Matching of the Project Manager’s Approach and the Project Delivery System to Achieve Project Success in Yemeni Projects

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ABSTRACT

The goal of this study is to seek answers to whether project managers’ approach is influenced by the project delivery system for achieving project success in Yemeni projects. A quantitative approach was adopted in this paper, and 375 project managers from two governorates of Yemen served as respondents. The idea is to assess the connection between the project managers’ approach (PMA) and the project delivery system (PDS). The results revealed that the project manager’s approach (participative and directive) and alignment with the project delivery systems (traditional or design and build) were directly linked with project success or failure. Moreover, the results revealed that the project managers adopting a participative approach have constructive effects, while the project managers adopting a directive approach harm project success. It is a chance for inexperienced project managers to receive advice on how to implement their management strategy and learn that, for Yemeni projects (YPs), every project delivery system requires a suitable approach to leadership.

Keywords: Management approach, Project delivery system, Project manager, Yemeni projects.

1. INTRODUCTION

The objective of the project manager’s approach is to accomplish a project that meets the client’s objectives. The client’s objectives commence from the beginning of a project to project closing; construction project management includes planning and coordinating every aspect of the task’s life cycle. According to Martin (1988), it’s a comprehensive approach to completing projects on schedule and within budget constraints. Two project managers’ approaches are considered in this study: the participative approach and the directive approach, as they are aligned with Hersey and Blanchard (1969a). Hersey and Blanchard (1969a) posit that two extreme approaches of project management, which are directive and participative, should be included when researching project management.

Al Khalil (2002) posits that choosing the optimal project delivery system is a critical step in developing a comprehensive plan for project delivery. Two project delivery systems are taken into account in our research: (1) the design-bid-build (DBB) system and (2) the design-build (DB) system, which is the most familiar system of project delivery (Al Khalil, 2002; Nasser et al., 2024). The client must evaluate numerous factors relevant to the selection to determine which of these strategies is most suited. The goals of the client are always composed of completing the project by a given date, performing the finished plan, and achieving performance within a given cost or budgetary restriction.

This study emphasizes the relevance of the project manager’s approach competence and commitment to the client’s objective, project plans and documents, and managing the project team. In general, conceptual investigations were scarce to investigate the impact of delivery systems on a project manager’s approach and project success. Thus, to increase the likelihood of project success, it is helpful to confirm whether the delivery system that the parties agreed upon can be better managed by the project manager by aligning the proper management approach during the construction phase. Some investigations have concentrated on the mutual connection between the project delivery system and performance (Hosseini et al., 2016; Sinem et al., 2013) or the delivery system with a project manager’s approach in civil engineering.
projects. Johan et al. (2016) posit that the project characteristics are crucial, and one of these characteristics is the project delivery system, which plays a situational role in affecting the project manager's approach to achieve project success. This study is the first attempt to investigate the influences of the Project Manager’s Approach (PMA) vs. Project Delivery System (PDS) to achieve project success in Yemeni projects.

2. Problem Statement and Case Study

Yemen construction projects encounter insurmountable hurdles leading to deterioration if not corrected. Almost all public projects in Yemen have difficulties in meeting their objectives. There are several reasons why the Yemeni construction industry fails. The reasons include project success (PS) constraints, cost and time overruns, and conflicts between industry parties. The top ten reasons, out of a total of 62, are inadequate construction management approaches, frequent design changes, continuous work stoppages, lack of raw materials, hiring unqualified contractors, low pay for engineers and construction workers, cash flow and financial problems, and delay of payment (Yaser & Rahman, 2018). Toor and Ofori (2008) think that sincerity and attitude are crucial to management; real leaders—that is, moral and ethical leaders—are needed for construction projects to take advantage of the opportunities that sustainability offers and provide a brighter future for the projects.

The failure of projects in Yemen and their inability to achieve their goals prompted us to re-evaluate this issue (Nasser et al., 2024). Evaluation is through hypotheses regarding the project manager’s approaches (PMA) related to the participative approach (PA) or directive approach (DA) and linked the approaches with the delivery system. Besides that, there isn’t enough research available on the subject of the project delivery system in Yemen from an applied point of view. The objective of this paper is to reveal this by shedding light on it and reviewing the problems that often occur because of an apparent absence of awareness of its conditions and details and how to align management approaches (MA) with those types of delivery systems.

