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IMPACT OF INDIVIDUAL CHANGE READINESS AND SAFETY PERFORMANCE ON PROJECT SUCCESS: ROLE OF PROJECT MANAGER RELATED FACTORS AND PROJECT COMPLETION TIME

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Abstract: *This study examines the impact of individual change readiness on project success, emphasizing the mediating role of strategies to improve safety performance and the moderating role of project manager-related factors. Additionally, it compares these relationships in short-term and long-term projects to assess variations based on project duration. A quantitative research approach was employed, collecting data from 243 project professionals, with 120 respondents from long-term projects and 123 from short-term projects. The sample included project managers, team leaders, and safety officers involved in project execution. Structural Equation Modeling (SEM) using Smart-PLS was applied to assess measurement validity, test hypothesized relationships, and conduct multi-group analysis (MGA) for comparative insights. The results confirm that individual change readiness significantly enhances project success, with strategies to improve safety performance serving as a crucial mediator. Additionally, project manager-related factors moderate the relationship between change readiness and project success. The influence of these variables differs between short-term and long-term projects, emphasizing the contextual nature of project management. This study contributes to the project management literature by integrating change readiness and safety strategies into a unified framework. It offers practical insights for organizations to optimize project success through effective leadership, change management, and safety practices tailored to project duration.*

Keywords: *Individual Change Readiness, Project Success, Safety Performance Strategies, Project Manager-Related Factors, Project Duration.*

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1. Introduction

In the ever-evolving and competitive business environment, organizations are always required to adopt change in a bid to achieve successful projects. Individual readiness for change has become a fundamental driving force facilitating the successful implementation of projects in the context that willing workers willing to change accept new processes, and they change themselves to fit transformations taking place within an organization, facilitating effective project influence (Ellis et al., 2023). As projects become increasingly complex and multifaceted, preparing people in an organization for change can help lower resistance, enhance teamwork, and increase the overall efficiency of project implementation (Zihan et al., 2024). Safety performance has also been identified as a critical driver that affects the success of many projects, especially in high-risk sectors like construction, healthcare, and manufacturing. Instituting measures to maximize safety performance is not only good for the well-being of employees but also a vital factor in the ability of projects to be delivered without interruption due to accidents in the workplace and compliance (Bautista-Bernal et al., 2024).

Project success is a construct with multiple dimensions to it, encompassing factors such as time, cost, quality, stakeholder satisfaction, and compliance with safety and regulatory conditions (Abbas & Ali, 2023). Leadership has been found to play a crucial part in determining project success by dictating the manner in which change is addressed in an organization (Islam, 2023). Specifically, transformational leadership behaviors and good decision-making abilities of project managers can improve employees' change readiness, guarantee the implementation of safety measures, and foster a climate that supports the accomplishment of project goals (Aragaw Bisrat & Cherkos Fikreyesus, 2025). Nevertheless, although there has been extensive research on project management, change readiness, and safety performance separately, it is necessary to investigate the relationships among these variables (Dolphin et al., 2023). Knowing how individual change readiness impacts project success via safety performance strategies and how aspects of project managers mediate this relationship can help gain insights for organizations that want to improve their project management practices.

A number of studies have considered the contribution of individual change readiness to organizational performance and project success. Studies reveal that workers who demonstrate greater change readiness are likely to adopt new technologies, working methods, and strategic changes, and this, in turn, contributes to enhanced project performance (Naji Khalid et al., 2024). Change readiness has been associated with psychological constructs including self-efficacy, change commitment, and perceived organizational support (Khan et al., 2023). Staff that view change as an advantage and whose leadership is supportive are more inclined to support transformation efforts, lessening resistance and improving the speed of work (Kaur Bagga et al., 2023).

In safety performance, several studies have emphasized its importance in project success. High-performing organizations consider workplace safety as one of their key values, aligning their safety management practices with their operation strategy (Formenti et al., 2025). Evidence has indicated that effective safety performance leads to fewer workplace accidents, decreased absenteeism, and enhanced productivity, all leading to better project execution (Lyu et al., 2023). Moreover, companies that invest

in safety training programs and have strict safety regulations in place are likely to have fewer project interruptions and higher stakeholder trust (Göküz & Akıner, 2025).

The leadership's role in project management has also been widely researched, with research consistently identifying effective project managers as a key determinant of project success (Zia et al., 2024). Transformational leadership has been found to have significant effects on employee motivation, adoption of change, and general project performance (Siddiqui et al., 2023). A study by Takagi et al (2024) revealed that project managers who practice participative leadership and give clear direction are responsible for increased employee commitment and motivation towards project objectives. In addition, research has shown that leadership styles have an impact on safety compliance, with leaders who value safety culture ensuring improved compliance with safety rules and procedures (Bautista-Bernal et al., 2024).

In spite of the large body of literature on leadership, change readiness, and safety performance in project management, there are still some research gaps. In the first place, though studies have confirmed a positive relationship between change readiness and project success, very few studies have explored the processes through which change readiness mediates the achievement of project success (Loureiro et al., 2024). Safety performance as a mediating factor has been underexamined, even though research indicates that safety-oriented firms realize greater project efficiency (Bendada et al., 2024). Understanding whether employees' willingness to change strengthens project success by means of safety performance strategies can give a clearer picture of the impact of change management on project outcomes.

In addition, although factors associated with project managers have been extensively researched in leadership literature, their moderating influence on the relationship between change readiness and project success has yet to be thoroughly explored. Much of the past research has addressed direct effects, with scant research considering whether effective project leadership increases the payoff of change readiness or lessens possible resistance to change (Khan et al., 2023). Another gap is in industry-specific studies, since the nature of most literature is in generic organizational environments as opposed to high-risk industries where safety and change management are highly imperative.

2. Literature Review

Change readiness has been established for a long time as one of the main facilitators of successful organizational change, particularly in project implementation (Errida & Lotfi, 2020). Individual change readiness is an assessment of the employee's cognitive, emotional, and behavioral preparedness to embrace and adapt to change within an organization (Haffar et al., 2023). It is affected by perceived change benefits, self-efficacy, organizational support, and change initiative experience (Mahmoud et al., 2023). Studies have found that change-ready workers exhibit greater engagement, resilience, and goal commitment to projects, thus reducing resistance and building an adaptive culture in the company (Mekonnen & Bayissa, 2023). Psychological models, including the Theory of Planned Behavior, focus on bringing out the fact that attitudes, subjective norms, and perceived behavioral control all play a central role in the prediction of an individual's readiness to embrace change. Further, organizational change models like Lewin's Change Management Model and Kotter's Eight-Step

Process also focus on readiness to individuals for change as a critical step towards project success. If the employees do not have a correct sense of preparedness, they will demonstrate doubt, fear, and resistance that can make the project delayed, inefficient, or even fail.

