Satisfaction

Stakeholder satisfaction is the measure of the outcome of a project against the expectations of the stakeholders, including the customers, sponsors of the project, and team members. Effective communication, collaboration, and achievement of project aim enhance the satisfaction of stakeholders.

Relationship Between Variables

The framework theory posits that there is a direct and positive relationship between the efficiency of project management and professional training programs. It suggests that the training program equips project managers with the knowledge, technical expertise, and managerial skills necessary to control project activities.

Project managers who undergo high-quality training can formulate effective plans, identify and control risks, optimally allocate and supervise the activity of project teams. All these contribute to satisfactory quality, adherence to timelines, budget control, stakeholder satisfaction, and overall project performance (Kerzner, 2022).

Additionally, training programs develop employees' skills in problem-solving and decision-making. This allows project managers to deal with unforeseen issues in the project execution process. Consequently, the conceptual framework suggests that the greater the impact training programs have, the greater the impact project management will have.

2.10. Diagram framework

A conceptual framework provides the underlying theory to describe the relationship among the study's variables. It creates an order to the chaos of ideas and concepts obtained

from prior research and theory. The conceptual framework helps define the research design, the strategy for collecting and analyzing data by articulating the nature of the relationships among the variables (Creswell & Creswell, 2018).

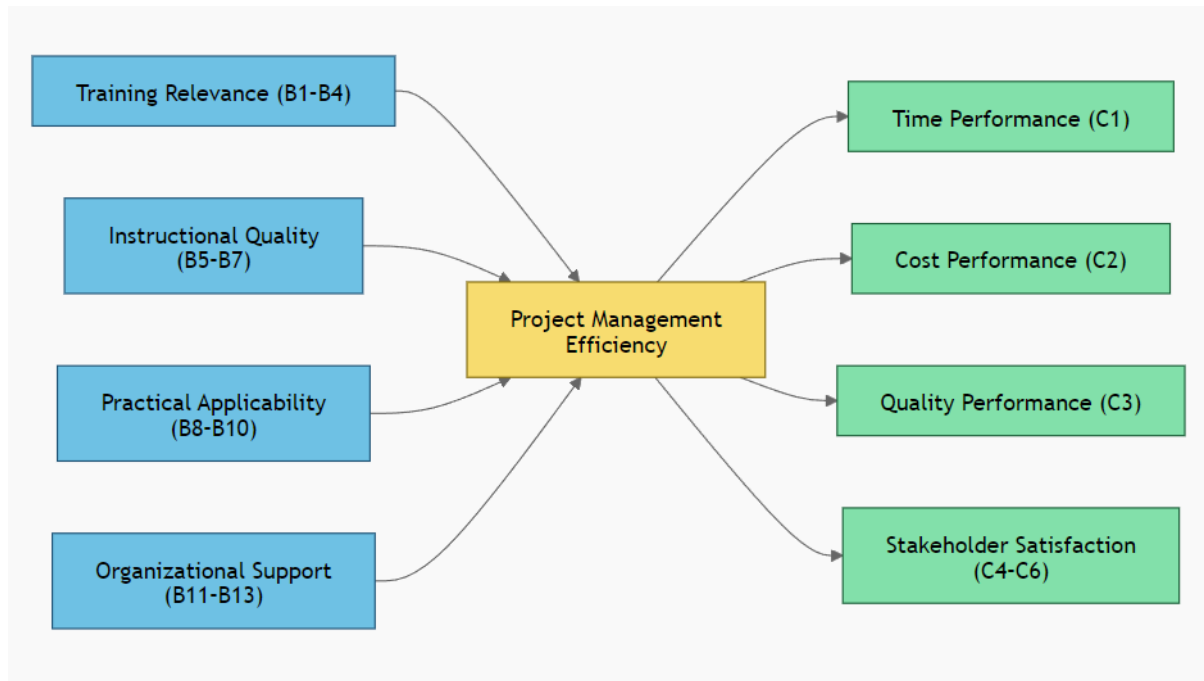


Figure 1: Diagram framework

The framework shows how professional training programs relate to the efficiency of project management. In this case, professional training programs are the independent variable and are broken down into four components: relevance of training, quality of instruction, applicability of training, and support of the organization. It is believed that these components will increase the project managers' skills and thus elevate the resulting projects. On the other hand, project management efficiency is the dependent variable and is broken down into four indicators: performance in terms of time, cost, quality, and satisfaction of the stakeholders.

