

How Can Projects Succeed?

An Exploration through Agile Project Management

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Abstract

In fast-changing project environments, traditional management approaches are increasingly insufficient to meet practical demands. Agile methods, characterized by short delivery cycles,

flexibility, and stakeholder involvement, have become a key trend in project management. However, the impact of organizational governance on the effectiveness of agile practices remains underexplored. This study investigates project professionals in Taiwan with agile experience to examine how agile methods influence three dimensions of project success—efficiency, stakeholder satisfaction, and future potential—and compares outcomes across different governance characteristics. The results indicate that agile methods positively affect project success and enhance organizational learning. Although governance did not show a statistically significant moderating effect, differences observed across governance types suggest a potential contextual role. This study fills a gap in Taiwan’s agile research and highlights the importance of aligning management approaches with governance structures.

Keywords: Agile methods, project success, project governance, contextual fit

1. Introduction

As project-based operations have become the norm in organizational practice, global investment in projects has reached trillions of dollars. However, project failure rates have not declined significantly in parallel with advancements in management techniques (Wang et al., 2024). The CHAOS Report indicates that many project failures stem not from technical issues but from communication gaps between teams and stakeholders (<https://www.csus.edu/indiv/v/velianitis/161/ChaosReport.pdf>). Among the critical factors influencing project success are customer involvement and the presence of experienced project managers (Standish Group, 2000). Traditional linear and goal-driven management approaches are proving inadequate in addressing the challenges of today's fast-paced and uncertain environments, prompting both practitioners and researchers to explore more responsive strategies. Agile methods, emphasizing human-centric values, rapid delivery, and continuous feedback, have emerged as one such alternative (Highsmith, 2004; Dybå & Dingsøyr, 2008; Klein, 2025). Commonly applied in software and technology industries, agile practices aim to enhance organizational responsiveness and innovation through short iteration cycles, cross-functional collaboration, and deep customer engagement (Schwaber, 2004; Sheffield & Lemétayer, 2013).

Despite the growing body of empirical evidence supporting the effectiveness of agile practices, quantitative research on agile benefits across different industries remains limited (Conforto et al., 2016; Oltra et al., 2025). Moreover, project performance is also influenced by governance structures; how organizations allocate authority, control processes, and manage resources may moderate the outcomes of agile implementation (Müller & Lecoivre, 2014; Hunhevicz et al., 2024). Accordingly, this study aims to examine the impact of agile methods on project success—including efficiency, stakeholder satisfaction, and future development potential—and to further analyze the moderating role of project governance. By addressing the shortage of empirical studies in the local context, this research seeks to offer concrete contributions to both theoretical understanding and practical application.

2. Literature Review and Hypothesis Development

2.1 Agile Methods

Agile methods emerged in the 1990s as an alternative to traditional project management approaches, which struggled to cope with rapidly changing requirements. Rooted in the Agile Manifesto, agile emphasizes four core values: individuals and interactions, working software, customer collaboration, and responding to change (Cooper & Sommer, 2016). Compared to the waterfall model, agile methods enhance flexibility in responding to market needs through short iteration cycles, continuous integration, and frequent delivery (Highsmith, 2004).

Common agile practices include Scrum, XP (Extreme Programming), and Kanban, all of which feature cross-functional teams, daily stand-up meetings, short sprints, and regular retrospectives. Agile teams often adopt flat structures and shared decision-making, allowing members to respond quickly to changes in requirements or technology (Drury et al., 2012). Dybå and Dingsøyr (2008) noted that agile practices contribute to improvements in project

quality, team performance, and customer satisfaction. However, agile is not a universal solution; implementation challenges frequently arise in larger or more rigid organizations (Hoda et al., 2010).