3. Literature Review

3.1. Project Manager’s Approach (PMA)

The Project Manager’s Approach (PMA) is capable of inspiring the project team to dedicate themselves to and fulfill the project’s objective. The procedure has a crucial role in determining how employees view their employers, behave when organizations change, accept new ideas, and are driven to accomplish their goals (Lai et al., 2018). The importance of management strategies in developing innovation and project success in construction projects has been highlighted more and more in recent years. It is difficult for the project manager to adjust their approaches depending on the occasion, and There is little proof that leaders alter their approaches when criticized or challenged. (Barstow, 2008; Keltner et al., 2003). The affective outcomes of team members, such as their level of engagement and fulfillment with the leader, are of concern for project managers. (Kim & Beehr, 2018).

3.2. Participative Approach (PA)

According to Al Khajeh (2018), the participative approach (PA) emphasizes growing followers and taking into account their wants and requirements. The managers who adopted the participative approach pay particular attention to establishing the employees’ general satisfaction structure and the advancement of ethics, competencies, and drives. The participative approach serves as a powerful link between leaders and followers, fostering awareness regarding the latter’s motivational level, values, and interests; in the participative approach, leaders may expand or diversify the interests of their staff members.

According to the argument of Aga et al. (2017), the influence mechanism of the participative approach of project managers on project success becoming more relevant, the sustainable development of organization and project success primarily depends on an effective construction management approach that ensures the achievement of project goals along with the client’s objectives through the productive participation of most stakeholders in construction projects.

3.3. Directive Approaches (DA)

A directive approach occurs when a project manager establishes team goals and formats and sequences subordinates’ tasks with an unstated norm of attention from lower-level staff members (Lorinkova et al., 2013; Martin et al., 2013). Project managers who follow instructions prioritize tasks and handle them in a way that enhances role clarity. Directive project managers require their employees to adhere to instructions, which enhances work proficiency. Workers who work under directive leadership have little opportunity to think critically or anticipate problems (Dolatabadi & Safa, 2011). High levels of control over subordinates are participants in project management using the directive approaches (Chiang et al., 2020). When there are fewer incentives, an extensive team, and minimal risk in the case of failure, directive managers can guarantee positive results (Rahmani et al., 2018). Directive project managers exercise authority and control over those who adhere to them, but they put more emphasis on offering advice and criticism than they do on issuing demands (Chiang et al., 2020).

3.4. Project Delivery System (PDS)

Project delivery systems (PDSs) help determine the way that stakeholders work together during the planning, design, and building phases (PMBOK, 2017). The Design-Bid-Build (DBB) and the Design-Build (DB) offer considerably different procedures for the execution of building and construction projects. While each system produces a completed project, the routes they take to get there are entirely distinct. The initial phase of the procurement strategy for DBB and DB is the same, except for DB projects, which are completed just once. For a DBB project, the client must go through the contracting twice, once for the designer/Architecture (D/A) contract and second for
the contract connected with construction (Linda, 2001). The project delivery system and contractual procedure also contribute to the project’s overall values and approach. A project delivery system is important because it determines how efficiently the entire process of producing a construction building, from design to construction, can be carried out (Morton & Jagger, 1995).

3.5. Design-Bid-Build system (DBB)

With this system, the client enters into different contracts with the contractor and the architect or designer (Fig. 1). Contract documents are included in the design bundle that the designer creates. The project’s client puts the package up for bids and chooses the top bidder to start building it. Fig. 3, the DBB system is often priced as a lump sum. To ensure compliance with contract terms, the system calls for the client to keep an eye on the contractor’s operations. It is well recognized that the system encourages antagonistic interactions between the project’s stakeholders (Al Khalil, 2002).

3.6. Design-Build System (DB)

The client in DB contracts with a single organization for both design and construction (Fig. 2). Because a single organization is responsible for both design and construction, the system can eliminate the adversarial relationship in DBB (Nasser et al., 2024). It can also lower overall project completion time and allow for the incorporation of constructability information during design. However, quality assurance can be a worry for the client due to the lack of checks and balances (Nasser et al., 2024). The DB system works especially well when the scope is well-defined, the design is standard and repeatable, and the deadline is short (Mulvey, 1997).