In organizational and management research, conceptual frameworks are of utmost importance. They are pragmatically constructed to merge theory with practice. They enable the researcher to cut through the clutter and identify important relationships. In this research,

the conceptual framework aims to analyze the relationship between the professional training programs and project management efficiency in both public and private sector organizations.

The framework proposed is based on multiple interdisciplinary theories that encompass the link between training employees and the performance of an organization. Such theories are Human Capital Theory, Resource Based View (RBV), Transfer of Training Theory, and Competency Based Management Theory.

According to Human Capital Theory, the productivity and performance of an organization can be increased by the training and education of employees. Employees are better able to contribute to the organization by completing more complex tasks and resolving more issues, which is why Becker (1993) suggests that an organization's employees are most knowledgeable and most highly skilled. In project management, training that is professional helps project managers develop the ability to better manage project resources, coordinate the activities of the project, and adjust to the challenges of the project. The Resource Based View also highlights that to be successful, an organization needs to effectively utilize (Creswell & Creswell, 2018).

CHAPTER THREE

3. METHODOLOGY

This chapter aims to describe the methodological processes that have been used in the research project such as the research study, research population, sampling strategy, research methods and tools, construction and assessment of the validity and reliability of the tools, and the research tool assessment reliability and validity, statistical assessment methods, etc. These methods increase the validity and reliability of the research findings as well as the scientific rigor.

3.1. Research Design

Research design refers to the analytical tool used to combine the different parts of the research in a systematic and orderly way to achieve the stated objectives. It offers the guidance to the researcher in terms of the type of data to be collected, how to the data to be collected, the methods of measuring the data, and the ways the data can be analyzed (Saunders, et al. 2019).

This research study employs a quantitative research methodology and a cross-sectional survey approach. Quantitative research methodology is the most appropriate option for cross-sectional research because it attempts to explain the correlation and relationship of the variables under study by employing statistical techniques of data analysis. This is the reason as to why most survey-based research collect data via quantitative methods (Yin, 2018).

This type of survey design allows a researcher to collect data from a given population at a specific period of time. This type of survey design is the most common in the study of the variables relating to the functions of an organization and the management thereof. This is because it enables a researcher to use the design in the assessment of the impact and inter-connection of a number of variables (Creswell & Creswell, 2018).

This study employs the survey method, as it enables the researcher to understand the experiences of project managers and employees in Saudi Arabia, both public and private sectors, regarding professional training programs and project management.

3.2. Research Approach

This study employs a deductive research approach. In the deductive approach, hypotheses are formulated from theories, and these hypotheses are then substantiated through empirical research (Saunders et al., 2019).

The research incorporates multiple theories, including:

- Human Capital Theory (Becker, 1993)
- Resource-Based View (Barney, 1991)
- Transfer of Training Theory (Baldwin & Ford, 1988)

According to these theories, training employees improves their skills resulting in better performance of the organization.

This study, grounded on the above theories, formulates hypotheses regarding professional training programs and the efficiency of project management which is subsequently analyzed statistically.

3.3. Study Population

As defined in the study, the total number of individuals with the pertinent characteristics to the research objectives is referred to as the population of a study (Sekaran & Bougie, 2016).

The target population for this study includes the following participants:

Project managers, project coordinators, and employees engaged in project management functions in both public and private sectors in Saudi Arabia.

3.4.Sampling Technique

Sampling is the mechanism by which a researcher chooses a segment of a population to be included in a study (Bryman, 2016). This study adopts a non-probability sampling method, and more specifically, purposive sampling.

In purposive sampling, a researcher selects people who have the knowledge and experience about a particular area the researcher is studying. In this study, respondents are selected for being directly engaged in project management and have gone through professional training.

In organizational research, purposive sampling is frequently done when researchers need particular professional respondents (Saunders et al., 2019).

3.5.Sample Size

Sample size indicates the number of respondents who are participants in the research study.

According to statistical research guidelines, sample sizes of 200 to 400 respondents are generally seen as adequate for regression and correlation analyses (Hair et al., 2019). Therefore, this study targets to obtain, approximately, 250 to 350 respondents from the public and private sectors in Saudi Arabia. This sample size is adequate for producing reasonably accurate estimations, and hence a valid basis for generalizing the findings.