Empirical studies have also testified to the association between employee change readiness and project success through the study of organizational culture, leadership, and communication (Loureiro et al., 2024). Transformational leadership, for example, has been shown to positively affect employees' willingness to change by way of promoting shared vision, inspiration, and trust (Kaur Bagga et al., 2023). Communication styles such as open communication and ongoing feedback facilitate resolving uncertainty and aligning employee expectations with project goals (Haris & Yang, 2023). Moreover, organizational culture permitting ongoing learning, safety, and employee engagement facilitates fostering greater change readiness, which diminishes resistance and improves the prospect of successful delivery of the project (Sengupta et al., 2023). Literature further recognizes that skill training and development programs contribute notably towards enhancing change readiness by empowering the employees with capabilities needed to handle new technology and processes (Su et al., 2023). Finally, organizations giving importance to individual change readiness as a strategic part of project management are likely to gain higher efficiency, innovativeness, and long-term sustainability in projects.

2.1 Individual Change Readiness and Project Success

Individual change readiness is a measure of the willingness, readiness, and confidence of an individual to adjust to organizational changes, especially when rolling out projects (Wang et al., 2023). It involves cognitive, emotional, and behavioral aspects, which determine how employees react to efforts at change. Project success, however, is typically assessed through such indicators as timely delivery, adherence to budget, stakeholder satisfaction, and meeting project goals (Abdalla et al., 2023). Employees' high change readiness levels provide for easier changes, low resistance, and effective implementation of the project (Zihan et al., 2024). Employee readiness for change improves the chances of active engagement in new processes, acceptance of innovative solutions, and collaborative effort towards the achievement of the strategic objectives of the project for better project outcomes (Burhan et al., 2024).

Individual change readiness is a measure of how willing, ready, and confident one is to adapt in organizational change, especially while executing a project (Ellis et al., 2023). It comes with cognitive, emotional, and behavioral components that influence the mindset of employees towards change efforts. Success in a project, however, is normally measured through factors such as timely completion, cost compliance, stakeholder satisfaction, and accomplishment of the project goals (Aragaw Bisrat & Cherkos Fikreyesus, 2025). High-level employee change readiness guarantees smoother changes, minimizes resistance, and maximizes the overall project implementation efficiency (Haffar et al., 2023). Employee change readiness increases the chances of active engagement in new processes, the adoption of innovative solutions, and collective efforts towards the realization of the strategic goals of the project, leading to better project outcomes.

H1: *Individual change readiness has a significant impact on project success*

2.2 Strategies to Improve Safety Performance and Project Success

Safety performance in the context of a project means the efficiency of measures and practices adopted to reduce risks, compliance with safety laws, and maintenance of a safe working environment (Adedoyin Tolulope et al., 2024). It encompasses proactive identification of hazards, safety training schemes, implementation of safety policies, and staff compliance with safety procedures (Dolphin et al., 2023). Project success in construction, manufacturing, and engineering sectors is heavily dependent on safety performance since on-site accidents and safety violations cause delays in a project, create cost overruns, and jeopardize reputations (Abbas & Ali, 2023). Measures used to enhance safety performance not only save lives and injuries but also make a contribution towards a better performing and steadier project atmosphere with less occurrence of unexpected breakdowns (Zia et al., 2024).

Empirical data has consistently demonstrated strong correlation between project success and safety performance. Per research, companies with effective safety management systems report fewer accidents, reduced absenteeism, and improved employee morale, all resulting in more successful projects (Lyu et al., 2023). Research in high-risk industries indicates that it is through the integration of safety leadership, regular safety training, and sound communication about expectations for safety that the overall project efficiency is optimized (Ofori et al., 2023). Besides, safe organizations encourage a culture of accountability and responsibility that directly stimulates productivity and stakeholder confidence (Tappura et al., 2023). Therefore, based on these findings, investment in safety performance strategies is the solution to enhanced project success because it ensures risk reduction, stability in operations, and building a sense of responsibility and responsiveness.

H2: *Strategies to improve safety performance have a significant impact on project success*

2.3 Strategies to Improve Safety Performance as Mediator

There is a mediation effect when an intervening variable accounts for some or all of the relationship between an independent and a dependent variable. In this regard, safety performance improvement strategies serve as a mediating factor between project success and individual change readiness (Loureiro et al., 2024). While employee change readiness involves employees' desire and willingness to adapt to organizational changes, safety performance strategies incorporate structured interventions like safety training, risk assessment practices, and implementation of workplace safety protocols (Formenti et al., 2025). These strategies provide a safe working environment free of distractions that could interfere with punctual completion of the project (Zia et al., 2024). Because project success is a human adaptability function and operational stability, safety performance is the prominent bridge that enhances the effectiveness of change readiness to successful project outcome (Bautista-Bernal et al., 2024).

Empirical evidence has shown that organization change readiness is more likely to result in the implementation of good safety management practices, which in turn result in improved project performance (Tappura et al., 2023). Research has shown that employees with higher openness to change are likely to embrace innovation in safety, adhere to changing safety regulations, and exercise proactive risk aversion behavior (Sunindijo, 2015). In addition, research has demonstrated that effective

safety programs lead to reduced workplace accidents, improved productivity, and enhanced stakeholder satisfaction—issues that are essential to delivering project success (Adedoyin Tolulope et al., 2024). Through the synthesis of these findings, it is logical to conclude that safety performance approaches are an essential portal through which personal change preparedness influences greater project success (Dolphin et al., 2023). Workers who accept change are more likely to adhere to safety procedures, and where safety is well controlled, project performance enhances, confirming the mediating role of safety performance in this connection.

H3: *Strategies to improve safety performance mediate the relationship between individual change readiness and project success*

Project manager-specific factors include leadership style, decision-making ability, communication skills, and team dynamic management (Naji Khalid et al., 2024). An effective project manager can maximize the beneficial impacts of change readiness through clear direction, a culture of adaptation, and keeping team members motivated and oriented toward project goals (Silva et al., 2024). Poor project management can undermine the benefits of personal change readiness through vagueness, miscommunication, or resistance to change, ultimately hurting project outcomes (Takagi et al., 2024).

Empirical evidence indicates that transformational leadership, emotional intelligence, and effective handling of conflicts by project managers play an essential role in increasing employees' readiness to accept change, resulting in improved project performance (Aragaw Bisrat & Cherkos Fikreyesus, 2025). It is indicated through studies that project managers with good leadership skills establish a conducive setting that facilitates adaptability, mitigates resistance, and fosters cooperation. In addition, evidence points out that highly strategic planning and risk management competent project managers are able to translate employees' change readiness into effective success strategies (Mahmoud et al., 2023). Following these findings, it can be argued that the factors of a project manager act as a significant moderating factor, either strengthening or weakening the influence of individual change readiness on project success (Tran Pham & Nguyen Le, 2024). A professional project manager not only allows smooth handoffs but also sees to it that the employee's state of preparedness to change is realized effectively into meaningful project outcomes.