3.7. Project Success (PS)

The criterion of project success is related to the performance of the project manager and achieving the standards related to time (that the completion of the project is according to the agreed-upon time schedule), the cost (that was included in the contract) and finally the quality (contained in the bills of quantities and specifications). These three criteria (time, cost, and quality) are commonly known as project constraints; a constraint is the point at which a task or project does not go as planned (Bhagdewani & Kanase, 2017). A project is considered successful when it accomplishes its objectives, adheres to the acceptance criteria, and stays within the timetable, budget, and quality (Fayomi et al., 2023). The concept of project performance (PP), also sometimes referred to as the triple constraint (time, cost, and quality), is a fundamental aspect of how we understand success in projects. The triple constraint is a representation of the most basic criteria by which project success is measured, namely, whether the project is delivered by the due date, within budget, and to some agreed level of quality, performance, or scope (Julien et al., 2018). The idea is that the time, cost, and quality performance measurement criteria will enable system users to indicate if the project is on track, ahead of schedule, or at risk of faltering (Pesamaa et al., 2020).

4. Project Manager’s Approach and Management Theory

For this paper, we are specifically interested in project manager’s adoption and use of approaches that support their management and identifying factors that lead to individual decisions about what approach to use. However, it is difficult to accept the claim that there is a single independent theory that covers the project manager when serves as a buyer of materials, a motivator of workers, or a generator of work schedules, and so that theory is somehow completely different from the theory of the project manager integrating all project’s activities from planning till completing and closing of the project. For these reasons, the project manager has to be careful to adopt different approaches according to the type of (PDS) and the various stages of the project’s process groups and scheduled activities. The project manager’s approaches must be leis with one of these delivery systems (DBB or
DB) which is related to his/her competency of imbibition-

ing the organization’s commitment, client’s objective, and project delivery system (Wang et al., 2022).

4.1. Contingency Theory

The introduction of the contingency theory of management provides a comprehensive framework that integrates the environment, ties together the various procedural, quantitative, and cognitive approaches to management, and continues bridging the gap between management theory and practice. While generally situational in nature, contingency management is far stricter and more meticulous. The contingency approach, as employed in this debate, is described as figuring out and creating useful connections between management, performance, and external factors (Luthans & Stewart, 1977). Contingency theory is thought of as one method of evaluating organizational and leadership action. It is supported by various empirical research that examines leaders’ styles in particular situations (Northouse, 2016).

The concept of contingency theories is represented by determining the effectiveness of the leader and the extent to which his leadership style is used in different situations. The leader must be able to identify the type of leadership style and scenario in which it can be effective. It is well known that “there is no single optimal style of leadership,” as stated in one of the contingency theory models (Adébomi & Omotosho, 2022).

4.2. Situational Theory

“It is not enough to describe your leadership approach or indicate your intentions; a situational Leader assesses the performance of others and takes responsibility for making things happen” (Paul, 1986). There has been a rise in interest in situational theory. The situational approach contends that the best management concept or technique depends on the specific set of circumstances at a given moment. It is partially the result of open systems thinking and likely more directly a result of the growing skepticism surrounding the universality assumption of other management approaches (Mockler, 1971). According to situational theory, the distinction between a management approach’s efficacy and ineffectiveness is most often determined by the appropriateness of the project manager’s approach to the specific situation in which it is used (Waller et al., 1989). As a result of extensive investigation, a situational approach that assists project managers in identifying the demands of their line of work has been constructed. The situational approach is built on an interaction between project manager task behavior, relationship behavior, and followers’ willingness level for a certain task (Paul, 1986). According to the situational approach, when the follower’s willingness level to finish a particular activity rises, reducing task behavior and increasing relationship behavior should be the project manager’s first priorities. This should continue until the individual or group reaches a moderate degree of preparedness. When the follower’s willingness level rises above average, the project manager ought to minimize both task and relationship behavior (John, 1997).

5. The Hypotheses

To test whether the management approach of the project manager is influenced by the project delivery system. The project manager must consider that every project is different and has a different life cycle at each step, in addition to the fact that project delivery systems vary in terms of their components and methods of implementation. This leads to the creation of multiple hypotheses, all of which aim to finish the project in compliance with the contact and the client’s goals.

This section examines to what extent the project manager’s approach (PMA) is influenced by the project delivery system (PDS) and its reflection on project success (PS) in Yemeni projects (YPs). Accordingly, the hypotheses were developed:

Hypothesis 1: In projects based on the delivery system (design-bid-build), the project manager’s participative approach contributes to project success.

Hypothesis 2: In projects based on the delivery system (design-bid-build), the project manager’s directive approach contributes to project success.