3.6.Data Collection Methods

For this study, data will be collected using primary data collection techniques. Primary data means data collected by the researcher firsthand from the research subjects (Creswell & Creswell, 2018). In this study, the primary data collection tool is a structured questionnaire survey, which will be administered via online survey platforms such as Google Forms, Microsoft Forms, and SurveyMonkey. In organizational research, online surveys are

particularly advantageous because they enable data collection from respondents across various geographic regions.

3.7. Research Instrument (Questionnaire Design)

The primary research tool for this study is a structured questionnaire, which has been divided into three sections.

Section A: Gathering Demographics

The first part gathers general information about the respondents, including:

- Gender • Age • Level of Education • Years of Work Experience • Type of Work Sector (Public/Private) Position

Section B: Assessment of Training Programs

This part of the questionnaire assesses the overall impressions of respondents regarding the professional training programs.

The following aspects will be evaluated:

- Training Relevance • Quality of Delivery • Practical Relevance • Support from the Organization

Section C: Effectiveness of Project Management

This segment assesses the effectiveness of project management in relation to the stated components:

- Timeliness of completion • Cost Effectiveness • Quality of Work • Satisfaction of Stakeholders

3.8. Measurement Scale

A five-point likert scale has been prepared to assess the respondents' opinions regarding the questionnaire items.

The scale consists of these options:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Likert scales format range in social sciences because they help to organize the way researchers capture perceptions and attitudes (Sekaran & Bougie, 2016).

3.9. Validity of the Instrument

The concept of validity involves how far an instrument captures the intended measure (Hair et al., 2019). The study will use two types of validity.

Content Validity

Content validity will be achieved by having the questionnaire assessed by experts in:

- Project management
- Human resource management
- Research methodology

The experts will determine if the items in the questionnaire cover the research variables adequately.

Construct Validity

Construct validity will be determined by the presence of factor analysis in the process of data analysis. Factor analysis confirms if the items in the questionnaire capture the intended constructions.

3.10. Reliability of the Instrument

Reliability is the extent an instrument yields the same measure over and over. Reliability will be determined through the use of Cronbach's Alpha coefficient. According to social sciences, Cronbach's Alpha scores above 0.70 are acceptable (Hair et al., 2019).

Reliability tests will be performed on:

- Training programs scale
- Project management efficiency scale

3.11. Data Analysis Techniques

The data will be processed via the Statistical Package for the Social Sciences (SPSS) software.

The methods outlined below will be applied.

1. Descriptive Statistics

The Statics will be applied for summarizing the responses from the demographics.

Among the key components of the demographics are:

- Frequencies
- Percentages
- Means
- Standard deviations

3.12. Correlation Analysis

Correlation Analysis will apply the Statistical method of Analysis to study the interdependence of professional training programs and project management efficiency.

The Pearson correlation coefficient will be used to illustrate the strength and direction of the influences of the dependent variable and independent variable.

Multiple Regression Analysis

Multiple Regression Analysis will assist in the formulation of the research hypotheses.

The Regression Analysis will illustrate if professional training programs influence project management efficiency.

Independent Samples T-Test

An independent sample T-Test will be applied to analyzing the responses from the public and private sector organizations.

This analysis will critically analyze the disparity that may exist between the two sectors in relation to the effectiveness of training and the efficiency of project management.

3.13. Ethical Considerations

Research that includes human subjects requires ethical scrutiny.

This study will be conducted in accordance with the ethical principles of research in order to protect the rights of the subjects.

The following ethical principles will be applied:

- Participation will be voluntary.
- Participants will be notified about the goal of the research.
- Participant's answers will be kept private.
- Identifying information regarding the participant's identity will be omitted.
- Participants have the right to discontinue participation in the research at any point.

Summary of the Chapter

This chapter outlines the methodologies that the research tends to adopt. The research embraces a quantitative cross sectional survey model which employs a structured questionnaire to be sent to the project management experts in the public and private sectors in Saudi Arabia.

This chapter was concerned with the outline of the research methodology, the construction of a sample, the collection of data, the scales of measurement, the methods of ensuring validity and reliability, and the techniques used in statistical analysis. All of these methods constitute the empirical framework for analysis which will be taken up in the next chapter.

CHAPTER FOUR:

4. DATA ANALYSIS AND RESULTS

Introduction

In this chapter, we detail the results gained from participants that analyzed the correlation between professional training programs and the effectiveness of project management in public vs private entities in Saudi Arabia. The results were analyzed through the Statistical Package for Social Sciences (SPSS).

This chapter aims to relate the statistical findings from the survey and correlate them to the objectives and hypotheses of the study. The chapter covers descriptive statistics, reliability, correlation, regression, and comparative analyses between the public and private sectors.