H4: *Project manager-related factors moderate the relationship between individual change readiness and project success*

3. Theoretical Framework Supporting the Research

The model and research relationships in this study are best explained through Lewin's Change Management Model and Resource-Based View (RBV) Theory. Lewin's model, with its unfreeze, change, and refreeze steps, emphasizes preparing people for change, executing tactics that enable transition, and entrenching new behaviors to enable long-term success (Burnes, 2020). Individual change readiness is most effectively addressed at the unfreeze phase in this research, when workers' receptiveness to change will influence project results. Improvement in safety performance is a mediating variable in the change process to provide an orderly and stable transformation that guarantees optimal project efficacy. In addition, project

manager constructs serve as mediators in terms of reinforcing or weakening the impact of change efforts, consistent with the refreeze stage, in which leadership sets new work habits (Fiedler, 2015). Supporting this is the Resource-Based View (RBV) Theory that posits that companies gain competitive advantage from rare internal assets, e.g., change-capable staff and efficient safety procedures (Barney, 2021). Success of a project is not solely dependent on extraneous factors but also internal strengths such as employees' flexibility, leadership ability, and safety measures. All the above theories altogether account for the conceptual model of the study as shown in Figure 1 and illustrate how project success is driven by individual change readiness, safety measures, and managerial factors in an interconnection.

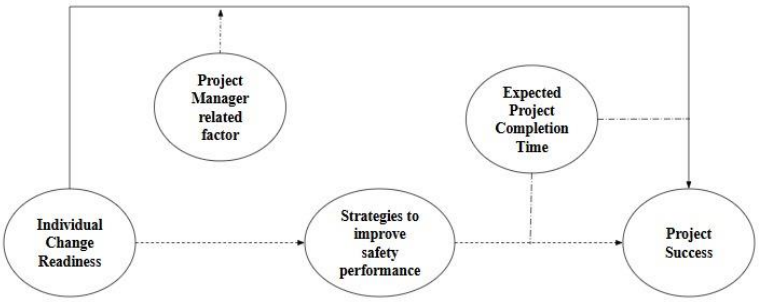

Figure 1: Conceptual Framework

4. Methodology

In this research, the quantitative approach was used with a perspective to examining the impact of individual change readiness, safety performance strategies, and project manager-specific factors towards project success. A systematic survey approach was used for data purposes from professionals from the project implementation level from diversified industries. The research grouped the projects into two categories depending on their estimated completion period: short-term projects, where projects that were to take a one-year period to be completed belonged to this category, and long-term projects, whose completion period was more than one year. This grouping enabled it to be simple to compare how these variables affect project success depending on different periods. 243 responses were gathered, with 120 respondents from long-term projects and 123 respondents from short-term projects. The respondents were project managers, team leaders, safety officers, and other interested stakeholders who had direct involvement in planning and putting in place the projects. Such participants were chosen because they had direct involvement in decision-making regarding implementation of change, safety management, and overall project performance. The respondents' varied roles helped to understand the interaction between change readiness and safety measures to drive the success of the projects in relation to different project durations.

In the present research, the quantitative approach was used in an effort to analyze the influence of individual change readiness, safety performance strategies, and project manager-specific factors on the project success. Systematic survey technique was utilized for the purpose of data collection from professionals at the implementation level of the project in diversified industries. The research grouped the projects into two categories depending on their time to completion and included

short-term projects, whereby projects that would take one year or less to finish belonged to this category, and long-term projects, whereby the time for completion was over one year. The grouping enabled comparison of how these variables affect project success across various periods of time. 243 responses were gathered, out of which 120 were from long-term projects and 123 were from short-term projects. The participants involved were project managers, team leaders, safety officers, and other stakeholders who were directly engaged in change implementation planning and implementation. Such participants were chosen since they had direct involvement in decision-making regarding change implementation, safety management, and general project performance. The variations in functions among the respondents helped to achieve a greater understanding of how change readiness and safety measures coexist to drive the success of the projects across different project lengths.

The study incorporates several important variables, each measured using validated scales from previous literature. Individual Change Readiness is assessed through five items adopted from (Errida & Lotfi, 2020), while Project Manager Related Factors are measured using six items based on the work of (Naseer et al., 2022). Project Success is evaluated using a comprehensive set of fourteen items developed by (Khan et al., 2023). Additionally, Strategies to Improve Safety Performance are captured through thirteen items derived from (Sunindijo, 2015). These instruments provide a reliable foundation for examining the relationships among the study variables.

The collected data were processed with the assistance of Smart-PLS, a powerful partial least squares structural equation modeling (PLS-SEM) software. Smart-PLS was employed because it is capable of handling complex models and small-to-moderate sample sizes in determining relationships between latent variables. Analysis was executed in several stages, starting with initial reliability and validity testing to confirm that the constructs satisfied required psychometric specifications. This was followed by a discriminant validity and outer loadings test to verify that the measurement model was statistically valid. The structural model was subsequently tested to ascertain the hypothesized relationships using path analysis to ascertain the direct, mediating, and moderating effects of the variables under consideration. Additionally, a multi-group analysis (MGA) was used to analyze results across long-term and short-term projects, enabling further testing of how the duration of the project influences the robustness of these relationships.

5. Results

Table 1 provides the indices of reliability and validity of the four constructs though separately for long-term and short-term projects. Construct reliability is determined by Cronbach's alpha and Composite Reliability (CR), while validity is determined from the Average Variance Extracted (AVE). For both short-term and long-term projects, Cronbach's alpha measures for all the constructs are significantly more than the popularly accepted level of 0.7 and indicate high internal consistency. Most notably, Individual Change Readiness is extremely reliable with a long-term project Cronbach's alpha of 0.900 and a short-term project Cronbach's alpha of 0.920. Project Manager-Related Factors also have high reliability with measures of 0.907 and 0.904 for long-term and short-term projects, respectively. The greatest reliability is found for Project Success in long-term projects (0.940), and Strategies to Improve Safety Performance

has a high internal consistency in both contexts (0.936 for long-term and 0.906 for short-term projects). Composite Reliability (CR) scores also validate the consistency of the constructs, as all are greater than 0.7 and range from 0.920 to 0.948. The Average Variance Extracted (AVE) scores also attest to convergent validity, because all the constructs have AVE scores greater than 0.5, which means a substantial amount of variance in each construct is captured by its respective items. Individual Change Readiness shows the highest AVE scores (0.716 for long-term and 0.759 for short-term projects), indicating high convergent validity. Nonetheless, Project Success and Strategies to Improve Safety Performance have comparatively lower AVE values (0.569–0.574), which, even though above the threshold for acceptability, mean that a moderate amount of variance is accounted for by the constructs' items.

Table 1: Variables reliability and validity

	Long Term Projects			Short Term Projects		
	Cronbach's alpha	CR	AVE	Cronbach's alpha	CR	AVE
Individual Change Readiness	0.900	0.926	0.716	0.920	0.940	0.759
Project Manager Related Factor	0.907	0.928	0.682	0.904	0.926	0.676
Project Success	0.940	0.948	0.569	0.912	0.925	0.573
Strategies to improve safety performance	0.936	0.945	0.572	0.906	0.920	0.574

Table 2, Figure 2 and Figure 3 shows the outer loadings for the individual items of each construct, which reflect the strength of association between observed indicators and their corresponding latent variables. For Individual Change Readiness, the outer loadings are between 0.787 and 0.911 in long-term projects and between 0.825 and 0.893 in short-term projects, reflecting strong associations.