Hypothesis 3: In projects based on the delivery system (design-bid-build), the project manager’s participative approach contributes to project success.

Hypothesis 4: In projects based on the delivery system (design-build), the project manager’s directive approach contributes to project success.

6. Methodology and Participants

To ensure a robust and representative sample, we employed a stratified random sampling technique. This method allowed for the categorization of the population into distinct strata based on pertinent characteristics; this method was used in previous studies in Yemen (Al_Refaei et al., 2021; Zumrah et al., 2021), thereby enhancing the representativeness and accuracy of the data collected, due to this technique guarantees the researchers acquire a sample from every stratum (Al-Refaei et al., 2023a). The stratification criteria were carefully selected to reflect key aspects of the construction projects and their management in Aden and Hadramaut.

Out of the distributed questionnaires, 285 were duly completed and returned. However, due to issues of incompleteness or missing data, 9 responses were deemed unusable. Consequently, 276 questionnaires were rigorously analyzed, with a response rate of 73%. This response rate is considered appropriate compared to previous studies, 68% in Yemen (Zumrah, 2019). This process involved
stringent data cleaning and validation procedures to ensure the integrity and validity of the findings. Through this enhanced methodological framework, the study aimed to provide insightful and reliable conclusions on project management practices in Yemen, contributing valuable knowledge to the field.

7. Measurement

Through the questionnaire, we tried to measure the project manager’s ability to align his/her project management approach with the project delivery system and whether he/she would change his approach accordingly. The statement that the project tasks are different and each type of task requires a different project manager’s approach (Hersey & Blanchard, 1969b) is now subject to testing, just as continuing with a single approach in different project delivery systems and during the implementation stages is also subject to the same test. We did not hypothesize any prior effects of changing the project manager’s approach due to the delivery system and ensure they have enough interest to answer.

7.1. Measuring of Project Manager Approach

Two distinct measures of participative approach (PA) and directive approach (DA), both of which were created by Abraham et al. (2002), suggested that the use of (3 items) of participative approach and (6 items) of directive approach to ascertain the extent to which the behavior of a project manager or project consultant reflects either a participative or directive approaches. Larsson et al. (2016) questionnaire for their research adopted (3 items) for the participatory approach and (3 items) for the directive approach (Sagie et al., 2002).

3 item descriptors of participative approach to measure to which extent the project manager’s approach is influenced by the project delivery system to achieve project success concerning one another in Yemeni projects (e.g., I focus on future goals rather than on daily requirements). It is scored using a Likert scale with five points: 1 for strongly disagree and 5 for strongly agree. While (3 Items) descriptors of the directive approach assess the degree to which the project manager’s approach to make decisions and carry out actions (e.g., the type of project delivery system affected the style in which you manage the project). It is scored using a Likert scale with five points: 1 for strongly disagree and 5 for strongly agree.

7.2. Measuring of Project Delivery System

In this section, we attempt to measure the project delivery system and its impact on the project manager’s approach. We create three items for each delivery system (DBB and DB) to provide feedback to participants. We measure the (design-bid-build) system and the reflection of the project manager on that question (e.g., More Friction between consultant team and contractor team, 3 items were created, and it is measured on a five-point Likert scale (from 1 = strongly disagree to 5 = strongly agree).

Similarly, measuring the (design-build) system was done through 3 items to gauge the influence of the project delivery system on the project manager approach selection from the point of interest of the entity to which he/she belongs (e.g., Quick payment of contractor’s dues). It is measured on a five-point Likert scale (from 1 = strongly disagree to 5 = strongly agree).

7.3. Measuring of Project Success

The assessment of project success has long been a topic of study (Aragonés-Beltrán et al., 2017; Liang et al., 2017; Osei-Kyee et al., 2017). Several works suggest that project success should be evaluated throughout the project lifecycle (Teixeira et al., 2019). The triple constraints—time, cost, and quality—are the conventional success criteria for construction projects. or the project management triangle, which is a fundamental aspect of how we understand success in projects. The Iron Triangle system of project management is one of the most widely used to control projects (Sinclair & Zairi, 1995). PMBOK 2017, the project management metrics of time, cost, scope, and quality have been the most important factors in defining the success of a project. The triple constraints are a representation of the most basic criteria by which project success is measured, namely, whether the project is delivered by the due date, within budget, and to some agreed level of quality, performance, or scope. The triple constraints (time, cost, and quality) have become the standard for routinely assessing project performance (Julienn et al., 2018).