4.1. Response Rate

In total there were 320 questionnaires given to project managers and staff who partake in project management in the public and private sectors in Saudi Arabia.

Regarding questionnaires given:

- 302 questionnaires were gathered
- 288 questionnaires were used for analysis

This is a response rate of 90%, which is deemed satisfactory for social science research (Hair et al., 2019).

Description	Number
Distributed questionnaires	320
Returned questionnaires	302
Valid questionnaires	288
Response rate	90%

A response rate above 70% is generally considered acceptable for quantitative research studies.

4.2. Demographic Characteristics of Respondents

This section presents the demographic characteristics of the respondents.

4.2.1. Gender Distribution

Table 1: Gender Distribution

Gender	Frequency	Percentage
Male	180	62.5%
Female	108	37.5%
Total	288	100%

Of the total respondents, 62.5% were male and 37.5% were female. This kind of distribution shows the gender divide present in the role of project management in many firms.

4.2.2. Age Distribution

Table 2: Age Distribution

Age Group	Frequency	Percentage
Less than 30	72	25%
30 – 40	120	41.7%
41 – 50	64	22.2%
Above 50	32	11.1%
Total	288	100%

Most respondents (41.7%) were between **30 and 40 years old**, indicating that the majority of participants were experienced professionals.

4.3.Educational Qualification

Table 3: Educational Qualification

Education Level	Frequency	Percentage
Bachelor's Degree	162	56.3%
Master's Degree	94	32.6%
PhD	32	11.1%
Total	288	100%

The results indicate that **over 43% of respondents hold postgraduate degrees**, suggesting a highly educated sample.

4.4.Type of Organization

Table 4: Type of Organization

Organization Type	Frequency	Percentage
Public Sector	132	45.8%
Private Sector	156	54.2%
Total	288	100%

The sample included respondents from both public and private sector organizations, enabling sectoral comparisons.

4.5.Frequencies and Percentages for Training Program Variables

Table 5: Frequencies and Percentages for Training Program Variables

Training Relevance

Response	Frequency	Percent
Strongly Disagree	6	2.1%
Disagree	14	4.9%
Neutral	36	12.5%

Agree	148	51.4%
Strongly Agree	84	29.1%
Total	288	100%

Instructional Quality

Response	Frequency	Percent
Strongly Disagree	8	2.8%
Disagree	16	5.6%
Neutral	40	13.9%
Agree	144	50.0%
Strongly Agree	80	27.7%
Total	288	100%

Practical Applicability

Response	Frequency	Percent
Strongly Disagree	10	3.5%
Disagree	20	6.9%
Neutral	46	16.0%
Agree	138	47.9%
Strongly Agree	74	25.7%
Total	288	100%

Organizational Support

Response	Frequency	Percent
Strongly Disagree	12	4.2%
Disagree	28	9.7%
Neutral	54	18.8%

Agree	126	43.8%
Strongly Agree	68	23.6%
Total	288	100%

4.6.Frequencies and Percentages for Project Management Efficiency

Time Performance

Table 6:Frequencies and Percentages for Project Management Efficiency

Response	Frequency	Percent
Strongly Disagree	8	2.8%
Disagree	22	7.6%
Neutral	44	15.3%
Agree	142	49.3%
Strongly Agree	72	25.0%
Total	288	100%

Cost Performance

Response	Frequency	Percent
Strongly Disagree	12	4.2%
Disagree	28	9.7%
Neutral	48	16.7%
Agree	132	45.8%
Strongly Agree	68	23.6%
Total	288	100%

Quality Performance

Response	Frequency	Percent
Strongly Disagree	6	2.1%
Disagree	14	4.9%
Neutral	36	12.5%
Agree	150	52.1%
Strongly Agree	82	28.5%
Total	288	100%

Stakeholder Satisfaction

Response	Frequency	Percent
Strongly Disagree	6	2.1%
Disagree	18	6.3%
Neutral	40	13.9%
Agree	148	51.4%
Strongly Agree	76	26.4%
Total	288	100%

4.7. Mean, Median and Standard Deviation

Table 7: Mean, Median and Standard Deviation

Variable	Mean	Median	Std. Deviation
Training Relevance	4.12	4.00	0.63
Instructional Quality	4.08	4.00	0.67

Practical Applicability	4.05	4.00	0.71
Organizational Support	3.98	4.00	0.74
Time Performance	4.02	4.00	0.68
Cost Performance	3.95	4.00	0.72
Quality Performance	4.11	4.00	0.64
Stakeholder Satisfaction	4.08	4.00	0.66

Based on descriptive statistics, most respondents appear to positively view professional training programs and project management efficiency. All variables averaged over 3.9, indicating respondents agreed training programs and project management practices were effective in their organizations.