2.2 Project Success

The assessment of project success has traditionally relied on the “Triple Constraints” model—evaluating whether time, cost, and scope objectives are met (Atkinson, 1999; Baratta, 2006). This conventional view centers on “project efficiency” as the core metric. However, as projects increasingly serve as strategic vehicles for organizational execution, the criteria for success have expanded to include multiple dimensions such as stakeholder satisfaction, contributions to organizational performance, and long-term potential for learning and innovation (Shenhar et al., 2001; Turner & Zolin, 2012). An empirical study by Serrador and Turner (2015) revealed that the correlation between project efficiency and overall success is only about 60%, suggesting that non-efficiency indicators also play a significant role. Similarly, Zwikael and Globerson (2006) emphasized that the quality of communication and the level of customer involvement significantly affect project outcomes. These findings indicate that modern projects are not merely execution-driven tasks, but strategic platforms for value creation. As such, success should be evaluated using multi-dimensional, long-term-oriented frameworks rather than short-term, single-metric benchmarks (Orsatti et al., 2025).

In line with this expanded understanding of project outcomes, this study adopts a multidimensional view of project success—comprising project efficiency, stakeholder satisfaction, and future development potential—as proposed by Serrador and Turner (2015). These three dimensions not only reflect short-term performance but also capture relational and strategic outcomes, making them particularly suitable for evaluating agile project environments.

Building on this perspective, project governance has increasingly been recognized as a critical overarching structure with significant influence on project performance and method application (Aal, 2022). Project governance refers to how organizations institutionalize role assignments, decision-making authority, and resource management mechanisms to ensure alignment between projects and strategic goals (Turner, 2006; Müller, 2009). These governance systems are typically established at the early design phase and encompass performance oversight, risk control, and adaptive decision-making, all of which affect the project team’s flexibility and autonomy. Klakegg et al. (2008) further pointed out that organizations may adopt either a top-down shareholder logic or a bottom-up control logic in their governance models. These orientations shape how authority is delegated and performance is assessed, thereby influencing team behavior and the degree of freedom in selecting management approaches (Klein, 2025). Müller and Lecoivre (2014) also found that when governance emphasizes procedural compliance and outcome orientation, the implementation of agile methods is often constrained. In contrast, open and learning-oriented governance structures are more conducive to agile adoption and performance realization. Thus, project governance is not merely a set of formal arrangements, but a critical contextual

factor that shapes the compatibility between project environments and management approaches.

3. Research Design and Hypotheses

3.1 Agile Methods and Project Efficiency

Traditional measures of project success have largely focused on the “Triple Constraints” of time, cost, and scope—whether the project is delivered on schedule, within budget, and meets quality expectations (Atkinson, 1999; Baratta, 2006). Turner and Zolin (2012) pointed out that delays or cost overruns can significantly undermine a project’s business value. An empirical study by Serrador and Turner (2015) further confirmed a significant correlation between project efficiency and overall project success. While efficiency is not the sole determinant of success, it remains a fundamental aspect that cannot be overlooked. Agile methods, which rely on short-cycle iterative development, enable teams to deliver incremental results quickly, obtain early feedback, and make timely corrections—thereby improving development efficiency and maintaining budget control (Koudriachov et al., 2025; Schwaber & Beedle, 2002). These characteristics make agile particularly well-suited for rapidly changing environments, helping teams stay focused on achieving clearly defined goals. Based on this rationale, agile methods are expected to enhance project efficiency. Hence, the following hypothesis is proposed:

H1.1: Agile methods have a positive impact on project efficiency.

3.2 Agile Methods and Stakeholder Satisfaction

While project efficiency is a fundamental aspect of success, research has also emphasized that stakeholder satisfaction plays a critical role in determining overall project success (Serrador & Turner, 2015). Among the key factors influencing satisfaction are the degree of customer involvement and the quality of communication (Mortati et al., 2023; Zwikael & Unger-Aviram, 2010). Agile methods place strong emphasis on continuous interaction and real-time feedback with customers. Practices such as daily stand-up meetings and sprint retrospectives facilitate ongoing requirement adjustments and information alignment (Kerzner, 2009). Studies have shown that this kind of real-time interaction reduces misunderstandings, builds trust, and increases customer recognition of both the process and the outcomes (Conboy, 2009; Laanti et al., 2013). Based on this reasoning, this study posits that agile practices enhance stakeholder satisfaction, leading to the following hypothesis:

H1.2: Agile methods have a positive impact on stakeholder satisfaction.