According to Johan et al. (2016), they suggested that (3) items be used to measure time, (3) items to measure (cost), and (3) items to measure quality. In this study, respondents were also asked to answer the questions the same number of questions. It is scored using a Likert scale with five points: 1 for strongly disagree and 5 for strongly agree.

### TABLE I: ITEMS, LOADING, CONVERGENT VALIDITY

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Loading</th>
<th>CR</th>
<th>AVE</th>
<th>MaxR(H)</th>
<th>MSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBB</td>
<td>DBB1</td>
<td>0.85</td>
<td>0.893</td>
<td>0.735</td>
<td>0.896</td>
<td>0.621</td>
</tr>
<tr>
<td></td>
<td>DBB2</td>
<td>0.98</td>
<td>0.893</td>
<td>0.735</td>
<td>0.896</td>
<td>0.621</td>
</tr>
<tr>
<td></td>
<td>DBB3</td>
<td>0.83</td>
<td>0.893</td>
<td>0.735</td>
<td>0.896</td>
<td>0.621</td>
</tr>
<tr>
<td>DB</td>
<td>DB1</td>
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<td>0.909</td>
<td>0.769</td>
<td>0.922</td>
<td>0.598</td>
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<tr>
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<td>DB2</td>
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<td>0.909</td>
<td>0.769</td>
<td>0.922</td>
<td>0.598</td>
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<tr>
<td></td>
<td>DB3</td>
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<td>0.909</td>
<td>0.769</td>
<td>0.922</td>
<td>0.598</td>
</tr>
<tr>
<td>PA</td>
<td>PA1</td>
<td>0.94</td>
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<td>0.834</td>
<td>0.946</td>
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<tr>
<td></td>
<td>PA2</td>
<td>0.86</td>
<td>0.938</td>
<td>0.834</td>
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<tr>
<td>DA</td>
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<tr>
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<td>0.961</td>
<td>0.891</td>
<td>0.973</td>
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<td></td>
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<td>0.891</td>
<td>0.973</td>
<td>0.283</td>
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<tr>
<td>PS</td>
<td>TIM1</td>
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<td>0.839</td>
<td>0.636</td>
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<tr>
<td></td>
<td>TIM2</td>
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<td>0.636</td>
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<tr>
<td></td>
<td>TIM3</td>
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<td>0.636</td>
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<tr>
<td></td>
<td>COS1</td>
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<td></td>
<td>COS2</td>
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<tr>
<td></td>
<td>QUA1</td>
<td>0.91</td>
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<tr>
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<td>0.849</td>
<td>0.621</td>
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</table>

8. Assessment

The collected data was subjected to two stages of analysis. The first stage is the analysis of the respondent’s profile by using a direct statistic method of the received data, then, the data is subjected to the second analysis by structural equation modeling (SEM) achieved by the SPSS program V26.

Four hypotheses were created depending on the project manager’s approach and its alignment with the project delivery system to achieve project success in Yemeni projects, e.g., “in projects based on the delivery system (design-bid-build), the project manager’s participative approach contributes to project success.” According to these hypotheses and relating to participant's feedback, which subjected to analysis using structural question modelling.

Confirmatory Factor Analysis (CFA) of the model, which contained four constructs. The project delivery system contains two variables known as design-bid-build (DBB) and design-build (DB), and the project manager’s approach contains two variables known as the participative approach and directive approach, as well as project success. The result of CFA reveals an acceptable fit. In specific, the $\chi^2 = 269.915$, df = 176, the CMINDF = 1.53, the p-value associated with this result is significant due to p-value less than 0.05, (p < 0.000), CFI = 0.984, TLI = 0.98, the value for the root means square error of approximation (RMSEA) = 0.044, these indexes show perfect fit indexes based on previous studies (Al-Refaei et al., 2019a; Alshuhumi et al., 2024).

8.1. Convergent and Discriminant Validity for the Measurement Model

The result of the measurement model showed that the factor loading for all items was higher than 0.70, and the composite reliability (CR) was above the cut-off of 0.70. Variance average extracted (AVE) was higher than 0.50, while maximal reliability (MaxRH) was higher than 0.80. Therefore, the result of all indicators of evaluating this model shows acceptable values of reliability and convergent validity. These results are shown in Table I.