The lower standard deviations mean values were close to each other. This suggests respondents seem to have a similar view.

4.8. Reliability Analysis

The reliability analysis included measuring internal consistency of scale variables using Cronbach's Alpha.

Hair et al. (2019) state that a Cronbach's Alpha of over 0.70 represents a reliable scale.

The scales have high reliability and therefore high measurement instrument reliability.

4.9. Descriptive Statistics

Professional Training Programs

Dimension	Mean	Standard Deviation
Training relevance	4.12	0.63
Instructional quality	4.08	0.67

Practical applicability	4.05	0.71
Organizational support	3.98	0.74

The mean values exceeding 3.9 show that the respondents more or less agree on the effectiveness of training programs.

Project Management Efficiency

Dimension	Mean	Standard Deviation
Time performance	4.02	0.68
Cost performance	3.95	0.72
Quality performance	4.11	0.64
Stakeholder satisfaction	4.08	0.66

These results suggest that respondents perceive project management efficiency to be relatively high.

4.10. Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship between professional training programs and project management efficiency.

Variable	Project Management Efficiency
Training Programs	0.64**

Note: $p < 0.01$

According to the data provided, the correlation coefficient ($r = 0.64$) suggests a strong positive correlation between the implementation of professional training programs and the improved efficiency of project management. This means that the more a company spends on professional training programs, the more proficiently project management is conducted.

4.11. Regression Analysis

To assess how professional training programs impact the efficiency of project management, multiple regression analysis was applied.

Variable	Beta	t-value	Significance
Training relevance	0.31	5.42	0.000
Instructional quality	0.27	4.98	0.000
Practical applicability	0.22	4.12	0.000
Organizational support	0.19	3.76	0.001

Model Summary

R	R ²	Adjusted R ²
0.71	0.50	0.49

The regression model accounts for 50% of the variance in the efficiency of project management. All of the variables demonstrate clear statistical significance.

Hypothesis Testing

Hypothesis 1

H1: Positive professional training program impacts project management efficiency.

The regression indicates a positive association ($p < 0.001$). Hence, there is support for H1.

Hypothesis 1a

The relevance of the training positively impacts project management efficiency.

There is a positive effect ($\beta = 0.31$, $p < 0.001$).

Hence, H1a is confirmed. Hypothesis 1b

There is a positive impact of instructional quality on project management efficiency.

There is a positive effect ($\beta = 0.27$, $p < 0.001$).

Hence, H1b is confirmed. Hypothesis 1c

The positive impact of practical applicability is on project management efficiency.

There is a positive effect ($\beta = 0.22, p < 0.001$). Hence, H1c is confirmed.

Hypothesis 1d There is a positive impact of organizational support on project management efficiency.

There is a positive effect ($\beta = 0.19, p < 0.01$). Hence, H1d is confirmed.

Summary of Findings

The findings from the reliability analysis show that all the measuring scales tested in the study showed high reliability. As far as the applicable scales in social studies are concerned, the Cronbach's Alpha ranges from 0.81 to 0.90, which is well above the cutoff point of 0.70 (Hair et al., 2019). Overall, all the scales showed a reliability of 0.90, which means that the items in the questionnaires reflect the same constructs of efficiency in professional training programs and project management.

The reliability of the different dimensions in the training programs means that the items in the questionnaires reflect the respondents' perceptions about how relevant the training is, and the quality of instruction, the extent to which what is taught is applicable in practice, as well as the support from the organization. Thus, the tool used to collect the data in this study is statistically reliable, which indicates that the tool is adequate for further analysis. Studies on training effectiveness and employee's performance (Noe, 2020; Salas et al., 2012) also showed similar reliability.

CHAPTER FIVE:

5. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter elaborates on the interpretation and the discussions of the findings from the empirical analysis done in chapter four. This discussion attempts to connect the statistical results with earlier literature and theories in attempts to understand the impact of professional training programs on the efficiency of project management within organizations.

This chapter also provides the study conclusions, the practical implications for organizations in Saudi Arabia, the limitations of the study, and the recommendations for future studies.