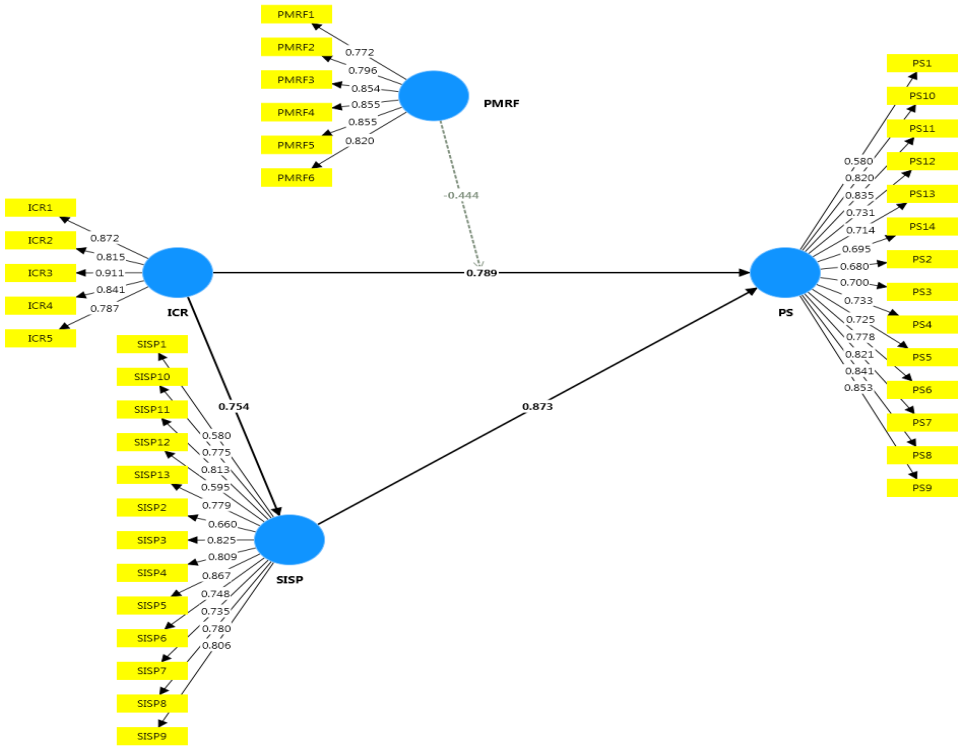

Figure 2: Estimated Model of Long-term Projects

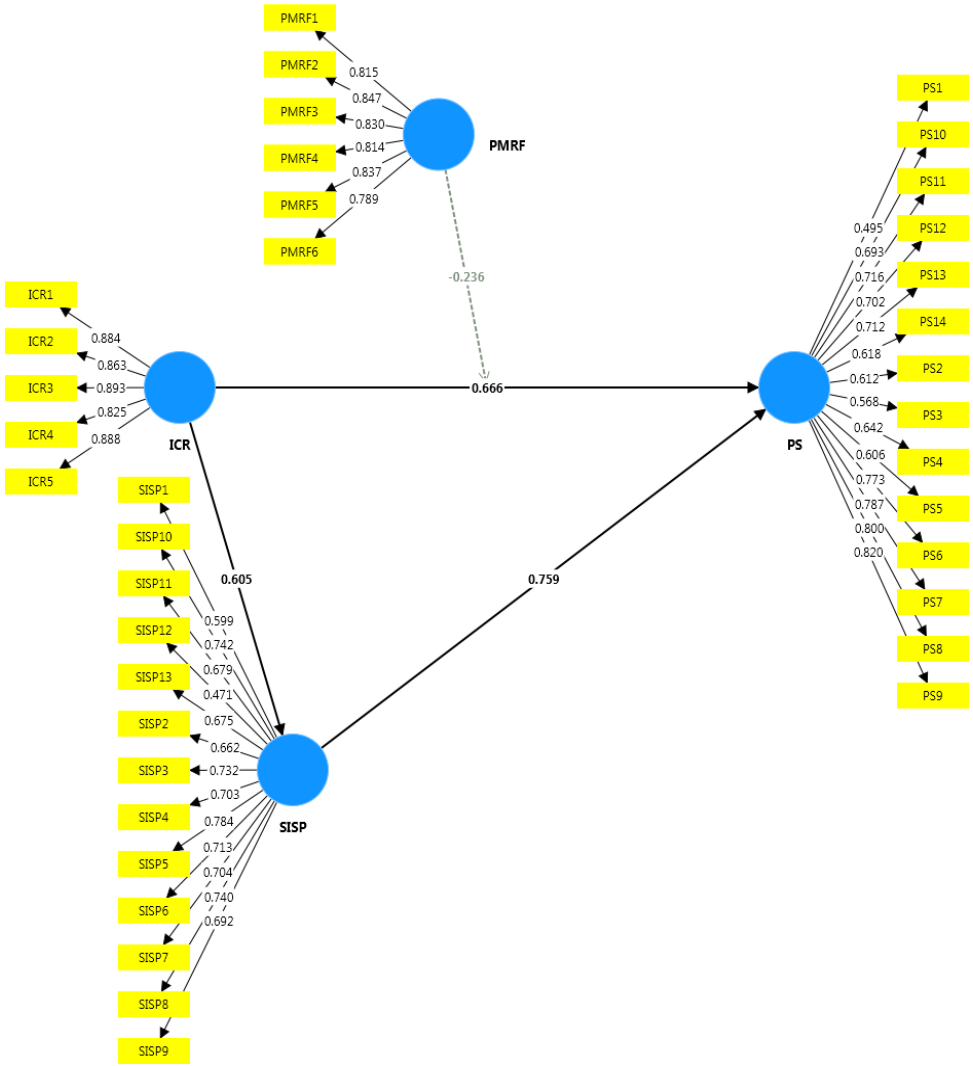

Figure 3: Estimated Model of Short-term Projects

The highest loading is for ICR3 (0.911 and 0.893), which implies that this item is vital in assessing change readiness. For Project Manager-Related Factors, loadings are between 0.772 and 0.855 in long-term projects and between 0.789 and 0.847 in short-term projects, reflecting moderate to high item reliability. The highest loadings for items PMRF3, PMRF4, and PMRF5 in both project types affirm their significance in measuring project manager-related characteristics. Project Success items have mixed loadings, with lower values for PS1 (0.580 and 0.495), indicating weaker representation. Yet, items PS9 (0.853 and 0.820), PS8 (0.841 and 0.800), and PS7 (0.821 and 0.787) have high loadings, reflecting strong contributions to the construct. Strategies to Improve Safety Performance has moderate to strong loadings, with most values above 0.6. Factors like SISP5 (0.867 and 0.784) and SISP3 (0.825 and 0.732) reflect strong reliability, with SISP12 having the least loading (0.595 and 0.471), and this may reflect areas of possible improvement in the future.