3.3 Agile Methods and Future Development Potential

In today’s rapidly changing environment, projects are no longer viewed solely as delivery mechanisms but also as platforms for developing organizational capabilities and accumulating innovation (Sońta-Drączkowska et al., 2024). Shenhar and Dvir (2007) refer to this as the capability to “prepare for the future.” Projects that promote knowledge transfer and experiential learning can strengthen an organization’s ability to face future challenges. Agile methods, through mechanisms such as iterative development, continuous retrospectives, and self-organized learning, help cultivate teams’ adaptability and growth in complex situations

(Highsmith, 2004; Cohn, 2005). This practice-based knowledge generation is particularly important for establishing a foundation for innovation and enhancing cross-project capabilities. Therefore, this study posits that agile methods positively contribute to an organization's future development potential, leading to the following hypothesis:

H1.3: Agile methods have a positive impact on future development potential.

3.4 The Moderating Role of Project Governance

Although agile methods demonstrate high flexibility and responsiveness, their implementation outcomes are not solely determined by the methods themselves. Internal governance mechanisms and managerial systems often play a decisive role in the effective adoption of agile practices (Hoda et al., 2010; Stettina & Heijstek, 2011). When governance structures are overly rigid or process-driven, they may constrain agile teams' autonomy and real-time decision-making flexibility (Aubry et al., 2007; Bandé et al., 2024). Conversely, flexible governance systems that support learning and innovation are more likely to enable the full potential of agile methods (Müller & Lecoivre, 2014). In addition, top management support and cross-functional integration are considered critical factors for the successful adoption of agile practices (Young & Jordan, 2008; Huemann & Eskerod, 2013).

This study employs multi-group analysis by classifying the sample based on organizational governance characteristics—specifically, governance orientation and control mechanisms—to examine whether the effectiveness of agile methods on project success differs across governance types. This approach enables an assessment of whether governance context moderates the relationship between agile practices and project outcomes. Based on this logic, the following hypothesis is proposed:

H2: Project governance moderates the positive relationship between agile methods and project success.

3.5 Measurements

3.5.1 Agile Methods

Following the definitions provided by Conforto et al. (2014) and Meier and Kock (2023), this study defines agile methods as a human-centered management approach that emphasizes flexibility and continuous feedback. Rooted in four core values and twelve guiding principles, agile methods aim to simplify management processes, foster innovation, and enhance project performance—particularly in terms of cost, time, and quality—ultimately creating customer value. To measure the extent of agile practice adoption and the embodiment of agile principles, this study adopts the agility scale developed by Miller (2010), which includes five items. These items assess team awareness of requirement changes, responsiveness, organizational flexibility, and strategic adaptability, using a five-point Likert scale.

3.5.2 Project Success

Based on the conceptualization by Serrador and Turner (2015), this study views project success as a multidimensional construct, encompassing not only traditional “project efficiency” but also “stakeholder satisfaction” and “future development potential.”

Specifically: (1) Project efficiency refers to whether the project meets its predetermined goals in terms of time, cost, and scope, with emphasis on the gap between actual performance and expected outcomes; (2) Stakeholder satisfaction assesses the evaluations and recognition of various key stakeholders—such as clients, project teams, sponsors, and end users—regarding project outcomes; (3) Future development potential focuses on whether the completed project contributes to the accumulation of organizational capabilities and enhances future project execution capacity. Each of these three constructs is measured using three to five items on a five-point Likert scale.