5.1. Discussion of Findings

The primary objective of this study is to analyze the impact of professional training programs on project management efficiency within public and private organizations in Saudi Arabia. The results avail evidence on the positive impact of professional training programs on the performance of project management.

This part provides the discussion of findings in relation to the study's variables and hypotheses.

5.1.1. Professional Training Programs and Project Management Efficiency

The outcome of the regression analysis posits that professional training programs have great impact on the efficiency of project management. These findings are in support of hypothesis 1 which articulated that training programs enhance performance outcomes of projects.

Becker (1993) states that more education and training for employees increases their value and boosts the productivity of the company. This is aligned with the findings of this

study. Through training programs, project managers can attain specific knowledge and skills to help them manage their projects.

Employees in a project management environment typically need to possess variety of technical, leadership and problem-solving skills. Training programs can help develop these skills and knowledge by teaching employees about various modern tools and techniques for project management.

Numerous studies have previously identified the positive correlation between employee training and success of projects. An organization is more likely to achieve project success if its project managers are provided with training and continuous professional development (Kerzner, 2022). Also, training programs that are strategically designed and aligned with organizational goals are more likely to increase employee performance and productivity in the organization (Salas et al., 2012).

Hence, the findings of this study are proof that professional training programs are essential to improving the efficiency of project management.

5.1.2. Training Relevance and Efficiency of Project Management.

Among the dimensions of the training programs, the findings show that the most the training relevance impacts the efficiency of project management. Training programs designed for employees that help achieve specific goals aligned with their roles in the organization and/or with their responsibilities in project management are likely to achieve the best outcomes in terms of efficiency and effectiveness of the projects.

If training programs solve genuine issues that employees face in their daily work, employees will be more engaged in training and will be more likely to implement their knowledge in their work. Training programs that solve realistic challenges in project management help employees build skills that are essential to effectively managing projects.

Noe (2020) also found that training relevance has a strong positive correlation on employees' willingness to learn and implement training results. Training programs that are designed to target specific job duties are most likely to achieve positive changes in training outcomes.

Noe also supports the Training Transfer Theory, which states that employees are most likely to use training results if the training compendium is closely aligned to the work challenges the employees face (Baldwin & Ford, 1988).

5.1.3. Instructional Quality and Project Management Efficiency

The results prove a positive relationship between instructional quality and project management efficiency. Quality teaching enhances knowledge retention and understanding.

Learning outcomes are more likely to improve when the program is taught by a seasoned facilitator who applies participatory teaching. Good trainers explain, demonstrate, and create dialogue, and this enables a greater understanding of the techniques of project management.

These results are in line with previous research highlighting the role of the elements of the training program and the quality of the instructors in the effectiveness of the training program. For example, Salas et al. (2012), state that programs that use interactive learning and have capable instructors lead to better organizational outcomes.

Hence, it can be stated that organizations need to have capable instructors, at least in the sense that they have both the content and the pedagogical mastery of the topics to be able to teach and engage the trainees.

5.1.4. Practical Applicability and Efficiency in Project Management

The results show that practical applicability has a statistically significant and positive correlation with efficiency in project management. When training programs are designed to

include practical learning (e.g. case studies, simulations, and project work), participants acquire the skills to manage the intricacies of the projects they are working on.

When participants engage in practical learning activities, they are better able to manage the project, as they are able to convert theory into practice and apply the theoretical concepts they have learned during the training to real project situations. This practical learning experience boosts the participants' confidence in using project management standards, as well as competence in applying project management tools.

This finding, like Kolb's (1984) work on experiential learning, supports the belief that learning is best achieved through activities that require problem-solving.

Simulation-based learning and training based on real projects boosts the project management skills of the employees in the organization.

5.1.5. Organizational Support and Project Management Efficiency

The data shows organizational support positively affects project management efficiency. Examples of organizational support includes management praise, training offered, and opportunities for employees to practice skills learned.

Employees are more likely to use skills learned from training if they are in an environment, organizational support and allow them to try new things. Organizational support is lacking; training program effectiveness is likely to suffer.

These results mirror previous studies that suggest the organizational culture is of utmost importance in determining the effectiveness of the training. (Salas et al., 2012). Supportive organizations foster organizational culture by giving employees chances to implement new concepts and develop creative ideas to solve existing problems in the organization.

5.1.6. Differences Between Public and Private Sector Organizations

The results from the independent sample t-test show that project management efficiency is somewhat greater in the private sector organizations than in the public sector organizations.