Table 2: Outer Loading

		Long Term Projects	Short Term Projects
	Items	Outer Loading	Outer Loading
Individual Change Readiness	ICR1	0.872	0.884
	ICR2	0.815	0.863
	ICR3	0.911	0.893
	ICR4	0.841	0.825
	ICR5	0.787	0.888
Project Manager Related Factor	PMRF1	0.772	0.815
	PMRF2	0.796	0.847
	PMRF3	0.854	0.830
	PMRF4	0.855	0.814
	PMRF5	0.855	0.837
	PMRF6	0.820	0.789
Project Success	PS1	0.580	0.495
	PS10	0.820	0.693
	PS11	0.835	0.716
	PS12	0.731	0.702
	PS13	0.714	0.712
	PS14	0.695	0.618
	PS2	0.680	0.612
	PS3	0.700	0.568
	PS4	0.733	0.642
	PS5	0.725	0.606
	PS6	0.778	0.773
	PS7	0.821	0.787
	PS8	0.841	0.800
	PS9	0.853	0.820
Strategies to improve safety performance	SISP1	0.580	0.599
	SISP10	0.775	0.742
	SISP11	0.813	0.679
	SISP12	0.595	0.471
	SISP13	0.779	0.675
	SISP2	0.660	0.662
	SISP3	0.825	0.732
	SISP4	0.809	0.703
	SISP5	0.867	0.784
	SISP6	0.748	0.713
	SISP7	0.735	0.704
	SISP8	0.780	0.740
	SISP9	0.806	0.692

Table 3 shows the Heterotrait-Monotrait (HTMT) ratio of correlations, a popular measure to test discriminant validity. The HTMT scores show how different the constructs are from each other. In the case of long-term projects, HTMT scores are lower than the suggested limit of 0.85 (Henseler et al., 2014), with the highest score found between Individual Change Readiness and Project Success (0.846). This indicates that the constructs have sufficient discriminant validity, or they are measuring different concepts. In the same way, HTMT values for short-term projects are also below the acceptable cut-off, with the maximum value being 0.883 between Individual Change Readiness and Project Manager-Related Factors. Yet, the comparatively high HTMT values for some of the constructs, e.g., Project Manager-Related Factors and Project Success (0.836 for long-term and 0.692 for short-term projects), reflect a high correlation between the variables, which should be treated

cautiously. The lowest HTMT values are seen between Strategies to Improve Safety Performance and other constructs, especially for short-term projects (0.580–0.822). This ensures that safety performance is theoretically unique from other constructs, sustaining the structural soundness of the measurement model.

Table 3: Discriminant Validity (HTMT)

	Long Term Projects				Short Term Projects			
	ICR	PMRF	PS	SISP	ICR	PMRF	PS	SISP
Individual Change Readiness								
Project Manager Related Factor	0.842				0.883			
Project Success	0.846	0.836			0.721	0.692		
Strategies to improve safety performance	0.810	0.725	0.624		0.638	0.580	0.822	

Table 4 shows the R-square statistics, adjusted R-square, predictive relevance (Q^2), and the Standardized Root Mean Square Residual (SRMR) for long-term and short-term projects, measuring explanatory power and model fit.

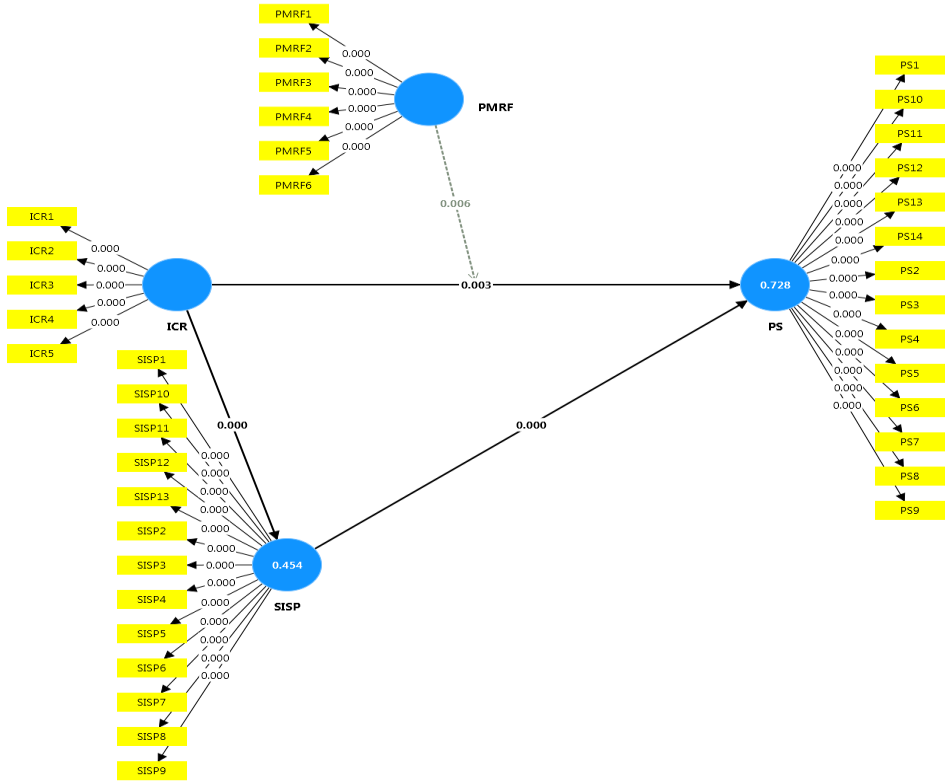

Figure 4: Structural Model for Path Analysis of Long-term Projects

For long-term projects, the R-square statistic for Project Success is 0.728, meaning that 72.8% of the variance in Project Success is accounted for by the predictor variables. The value of the adjusted R-square (0.723) demonstrates the strength of this explanatory capability. In the same manner, in short-term projects, the value of R-square is 0.678, which indicates that the independent variables have the ability to explain 67.8% of the variance of Project Success. Lower than that of long-term projects but still a strong explanatory capability. Lower R-square values are obtained for

Strategies to Improve Safety Performance, at 0.454 for long-term projects and 0.366 for short-term projects, and signify a moderate percentage of variance explained by the predictors. The adjusted R-square values are a little lower at 0.451 and 0.361, accounting for the statistical complexity adjustment in the models. The Q^2 values, measuring predictive relevance based on the blindfolding approach, indicate that Project Success possesses strong predictive relevance (0.519 for long-term and 0.456 for short-term projects). Likewise, Strategies to Improve Safety Performance is moderately predictive (0.442 for long-term and 0.335 for short-term projects), ensuring that the model is significant in its predictive power. Lastly, the SRMR measures for long-term (0.081) and short-term (0.072) projects are all less than the suggested limit of 0.1, further marking a good model fit. This further confirms that the total measurement and structural model have high validity and reliability, hence implying the findings' robustness.