However, discriminant validity was evaluated by using the FIC technique (Fornell & Larcker, 1981), which was used by many studies (Al-Refaei et al., 2019b; Ateeq et al., 2024). Discriminant validity for the model can be accepted when the correlation between design-bid-build (DBB), design-build (DB), participative approach, directive approach, and project success is smaller than the square root of the AVE for each construct (Fornell & Larcker, 1981; Hair et al., 2019). Therefore, the result of the discriminant validity of the model shows root of the AVE greater than the correlation between the constructs, and no correlation between the construct exceeds the square root of the AVE (determined by black bold) in table (4.9) as recommended by (Fornell & Larcker, 1981; Kline, 2016). Therefore, based on the result and discussion, the measurement model was valid, as shown in Panel A of Table II. In addition, previous studies such as Henseler et al. (2015) and Al-refaei et al. (2023b) recommended using the Heterotrait-Monotrait Ratio (HTMT) to assess the discriminant validity; the values of all constructs were less than 0.85, the result of HTMT shown in Panel B of Table II biased the study use.

9. Results of Hypotheses Testing

9.1. Hypothesis 1

Regarding hypothesis 1, “In projects based on the delivery system (design-bid-build), the project manager’s participative approach contributes to project success,” the result of the analysis shows that (DBB), through the participative approach (PA), has a positive and significant effect on the project success (PS); the path coefficients were (0.45 × 0.29), which was 0.13, which provided support

<table>
<thead>
<tr>
<th>TABLE II: FLC and HTMT</th>
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</thead>
<tbody>
<tr>
<td>Panel A: FLC</td>
</tr>
<tr>
<td>DBB</td>
</tr>
<tr>
<td>DB</td>
</tr>
<tr>
<td>PA</td>
</tr>
<tr>
<td>DA</td>
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<tr>
<td>PS</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (2-tailed). *** Correlation is significant at the 0.05 level (2-tailed), and bold text stand for root of the AVE.

<table>
<thead>
<tr>
<th>TABLE III: Bootstrap Results: Standardized Indirect Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural path</td>
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<tr>
<td></td>
</tr>
<tr>
<td>DBB → PA → PP</td>
</tr>
<tr>
<td>DB → DA → PP</td>
</tr>
<tr>
<td>DBB → DA → PP</td>
</tr>
<tr>
<td>DB → PA → PP</td>
</tr>
<tr>
<td>Total indirect effect</td>
</tr>
</tbody>
</table>
for this hypothesis due to the p-value (0.002), it is less than 0.05 as suggested by (Byrne, 2010; 2016; Kline, 2016). Therefore, the hypothesis of the effect of (DBB) with a participative approach (PA) on project success was supported (Table III).

### 9.2. Hypothesis 2

Regarding hypothesis 2, “In projects based on the delivery system (design-bid-build), the project manager’s directive approach contributes to project success,” the analysis result shows that the path coefficients were (0.23 \times 0.09), which was 0.021, which provided unsupported for this hypothesis due to the p-value (0.131), which is higher than 0.05 as suggested by (Byrne, 2010; 2016; Kline, 2016). Therefore, the hypothesis of the effect of the traditional delivery method (DBB) with a directive leadership approach on project success was supported (Table III).

### 9.3. Hypothesis 3

Regarding hypothesis 3, “In projects based on the delivery system (design-build), the project manager’s participative approach contributes to project success,” the analysis result shows that the path coefficients were (0.25 \times 0.29), which was 0.072, which provided support for this hypothesis due to the p-value (0.003), which is less than 0.05 as suggested by (Byrne, 2010; 2016; Kline, 2016). Therefore, projects based on the delivery system (design-build), with the project manager’s participative approach contributing to project success, were supported (Table III).

### 9.4. Hypothesis 4

Regarding hypothesis 4, “In projects based on the delivery system (design-build), the project manager’s directive approach contributes to project success,” the analysis result shows that path coefficients were (0.29 \times 0.09), which was 0.026, which provided unsupported for this hypothesis due to the p-value (0.105), which is higher than 0.05 as suggested by (Byrne, 2010; 2016; Kline, 2016). Therefore, projects based on the delivery system (design-build) and the project manager’s directive approach contribute to project success unsupported (Table III).