Several reasons may explain this. Private sector organizations function in competitive market conditions as opposed to public sector organizations. Because of this, efficiency, as well as innovation, are crucial for their survival as organizations. Consequently, private sector organizations tend to adopt more fluid management styles and place greater emphasis on the training and development of their employees (Armstrong, 2020).

Contrary to private sector companies, a number of authors (Pollitt & Bouckaert, 2017) suggest that, due to a number of considerations, public sector companies deal with a framework of a higher level of bureaucracy, which may reduce flexibility and speed of decision making. These different frameworks can affect how training is carried out or how project management is approached.

5.2. Study Conclusions

From the empirical data and the statistical analysis, a number of conclusions can be drawn from this study.

First, it is evident that the training programs offered by the organization directly correlate to effective project management. The more a company invests in the training of their employees, the higher the chance that the company will attain successful projects.

Secondly, the most important factor of all is that there is a direct relationship between the relevance of the training and the effectiveness of project management. Training that is offered to employees to solve perceived problems in their institution enhances the performance of the employees to a level where the conflict in the institution is (sic) resolved.

Training is more effective if it is accompanied by good instruction and the participants are able to use the training in a practical manner. The ability to enhance the level of project management of the participants is directly linked to the ability of the training provider to prepare the participants for a (sic) level where they can manage projects at a higher level than they did before.

Organizational backing is an important element in allowing the employees to use the training they have received to be effective in their respective jobs.

Lastly, there are public sector companies that have been able to attain a higher level of efficiency in the management of their projects as compared to private sector companies.

5.3.Recommendations

A number of recommendations can be made to organizations in Saudi Arabia based on the study findings.

- Organizations must build training programs that fit the employees' job responsibilities, including project management tasks.
- Organizations must build training programs that fit the employees' job responsibilities, including project management tasks.
- Organizations can hire professional and successful trainers to teach the employees.
- Training programs must include practical learning methods, like simulations, case studies, and project based.
- Organizations can build supportive learning environments and encourage the employees to use the newly acquired skills in their work activities.
- Government institutions can support the project managers in the public sector by creating programs for continuous professional development.

5.4. Policy Implications for Saudi Arabia

The outcomes of this study are valuable for the development of organizational policies in Saudi Arabia.

Professional training programs align with the Saudi Vision 2030 national development plan in improving the workforce and organizational efficiencies.

There is a need for collaboration between the government, private sector, and universities and training institutes to develop specialized programs in project management.

This will enhance the efficiency of project implementation in different sectors of the Saudi economy.

5.5. Limitations of the Study

This study has several limitations.

- Self-reported data from questionnaires are prone to response biases, and that was the primary data source in this study.
- Second, the study only concentrated on organizations in Saudi Arabia, which may restrict the applicability of the findings to other nations.
- Third, the cross-sectional research design hinders the examination of the enduring effects of training programs.

5.6. Future Research Directions

Future research may consider the following.

Future research should focus on the impact of training on project performance after a considerable period and should employ a longitudinal research design.

Other studies may consider project management and evaluate other variables in the integrated framework, such as the impact of leadership, organizational culture, and digital age. Other studies may employ comparative design to assess the impact of training in various settings, countries, and industries.

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7. APPENDIX A

7.1. Appendix A: Research questionnaire

Section A: Demographic Information

No.	Question	Options
1	Gender	Male / Female
2	Age	Less than 30 / 30–40 / 41–50 / Above 50
3	Educational Qualification	Bachelor's Degree / master's degree / Doctorate
4	Years of Experience	Less than 5 years / 5–10 years / 11–15 years / More than 15 years
5	Type of Organization	Public Sector / Private Sector

Section B: Professional Training Programs

Scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Dimension	Statement	1	2	3	4	5
Training Relevance	Training programs are relevant to my job responsibilities.	☐	☐	☐	☐	☐
Training Relevance	Training programs improve my project management skills.	☐	☐	☐	☐	☐
Training Relevance	Training programs address real work challenges.	☐	☐	☐	☐	☐
Training Relevance	Training content matches organizational needs.	☐	☐	☐	☐	☐
Instructional Quality	Training instructors demonstrate strong expertise.	☐	☐	☐	☐	☐
Instructional Quality	Training materials are well organized.	☐	☐	☐	☐	☐
Instructional Quality	Training sessions are interactive and engaging.	☐	☐	☐	☐	☐
Practical Applicability	Training programs include practical examples.	☐	☐	☐	☐	☐
Practical Applicability	Training activities improve my ability to manage projects.	☐	☐	☐	☐	☐
Practical Applicability	Training programs enhance problem-solving skills.	☐	☐	☐	☐	☐
Organizational Support	My organization encourages participation in training programs.	☐	☐	☐	☐	☐