3.5.3 Project Governance

Drawing on the definitions by Too and Weaver (2014) and Joslin and Müller (2015), this study conceptualizes project governance as a set of institutional arrangements that regulate how organizations allocate resources, assign responsibilities, and make decisions in the context of project management, ensuring that project activities operate effectively within the organizational structure (Aal, 2022; Bandé et al., 2024). Specifically, project governance is divided into two dimensions: (1) Corporate Governance Orientation, which assesses whether organizational decision-making is primarily driven by the maximization of shareholder value or takes into account a broader range of stakeholder interests; and (2) Organizational Control, which reflects whether the organization prefers strict adherence to formal procedures (behavior-based control) or places greater emphasis on results and flexible handling (outcome-based control). Based on respondents' tendencies across these two dimensions, organizations are categorized into different governance types. These types are then used to form subgroups for comparative analysis, examining whether the relationship between agile methods and project success varies across governance contexts, thereby testing the moderating role of project governance.

4. Research Methodology

4.1 Data Structure and Analysis

This study employed a questionnaire survey to collect data. The questionnaire consisted of four main sections: (1) respondent demographics; (2) degree of agile practice implementation; (3) dimensions of project success; and (4) project governance orientation. A total of 30 items were included, and all constructs were measured using five-point Likert scales (1 = strongly disagree, 5 = strongly agree). The measurement items were primarily adapted from validated instruments in the literature. Specifically, agile practices were measured based on Miller (2010), project success dimensions were drawn from Serrador and Turner (2015), and project governance constructs were adapted from Joslin and Müller (2015).

The questionnaire was developed using Google Forms and distributed online. Target respondents were project professionals in Taiwan with hands-on experience in project-based work. To enhance sample diversity and representativeness, the survey was promoted through various agile-related online communities (e.g., Facebook), professional networks, and project management seminars. Prior to formal data collection, a small-scale pilot test was conducted to ensure item clarity and logical flow. Based on feedback from the pilot, several

modifications were made to improve the readability and content validity of the instrument.

The target population consisted of project managers or team members currently engaged in project-based work in Taiwan with hands-on project experience. The sample encompassed various project domains, including information technology, product development, and process improvement. Data collection was conducted between mid-March and mid-April 2019 through professional communities, project management offices (PMOs), and agile-related training sessions and seminars. A combination of convenience and snowball sampling techniques was used.

A total of 206 valid responses were initially obtained. After applying screening criteria to exclude incomplete or invalid entries, a final sample of 125 respondents with confirmed agile practice experience was retained for analysis. Demographic information was used to review respondent profiles and ensure data quality. The reviewed variables included gender, age, educational background, job position, managerial role, years of work experience, industry type, organizational size, duration of agile implementation, role in agile projects, average sprint frequency, sprint duration, and team size. These variables also served as the basis for further statistical analyses.

Descriptive statistics of the sample show that the majority of respondents were male (76.8%), with females accounting for 23.2%. Most respondents were aged between 26–30 (32.8%) and 31–35 (27.2%). In terms of education, the majority held a bachelor's degree (61.6%), followed by a master's degree or higher (36%). The most common roles included Product Owner (28.8%), Scrum Master (17.6%), and Project Manager (14.4%), with 61.6% of the sample holding managerial positions. Regarding work experience, the most represented groups had over 11 years (33.6%) or 3–5 years (24%) of experience.

In terms of industry, the sample was primarily from the technology sector (41.6%) and the professional/technical services sector (16.8%). Most respondents came from small to medium-sized organizations, with 43.2% in firms of 11–50 employees and 24.8% in firms with 10 or fewer employees. Regarding agile adoption experience, most respondents reported that their organizations had adopted agile methods for less than one year (61.6%), with only a small portion having used agile for more than three years. Role distribution was mainly among team members (38.4%), Scrum Masters (32%), and Product Owners (28.8%).

In terms of agile practice experience, the majority of teams reported having completed 2–4 sprints (63.2%), and sprint durations were highly concentrated within 1–2 weeks (81.6%), indicating a tendency toward short-cycle, rapid-delivery iterations. Team size was mainly composed of 3–4 members (39.2%) and 5–6 members (28%), aligning with the typical characteristics of small, self-organizing agile teams.