Table 4: R-square statistics Model Goodness of Fit Statistics

	Long Term Projects				Short Term Projects			
	R-square	R-square adjusted	Q2	SRMR	R-square	R-square adjusted	Q2	SRMR
Project Success	0.728	0.723	0.519	0.081	0.678	0.667	0.456	0.072
Strategies to improve safety performance	0.454	0.451	0.442		0.366	0.361	0.335	

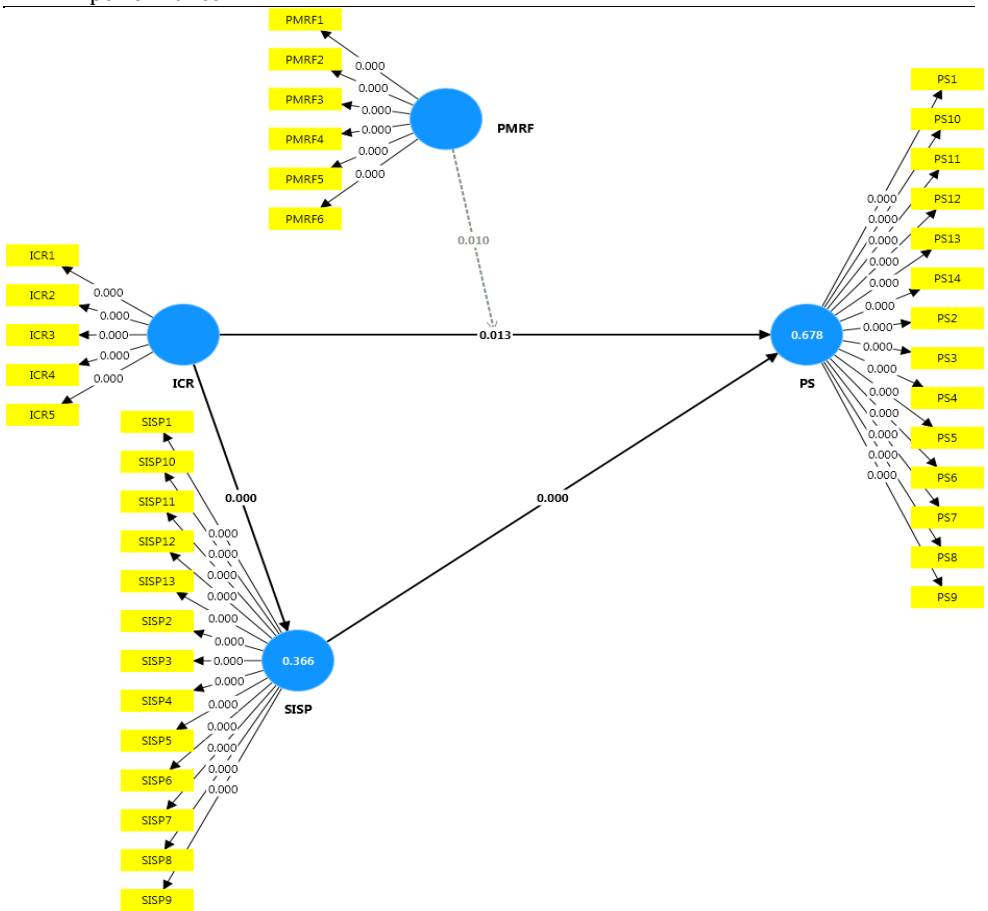

Figure 5: Structural Model for Path Analysis of Short-term Projects

Table 5 displays the path analysis of long-term and short-term projects, indicating the interrelation between the important variables using standardized beta coefficients (β), standard errors (S.E.), t-values, and p-values. The findings reveal the direct, mediating, and moderating effects in the model of the study. The initial path tests the direct effect of Individual Change Readiness on Project Success. In long-term projects, the standardized coefficient (β) is 0.187 and has a t-value of 2.714 (p = 0.003), demonstrating a significant positive effect. For short-term projects, the influence is marginally stronger (β = 0.237), although the t-value (2.215) and p-value (0.013) infer a moderately significant effect. This result implies that for both types of projects, employees' change readiness makes a positive contribution to project success, although its effect is rather stronger in the case of short-term projects. The second strand measures the influence of Strategies to Improve Safety Performance on Project Success. For long-term projects, the coefficient is large (β = 0.588, t = 10.727, p < 0.001), exhibiting a very high and highly significant positive influence. The same effect is seen in short-term projects (β = 0.506, t = 5.392, p < 0.001), but a little less so. This supports that utilization of safety strategies improves project success greatly, but with a stronger effect in long-term projects in which safety issues might have a longer-lasting effect. The mediating effect of Strategies to Improve Safety Performance between Individual Change Readiness and Project Success is also investigated. The findings validate complete mediation for both types of projects. In long-term projects, the indirect effect is β = 0.396 with a very significant t-value (10.094, p < 0.001), and readiness for change enhances project success mainly through its effect on safety strategies. In short-term projects, the mediation effect is less strong but significant (β = 0.306, t = 5.168, p < 0.001), supporting that safety performance has a significant role in bridging change readiness and project success. Finally, the moderating effect of Project Manager-Related Factors on the Individual Change Readiness-Project Success relationship is examined. The findings indicate a less strong but still significant moderation effect. In long-term projects, the moderation coefficient is β = 0.060, with a t-value of 2.495 (p = 0.006), indicating that project managers influence how change readiness translates into success, albeit to a small extent. For short-duration projects, the moderating effect is more significant (β = 0.109, t = 2.343, p = 0.010), implying that within shorter cycles of projects, project managers remain more active in performing their role to make employees' change readiness translate into successful results.

Table 5: Path Analysis

	Long Term Projects				Short Term Projects			
	β	S.E	t	p	β	S.E	t	p
Individual change readiness has a significant and positive impact on projec success	0.187	0.069	2.714	0.003	0.237	0.107	2.215	0.013
Strategies to improve safety performanc have a significant and positive impact on project success	0.588	0.055	10.727	0.000	0.506	0.094	5.392	0.000
Strategies to improve safety performanc mediate the relationship between Individual change readiness and project success	0.396	0.039	10.094	0.000	0.306	0.059	5.168	0.000
Project manager-related factors moderate the relationship between individual change readiness and project success	0.060	0.024	2.495	0.006	0.109	0.047	2.343	0.010