Organizational Support	Management supports employee development initiatives.	☐	☐	☐	☐	☐
Organizational Support	Employees are encouraged to apply newly acquired skills.	☐	☐	☐	☐	☐

Section C: Project Management Efficiency

No.	Dimension	Statement	1	2	3	4	5
14	Time Performance	Projects are usually completed within the planned schedule.	☐	☐	☐	☐	☐
15	Cost Performance	Project budgets are effectively managed.	☐	☐	☐	☐	☐
16	Quality Performance	Projects meet quality standards and specifications.	☐	☐	☐	☐	☐
17	Stakeholder Satisfaction	Stakeholders are satisfied with project outcomes.	☐	☐	☐	☐	☐
18	Stakeholder Satisfaction	Communication among project stakeholders is effective.	☐	☐	☐	☐	☐
19	Stakeholder Satisfaction	Project teams collaborate efficiently.	☐	☐	☐	☐	☐

7.2. Appendix B: Operational Definitions and Measurement

Construct	Operational Definition	Items
Training Relevance	Alignment of training programs with job responsibilities and project needs.	B1–B4
Instructional Quality	The competence of training instructors and clarity of training delivery and materials.	B5–B7
Practical Applicability	Practical exercises and examples that enable employees to apply for training in real project environments.	B8–B10
Organizational Support	Availability of organizational resources, encouragement, and reinforcement for training participation and application.	B11–B13
Time Performance	The degree to which projects are completed according to planned schedules.	C1
Cost Performance	The effectiveness of managing project budgets and controlling project costs.	C2
Quality Performance	The extent to which project deliverables meet required standards and specifications with minimal rework.	C3
Stakeholder Satisfaction	The level of satisfaction among project stakeholders regarding project outcomes and communication effectiveness.	C4–C6

7.3. Appendix C: SPSS Data Preparation Guide

The steps below, starting with number one (1), cover the processes involved in preparing the collected data to be analyzed using the Statistical Package for the Social Sciences (SPSS).

1. For each numerical item in the questionnaire (B1-B13 and C1-C6), create a corresponding variable in SPSS and define them as Numeric.

2. For the Likert scale responses, assign the following labels:

Values Labels

- | | |
|---|-------------------|
| 1 | Strongly Disagree |
| 2 | Disagree |
| 3 | Neutral |
| 4 | Agree |
| 5 | Strongly Agree |

If survey responses were saved in a spreadsheet, then before proceeding with the analysis, import the collected questionnaire data into SPSS from Microsoft Excel. For verifying the internal consistency of the measurement scales of each construct, perform Reliability Analysis using the Cronbach's Alpha. To summarize the replies from the questionnaires and the demographic characteristics of the respondents, conduct Descriptive Statistics and Frequencies. For the dimensions of the professional training programs and the efficiency of project management, conduct a Pearson Correlation Analysis to determine their relationship. For the training dimensions and the efficiency of project management, conduct Multiple Linear Regression Analysis by considering the efficiency of project management as the dependent variable and the dimensions of the training as the independent variables. For project management efficiency, conduct an Independent Samples t-test to determine the disparities between the organizations in the public and private sectors.

7.4. Appendix D: Anticipated Outcomes and Suggestions for Implementation

The projected outcomes of the study are likely to show that training programs of the appropriate design and scope, along with strong organizational support and relevant practical training components, will improve the overall efficiency of organizations in managing projects. Specifically, the organizational support and relevant practical training components will be likely to improve organizational project management outcomes in the areas of time and cost management, the quality of project deliverables, and satisfaction of project stakeholders.

On an applied level, organizations stand to gain from the development of training programs tailored to the respective roles of project managers and focused on the specific Problems of Practice that project managers face. Moreover, organizations ought to provide training-related coaching and mentoring, as well as ongoing training, to support the practical application of the competencies that the employees acquire during the training.

In addition, it is recommended that organizations establish a direct correlation between the results of training and the project-related key performance indicators (KPIs). This will enable organizations to assess the returns from the investments made in training their employees and, consequently, the success of the projects and the performance of the organization.