4.2 Reliability and Validity Analysis

To ensure the construct validity of the measurement instruments used in this study, both convergent and discriminant validity were assessed following the guidelines proposed by Fornell and Larcker (1981). Construct validity refers to the extent to which a measurement instrument accurately captures the theoretical construct it intends to measure. If both

convergent and discriminant validity are established, the structural model can be further examined.

For convergent validity, two key criteria must be met: (1) the Average Variance Extracted (AVE) for each construct should exceed 0.50, indicating that the construct explains more variance than measurement error; and (2) the Composite Reliability (CR) should exceed 0.70, reflecting strong internal consistency among items. The results indicate that the four main constructs of this study—Agile Methods, Project Efficiency, Stakeholder Satisfaction, and Future Development Potential—had AVE values ranging from 0.58 to 0.66, all exceeding the 0.50 threshold. The CR values ranged from 0.81 to 0.91, all above the 0.70 benchmark, demonstrating good convergent validity. Table 1 provides support for the measurement of the underlying latent variables.

Discriminant validity was assessed to confirm that each construct is empirically distinct, meaning that the concepts measured by different constructs are not redundant. Fornell and Larcker (1981) proposed two criteria for assessing discriminant validity: (1) the factor loading of each item on its intended construct (own-loading) should be higher than its loadings on other constructs (cross-loadings); and (2) the square root of each construct's AVE should be greater than its correlations with other constructs.

As shown in the correlation matrix in Table 2, the diagonal values—representing the square roots of the AVEs for each construct (Agile Methods = 0.80, Project Efficiency = 0.78, Stakeholder Satisfaction = 0.76, and Future Development Potential = 0.81)—all exceed the inter-construct correlation coefficients, thereby meeting the criteria for discriminant validity.

In sum, the results confirm that all measurement scales in this study exhibit satisfactory levels of both convergent and discriminant validity, thereby supporting adequate construct validity for subsequent structural model analysis.

Table 1. Reliability and Validity Analysis

Construct	Items	Factor Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Agile Methods	AG1	0.82	0.90	0.64
	AG2	0.84		
	AG3	0.72		
	AG4	0.84		
	AG5	0.80		
Project Efficiency	PE1	0.80	0.82	0.60
	PE2	0.72		
	PE3	0.81		
Stakeholder Satisfaction	SS1	0.834	0.81	0.58
	SS2	0.62		
	SS3	0.81		
	SS4	0.77		
	SS5	0.74		
Future Development Potential	FP1	0.83	0.91	0.66
	FP2	0.79		
	FP3	0.75		
	FP4	0.82		
	FP5	0.86		

Table 2. Correlation Matrix

	1.	2.	3.	4.
1. Agile Methods	0.80			
2. Project Efficiency	0.73	0.78		
3. Stakeholder Satisfaction	0.71	0.63	0.76	
4. Future Development Potential	0.75	0.58	0.72	0.81

Note: Bolded diagonal values represent the square root of AVE.

4.3 Structural Model Analysis and Hypothesis Testing

This study conducted two levels of model analysis. First, path analysis was performed to test hypotheses H1.1, H1.2, and H1.3. Then, based on two governance dimensions—corporate governance orientation and organizational control—multi-group comparisons were conducted. One grouping distinguished between “shareholder” and “stakeholder” orientations, while the other distinguished between “behavior-based” and “outcome-based” control styles, to examine the moderating effect proposed in hypothesis H2.

The structural relationships among constructs were tested using Structural Equation Modeling (SEM) to examine the direct effects of Agile Methods on the three core dimensions of Project Success: Project Efficiency, Stakeholder Satisfaction, and Future Development Potential. The analysis was based on the original sample (N = 125) and estimated using Partial Least Squares SEM (PLS-SEM). A bootstrapping procedure with 500 resamples was conducted to

assess the robustness and statistical significance of the path coefficients.