Table 6 shows the outcome of the multigroup analysis (MGA) to investigate if structural relationships vary across long-term versus short-term projects. The analysis contrasts the path coefficients (β) between the two types of projects and offers the difference (β) between them with the p-value (MGA), which indicates whether the difference is statistically significant. The first hypothesis investigates the direct effect of Individual Change Readiness on Project Success. The standardized path coefficient for long-term projects is β = 0.187 and for short projects is β = 0.237, for a difference of (β) = 0.050. The p-value (0.241) shows that such a difference does not exist significantly, implying the effect of change readiness on the success of a project is otherwise fairly stable under both project length conditions. This means that whether a project is long-term or short-term, people's change readiness has a positive effect on project success to an equal degree. For the second hypothesis, which investigates the effect of Strategies to Improve Safety Performance on Project Success, the findings indicate a greater effect in long-term projects (β = 0.588) than in short-term projects (β = 0.506). The difference (β = 0.082) is close to significance (p = 0.068), suggesting a possible but not certain difference in the strength of the relationship. This implies that although safety performance strategies do have a significant effect on project success in both types of projects, their effect is marginally greater in long-term projects, where consistent application of safety measures is more important. The third hypothesis tests the mediating effect of Strategies to Improve Safety Performance on the Individual Change Readiness-Project Success relationship. Mediation is stronger for longer projects (β = 0.396) than for shorter projects (β = 0.306), with a significant difference of β = 0.090 (p = 0.049). This indicates that for long-duration projects, the trajectory from change readiness to success is more dependent on safety measures than short-duration projects. This view emphasizes the importance of building robust safety performance measures, particularly on long-duration projects, whose combined effect towards project success is more pronounced. The fourth hypothesis examines the moderation effect of Project Manager-Related Factors on Individual Change Readiness-Project Success relationship. Moderation effect is more in short-duration projects (β = 0.109) than long-duration projects (β = 0.060), and it differs statistically at β = 0.049 (p = 0.038). For short-duration projects, the influence of project managers is greater for enabling individuals' change readiness to result in successful projects. The reason may lie in the need for more forceful and expeditious leadership in short-duration projects where the ability to react and make choices speedily comes into focus.

Table 6: Multigroup Analysis

Hypothesis	Long-Term Projects (β)	Short-Term Projects (β)	Difference (Δβ)	p-value (MGA)
Individual change readiness has a significant and positive impact on project success	0.187	0.237	0.050	0.241
Strategies to improve safety performance have a significant and positive impact on project success	0.588	0.506	0.082	0.068
Strategies to improve safety performance mediate the relationship between Individual change readiness and project success	0.396	0.306	0.090	0.049
Project manager-related factors moderate the relationship between individual change readiness and project success	0.060	0.109	0.049	0.038

6. Discussion

This research provides critical insight into the intricacies of change forces leading to project success, highlighting individual change readiness and its relationship with safety performance strategies, managerial power, and project success. In times where organizational responsiveness and flexibility are crucial, measuring to what extent employees' change readiness is successful in yielding project success is significant to scholars as well as practitioners. While earlier studies have been emphasizing the centrality of change management and leadership across different organizational contexts, this study builds on it by empirically corroborating the mediator role of safety performance strategies and the moderating role of project manager-related attributes. Additionally, through differentiating projects into long- and short-term projects, the study detects different differences in how such correlations operate across different project horizons. These results not only bridge the research gaps in project management literature but also have theoretical and practical implications for organizations that seek to increase efficiency, reduce risks, and develop a resilient workforce in dynamic project settings.

The results strongly support the empirical evidence that individual change readiness is a positive contributor to project success. Change readiness represents an individual's willingness to and capability of embracing new processes, technology, or organizational changes necessary for desired project outcomes (Ellis et al., 2023). Employees who embrace change are more engaged, more active in problem solving, and more committed, all which lead to project effectiveness and efficiency. It has also been pointed out in other research that change-ready individuals positions an organization well to navigate adversity, reduce resistance, and ensure business continuity, and ultimately thrive with projects (Bendada et al., 2024). The findings concur with previous literature, which hypothesizes that those embracing change would positively influence implementation of projects, timely delivery, and quality outputs. In addition, in both long-term and short-term projects, change readiness improves greater teamwork, reduced uncertainty, and improved decision-making processes, which are key to project success (Göküz & Akıner, 2025). These results underscore the importance of creating an organizational culture that supports adaptability, ongoing learning, and change openness. Leadership support, communication, and capability-building programs are some of the steps that can further enhance change readiness, hence enhancing project performance across various time horizons.

Evidence supports the fact that safety performance improvement strategies contribute to improving project success. Effective safety procedures and a strong safety culture not only minimize workplace accidents and operational hazards but also drive increased project efficiency and performance. Safety procedure compliance, staff training, and hazard control measures are some of the safety performance strategies that allow projects to be carried out in a safe and organized manner (Kim et al., 2024). Other previous studies have even stated that those companies focusing on safety experience greater employees' morale, less absenteeism, and enhanced productivity that consequently contribute to increased project outputs. Evidence proves that whether or not a project has a shorter or longer timeframe, safety investment provides more effective running, utilization of more resources, and increased confidence by the stakeholders (Naseer et al., 2022). Furthermore, safety performance has been

associated with improved team work and communication since employees in safe workplaces tend to work together effectively without fear of hazard. The results prove the need for project managers and organizations to constantly improve and implement effective safety plans to maintain pace with conformity with safety measures while creating a culture of responsibility and sensitivity to risk.

The findings validate that safety performance improvement strategies have an important impact on improving project success. Good safety culture and good safety practice not only minimize workplace accidents and operating risk but also enhance project overall performance and efficiency (Tappura et al., 2023). Conformity with safety guidelines, staff training, and the management of risk ensure that projects are operated within a highly structured and secure environment. Previous research has also shown that companies with a focus on safety have improved employee morale, reduced absenteeism, and improved productivity, all of which result in improved project outcomes (Aragaw Bisrat & Cherkos Fikreyesus, 2025). The findings show that no matter the length of a project, safety investment results in improved operations, improved utilization of resources, and improved stakeholder confidence. Further, safety performance has also been found to have a link with better teamwork and communication in the sense that employees from safe workplaces can perform together effectively without threats of being injured (Haris & Yang, 2023). These findings point to the need for organizations and project managers to maintain ongoing improvement and developing effective safety plans to ensure compliance with safety practice as well as fostering responsibility and sensitivity to risk.

The findings affirm the moderating influence of factors associated with the project manager on the individual change readiness-project success relationship, emphasizing the pivotal impact of leadership, decision-making, and managerial support within project contexts. Project managers are central facilitators of change because their capability to lead, motivate, and coordinate teams critically influences the degree to which employees are able to convert their change readiness into practical project results (Zia et al., 2024). Previous studies have continuously highlighted that sound leadership improves responsiveness, minimizes resistance to change, and keeps organizational objectives aligned with the workforce's efforts. The results posit that in projects with short timescales, project managers' role as moderators is especially significant, which means managerial control and guidance are crucial within time-sensitive situations to achieve utmost advantage from preparedness for change (Mekonnen & Bayissa, 2023). This is possibly due to short-term projects calling for rapid decision-making, real-time response to problems, and effective resource planning, all of which are hugely reliant on project managers' proficiency. In long-term projects, although project managers are still paramount, the phased nature of implementing change provides sufficient room for organic adjustment among workers. These findings underscore the need to provide project managers with leadership skills, change management training, and strategic planning competencies to be able to effectively mediate between employee flexibility and project success (Abbas & Ali, 2023). Organizations would do well to place emphasis on leadership development courses, promote participative decision-making, and cultivate a supportive managerial culture to enhance this moderating effect and maximize project performance.