### 10. Discussion

This study’s findings reveal the complex connection between the project manager’s approach (PMA), project delivery systems (PDS), and project success (PS). The study examined how the participative approach (PA) and the directive approach (DA) impact project success in various project delivery systems within the PMA framework. The analysis confirmed that the participative approach, focusing on collaboration and stakeholder involvement, has a positive impact on project success, in line with previous research such as (Larsson et al., 2015; Al Khajeh, 2018; Qiang et al., 2022; Peng et al., 2021). This supports the idea that a broader decision-making process enhances employee satisfaction, creativity, and, in the end, project outcomes (Al Khajeh, 2018; Agra et al., 2017). The study revealed minimal backing for the efficacy of the directive approach, emphasizing possible disadvantages like diminished critical thinking and creativity in team members.

The study emphasized the significance of project delivery systems (PDS) as a contextual factor that influences project management and execution dynamics. Comparing the traditional Design-Bid-Build (DBB) and integrated Design-Build (DB) systems provides valuable insights into how procurement strategies impact project success (Nasser et al., 2024). Although the Design-Bid-Build (DBB) system is common because of its familiarity and perceived cost efficiency, the analysis indicates that the collaborative approach of the Design-Build (DB) system may be more suitable for modern construction projects (Nasser et al., 2024). The design-build system enhances efficiency and collaboration by combining design and construction within one contract, which may help reduce conflict among stakeholders (Al Khajeh, 2002; Mulvey, 1997). Further investigation is needed to enhance project results due to concerns regarding quality assurance and conflicts of interest in DB projects.

### 11. Conclusion

The results revealed that the project manager’s approach (participative and directive) should align with the project delivery systems (design-bid-build) or (design-build) and that alignment positively contributes to project success. The participative approach has constructive effects and a positive impact on project success. These positive impacts relate to the capability of the project manager to understand and deal with the project delivery system adopted and then apply his or her management plan with the project team for the execution of project requirements to achieve optimal project success from the point of view of their entity and also the client’s objectives.

This study enhances our comprehension of the intricate relationship among project management methods, project delivery systems, and project success standards. The results highlight the significance of using adaptive leadership approaches that are customized to the specific project’s circumstances and the preferences of the stakeholders. Organizations can improve their ability to successfully deliver projects that meet stakeholder expectations and objectives by adopting a participative approach and utilizing integrated project delivery systems. Future studies could investigate other factors that impact the connection between project management methods and project results, such as organizational culture, organizational commitment (Alsamawi et al., 2019a), corporate social responsibility (Amsamawi et al., 2019b), team interactions, and external market.

### 12. Research Restrictions

This study is mainly stationed on Yemeni projects and on the samples of participants working as project managers where their answers and feedback for the questionnaire are assessed to get out the results and the conclusions.

The research addresses two management approaches, the participative approach, and the directive approach, as suggested by (Qiang et al., 2022; Peng et al., 2021). As mentioned by Sultan (2013), participative and directive approaches are widely used in Yemeni projects.
The research adopted two project delivery systems (DBB), and (DB); according to the suggestion of (Salma & El-Sayegh, 2021; Main & George, 2012), globally, the two most popular project delivery methods in the construction industry are design-build (DB) and design-bid-build (DBB).

In this study, the management of the project was limited to the project manager, specifically during the construction or execution phase only, and had no relationship to the pre-contracting phase and post-construction phase of the project.

13. PRACTICAL IMPLICATIONS

The current study contributes to the discussion by confirming earlier findings regarding the relationships and impacts of the project delivery system and project manager’s approach in Yemeni projects.

The study aims to raise the issue of awareness of clients to the importance of choosing the fitting project delivery system (PDS) according to the scope of the project, and capabilities of the other parties (architect & contractors) in design and construction. clients, contractors, architects, project managers, and project teams should prioritize the selection of cooperative partners with similar value orientations. When implementing a construction project, project managers should make greater efforts to deal with various project delivery systems, as well as pay attention to management approach (MA) and relational governance such as trust and communication. The project manager’s duty commences with understanding the most significant objectives of the project parameters, which include creating project goals on an individual, team, and overall perspective, with alignment to the project delivery system adopted.

Subsequently, the project manager must effectively communicate with team members to gain their commitment to achieving the project’s goals and project success.

The study advances the body of knowledge in two ways. Initially, the dynamic mechanism of the effect of project delivery systems on the project manager’s management approach in Yemeni construction projects was examined in this study (YCP). Second, this study confirmed that different approaches to management had a favorable impact on project success.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

REFERENCES