The results indicated that agile methods had strong and significantly positive effects on all three outcome variables. Specifically, the standardized path coefficient from agile methods to Project Efficiency was 0.76 ($p < 0.00$), to Stakeholder Satisfaction was 0.91 ($p < 0.00$), and to Future Development Potential was 0.76 ($p < 0.00$). These findings provide strong support for hypotheses H1.1, H1.2, and H1.3, confirming the significant contribution of agile practices to key project outcomes.

In addition, the model exhibited strong explanatory power, as evidenced by the R^2 values of the dependent variables. Stakeholder Satisfaction had the highest R^2 at 0.83, suggesting that agile methods play a particularly critical role in enhancing client and stakeholder approval. Both Project Efficiency and Future Development Potential showed R^2 values of 0.58, exceeding the practical threshold of 0.50 suggested by Hair et al. (2017), indicating that agile practices contribute meaningfully to both short-term performance and long-term organizational capacity.

Taken together, these findings provide compelling empirical support for the positive influence of agile methods on the three core dimensions of project success. They underscore the practical relevance and strategic value of agile practices in enhancing delivery performance, stakeholder satisfaction, and organizational learning potential.

Table 3. Path Analysis Results

Path Relationship	Standardized Coefficient	R^2
Agile Methods → Project Efficiency ($H_{1.1}$)	0.76**	0.58
Agile Methods → Stakeholder Satisfaction ($H_{1.2}$)	0.91**	0.83
Agile Methods → Future Development Potential ($H_{1.3}$)	0.76**	0.58

** $p < 0.01$

4.4 Moderating Effect of Project Governance: Multi-Group Analysis

To examine whether project governance moderates the relationship between agile methods and project success, this study employed a Multi-Group Analysis (MGA) strategy. The original sample was divided based on two governance constructs: (1) Corporate Governance Orientation (Shareholder-Oriented vs. Stakeholder-Oriented); and (2) Organizational Control Style (Behavior-Based Control vs. Outcome-Based Control). Respondents were categorized into subgroups based on their aggregated scores on governance-related items, following the approach adapted from Joslin and Müller (2015).

As shown in Table 4, agile methods had significantly positive effects on Project Efficiency, Stakeholder Satisfaction, and Future Development Potential across all four governance subgroups ($p < 0.00$), suggesting a generally robust and positive contribution of agile

practices to project outcomes. However, further examination of the standardized path coefficients and R^2 values revealed noteworthy differences. First, in the Shareholder-Oriented and Stakeholder-Oriented groups, the path coefficients from agile methods to Stakeholder Satisfaction were 0.92 and 0.91, respectively, with corresponding R^2 values of 0.85 and 0.83. Although both groups exhibited strong positive relationships, the effect was slightly stronger under the shareholder-oriented condition. This suggests that when organizations emphasize financial performance, agile methods may serve as an effective tool for rapidly addressing the needs of both customers and investors, thereby enhancing stakeholder satisfaction.

Second, regarding control mechanisms, the effect of agile methods on Future Development Potential was significantly higher in the Outcome-Based Control group ($\beta = 0.85$, $R^2 = 0.72$) compared to the Behavior-Based Control group ($\beta = 0.75$, $R^2 = 0.65$). This finding indicates that when governance emphasizes flexibility and results rather than rigid adherence to procedures, agile methods are more effective in fostering learning, innovation, and long-term organizational capability. This may be attributed to the greater autonomy and adaptability afforded by outcome-based governance, which aligns well with the iterative and self-organizing nature of agile practices.

Overall, although all subgroup analyses revealed statistically significant and positive effects, the differences in path coefficients and R^2 values across governance types reflect potential moderating trends. Notably, in the dimensions of Stakeholder Satisfaction and Future Development Potential, governance orientation and control style appeared to alter the effectiveness of agile methods.