Multi-group analysis (MGA) proves insightful in differences in relationships in long-term vs. short-term projects, particularly in how duration of the project affects major

determinants of successful projects. The influence of personal change readiness continues to be very important to overall project success on both types of projects, although the influence in short-term projects seems stronger and implies that ease of adaptation as well as quicker response to change are especially key when time considerations are more severe (Bendada et al., 2024). In the same manner, safety performance improvement strategies exhibit strong impact on both instances of project success, yet the somewhat stronger influence in long-term projects reflects that longer-term safety programs accrue greater cumulative payoffs. Additionally, the mediating effect of safety strategies between change readiness and project success is stronger for long-term projects, suggesting that it takes time for improvements in safety to become integrated fully into project workflows and culture (Su et al., 2023). Conversely, factors related to the project manager have a greater moderating effect in short projects, supporting the contention that within high-stress, time-critical settings, managerial leadership and supervision are more important in ensuring smooth adjustment and project performance (Naji Khalid et al., 2024). These findings underscore the significance of organizations modifying their change management, safety strategy and leadership style in accordance with project duration so that both short-term effectiveness and long-term sustainability are optimized for project success.

The overall findings of this study favor the multidimensionality of project success, involving the building of a culture of change readiness, good safety performance practices, and enabling project managers to become catalysts to good change management. The research highlights that while individual change readiness is a goal in itself, its efficiency is significantly increased if complemented with formalized safety regimes and close managerial oversight. Additionally, the comparison between long-term and short-term projects identifies that the performance of such actors hinges on the project duration and therefore calls for a different strategy towards implementing the project. Finally, these results present strategic soil for organizations to develop their project management frameworks in a manner in which change readiness, safety measures, and leadership are utilized to optimum levels to ensure that proper realization of projects is supported. Organizations may develop a more adaptable, safe, and performance-driven work environment by integrating these findings into practice and set themselves up for long-term sustainability and success within a competitive marketplace.

7. Conclusion

This research offers a comprehensive representation of how employee change readiness, safety performance planning, and factors relating to the project manager operate and impact the success of projects. The findings support the contention that personnel adaptability to change is a critical driver of project performance, though its impact is significantly augmented under conditions of effectively planned safety performance measures. The study also outlines the project manager's role in facilitating this relationship, highlighting leadership and effective facilitation of change. The comparative research between short-term and long-term projects also outlines the contextual nature of these relationships, showing that the effect of these variables varies for different project durations. Implications of this research in a theoretical perspective draw upon existing frameworks such as Theory of Planned

Behavior and theory of socio-technical systems by integrating these in a project management scenario, whereas practical significance contributes insights to organizational stakeholders who are interested in enhancing their project performance through interventionist approaches in change management and safety performance. Despite some limitations, such as cross-sectional design and industry-specific focus, this study presents a firm foundation for subsequent studies to examine other contextual and technological determinants of project success. Last but not least, this study affirms the viability of a multi-dimensional framework in managing projects, which necessitates organizations to ensure change readiness, safety performance, and leadership effectiveness as the bedrock pillars of successful project execution.

8. Implications

This study contributes immensely to theoretical knowledge of project success by integrating change management, safety performance, and leadership theories into a single framework in the project management context. This study builds on existing literature based on evidence that individual change readiness is important but not a single predictor of project success but rather part of a larger set that also involves safety performance strategies and managerial considerations. The results complement and generalize the Theory of Planned Behavior (TPB), which argues that people's attitudes and change readiness lead their behavioral performance. Assuming that safety performance strategies act as mediators of the effect of change readiness on project success, this study highlights the contribution of systemic interventions in mediating people's attitudes and concrete project results according to socio-technical systems theory. In addition, the moderating influence of project manager variables is to highlight applicability in transformational leadership theory in projects to examine the impact of leadership capability on change adaptation and project performance by employees. Furthermore, by making a distinction between long- and short-term projects, the study determines contingent relationships and provides empirical evidence in favor of contingency theory, where situational variables make management effectiveness dependent upon it. These theoretical advances provide a more complete explanation of project success, and further research is needed to advance the knowledge further about how organizational and contextual variables interact with each other to lead to project success.

The findings of this research have some applied implications for policy-makers, project managers, and organizations who are concerned with enhancing project success via strategic change management and safety performance intervention. First, the significant impact of individual change readiness on project success indicates the need for creating an organizational culture that promotes adaptability and ongoing learning. This can be achieved through strategic training programs, change management workshops and communications strategies that precondition the workforce to change. Second, mediating influences of safety performance approaches indicate that organizations are not merely obligated to consider employee readiness to change but also invest in systemic safety procedures, risk evaluation methods, and pro-active safety training to enable smooth project implementation. The large moderating influence of the project manager variables also emphasizes the importance of leadership development initiatives that will be in a position to bestow managers with change facilitation, team motivation, and managing complex project dynamics capabilities. In addition, the short-term vs. long-term project differentiation

suggests that companies must implement strategies tailored by project duration, focusing on rapid adaptation and leadership adaptability for short-term projects, and focusing on ongoing safety improvement and controlled change activities for long-term projects. These results provide actionable guidance for firms looking to maximize project performance, reduce risks, and improve overall performance in a dynamic business environment.

9. Limitations and Future Directions

The findings of the present study hold several practice implications for project managers, organizations, and policymakers to realize project success by applying strategic change management and safety performance interventions. The prime implication of these findings is the necessity to cultivate a culture facilitating adaptability and continuous learning among organizations since it is highlighted as the crucial determiner of change readiness and in turn of project success. This can be achieved through strategic training interventions, change management workshops, and open communication strategies that prepare employees for change. Second, the mediating role of safety performance strategies suggests that organizations not only need to pay attention to employee readiness for change, but also invest in formal safety practices, risk assessment procedures, and pro-active safety training to facilitate successful project implementation. The significant moderating influence of the factors of the project manager is also indicative of the demand for leadership development programs that will equip managers with change facilitation, team motivation, and coping with complex project dynamics competencies. In addition, the short-term vs. long-term project distinction suggests that firms must implement strategies distinguished by project duration—emphasizing rapid adaptation and leadership agility for short-term projects, and emphasizing ongoing safety improvement and controlled change initiatives for long-term projects. These results offer actionable advice for firms seeking to maximize project efficiency, reduce risks, and enhance overall performance in an ever-changing business landscape.

Yet another limitation of this study is its cross-sectional nature, which restricts the ability to form cause and effect relations between variables. Longitudinal studies would facilitate deeper understanding of how individual change readiness and safety performance strategies are developed through different stages of projects and their lasting effect on the project results. Furthermore, although the present study aims to investigate the moderating effect of project manager-related factors, future research can be useful if it investigates the impact of various leadership styles, e.g., servant leadership or situational leadership, on change readiness and project success. The effect of technology-facilitated change management tools, such as AI-based project monitoring systems or virtual collaboration platforms, can also be analyzed to determine their potential to enhance safety performance and change adaptability. Lastly, comparative analyses across different countries can be conducted by future studies to explore how regulatory and cultural differences influence these relationships. By overcoming these constraints, subsequent research can refine and advance the theoretical and practical understanding of project success, and organizations can more effectively manage change, improve safety outcomes, and maximize overall project performance.

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