In conclusion, while agile methods had a significantly positive impact on project outcomes across all governance contexts, variations in effect size and explanatory power suggest that Project Governance may exert a moderating influence under specific conditions. Therefore, Hypothesis H_2 is partially supported. This result also aligns with the contingency theory perspective, which emphasizes the principle of contextual fit, indicating that the effectiveness of agile practices is shaped by their interaction with organizational governance styles and management contexts.

Table 4. Multi-Group Analysis Results

Group	Path Relationship	Standardized Coefficient	R ²
Shareholder-Oriented	Agile Methods → Project Efficiency	0.77**	0.59
	Agile Methods → Stakeholder Satisfaction	0.92**	0.85
	Agile Methods → Future Development Potential	0.77**	0.59
Stakeholder-Oriented	Agile Methods → Project Efficiency	0.77**	0.58
	Agile Methods → Stakeholder Satisfaction	0.91**	0.83
	Agile Methods → Future Development Potential	0.77**	0.59
Behavior-Based Control	Agile Methods → Project Efficiency	0.78**	0.61
	Agile Methods → Stakeholder Satisfaction	0.91**	0.82
	Agile Methods → Future Development Potential	0.75**	0.56
Outcome-Based Control	Agile Methods → Project Efficiency	0.75**	0.56
	Agile Methods → Stakeholder Satisfaction	0.95**	0.91
	Agile Methods → Future Development Potential	0.85**	0.72

**p < 0.01

5. Discussion

5.1 Research Findings

This study aimed to investigate the direct impact of agile methods on project success and further examine the potential moderating effect of project governance. Targeting project professionals in Taiwan with practical agile experience, this research employed Structural Equation Modeling (SEM) to empirically analyze the causal relationships among constructs and assess the model's overall fit. Based on the empirical results, the key findings of this study are summarized as follows:

5.1.1 Agile methods have a significantly positive impact on project success, supporting Hypothesis H1.

The results demonstrate that agile methods positively influence all three dimensions of project success: project efficiency, stakeholder satisfaction, and future development potential. Specifically, in terms of project efficiency, agile practices such as fixed sprint planning and daily stand-up meetings enhance team accountability and control over progress, thereby reducing risks related to resource misallocation and schedule delays. Regarding stakeholder satisfaction, continuous interaction and feedback mechanisms foster shared understanding and facilitate ongoing requirement adjustments, leading to outcomes that more closely align with actual needs. In terms of future development potential, agile methods promote organizational learning and knowledge transfer, enabling teams to grow and adapt in dynamic

environments. This contributes to the accumulation of long-term capabilities for project delivery and execution.

5.1.2 Project governance demonstrates a moderating tendency on the relationship between agile methods and project success, partially supporting Hypothesis H2.

Although multi-group analysis revealed significantly positive effects of agile methods across all governance types, substantial variations were observed in the standardized path coefficients and R^2 values across different governance orientations (e.g., shareholder-oriented vs. stakeholder-oriented) and control mechanisms (behavior-based vs. outcome-based). Notably, stronger effects and greater explanatory power were found in the outcome-based control and shareholder-oriented groups, particularly in the dimensions of future development potential and stakeholder satisfaction. These differences suggest that governance styles characterized by flexibility and outcome orientation may further amplify the benefits of agile practices. This finding aligns with the contingency theory perspective, which emphasizes contextual fit, indicating that the effectiveness of agile implementation is not universally consistent but rather contingent on organizational governance structures and management systems.

In sum, this study not only confirms the value of agile methods in achieving project success but also highlights the strategic role of project governance as a contextual moderator. The results offer meaningful implications for both future project management theory and practical application.

5.2 Theoretical Implications

From an academic perspective, this study addresses two key gaps in the existing literature on agile methods. First, although numerous studies have supported the positive relationship between agile methods and project performance, most prior research has focused on one or two dimensions of success. By incorporating three critical dimensions—efficiency, stakeholder satisfaction, and future development potential—this study provides a more comprehensive model of project success and contributes richer empirical evidence regarding the benefits of agile practices. Second, this study introduces project governance as a moderating variable to examine its influence on the effectiveness of agile implementation—an analytical perspective that remains relatively rare in the agile literature.

Although the study did not find statistically significant moderating effects of project governance, the variations in path coefficients across governance styles suggest potential interaction trends. These trends indicate that the effectiveness of agile practices is contingent on the degree of alignment with the organizational governance structure. This finding echoes the core proposition of contingency theory, particularly the principle of situational fit, and opens new avenues for future research—such as exploring how agile-performance dynamics may vary across industries, organizational sizes, or governance cultures.

5.3 Practical Implications

This study conducted an empirical investigation of agile implementation among project teams

in Taiwan. The results show that agile methods significantly enhance project efficiency, increase stakeholder satisfaction, and strengthen an organization's long-term development potential. These findings hold particular relevance for firms undergoing transformation, offering concrete guidance during the adoption of agile practices. Notably, over 60% of respondents reported that their organizations had adopted agile methods for less than one year, indicating that agile implementation in Taiwan is still in its early stages. This suggests that many organizations are still developing a deeper understanding of agile practices and may struggle to fully integrate them into their existing workflows.

This early-stage adoption also reflects a common organizational challenge—fluctuating between traditional waterfall approaches and agile frameworks—which can result in misalignment between organizational culture, governance systems, and the requirements of agile practices. Consequently, for organizations that have yet to fully adopt agile methods, this study offers an evidence-based framework to assist managers in evaluating the suitability of agile management, and in adopting step-by-step implementation strategies tailored to specific project characteristics. In dynamic and innovation-driven environments, agile methods can serve as an effective tool for responding to market volatility, improving adaptability, shortening delivery cycles, and strengthening customer engagement (Koudriachov et al., 2025; Wang et al., 2024). Firms are advised to adapt the depth of agile adoption based on project complexity and governance style, avoiding one-size-fits-all approaches and instead enabling agile to deliver on its promises of flexibility, efficiency, and responsiveness.

Moreover, while agile methods are still predominantly applied in the technology sector, this study finds evidence of their gradual expansion into other industries such as retail and professional services. This trend highlights the cross-industry applicability of agile (Adzgauskaite et al., 2025). To capitalize on this potential, organizations should consider revising internal structures and governance strategies to better align with agile principles—fostering flexible, learning-oriented management systems that improve project success rates and build long-term competitive advantage.

5.4 Limitations and Future Research Directions

While this study empirically examined the relationship between agile methods and project success and explored the potential moderating effect of project governance, several limitations remain that warrant further investigation.

First, the limited sample size represents a key constraint of this study. As agile methods are still relatively new in Taiwan, the proportion of practitioners with actual implementation experience remains low. Furthermore, data were collected via an online questionnaire, which may have introduced a degree of conservatism in responses due to concerns over personal data privacy. This could result in responses that deviate from actual conditions. In addition, only respondents with hands-on experience in agile practices were included in the final analysis, which further reduced the sample size and may have affected the robustness of model estimation and the external validity of the findings. Second, the self-reported nature of the survey requires respondents to evaluate their team's performance and stakeholder

satisfaction, which may be subject to biases such as subjective perception, social desirability, or positive response tendencies. Moreover, the cross-sectional design limits the findings to a single point in time, preventing analysis of the dynamic interactions among variables throughout the project lifecycle and restricting causal inference.

Based on these limitations, this study proposes the following directions for future research. First, future studies should aim to expand sample size and diversify data sources. Data collection could be integrated with on-site interviews, partnerships with professional communities, or collaborations with internal corporate training programs. Additionally, academic institutions or government support may help enhance data reliability and response rates.

Second, incorporating multiple data sources and stakeholder perspectives is encouraged. Triangulation methods—such as collecting feedback from project clients, supervisors, or end users—can enrich the data and reduce biases arising from a single source. Third, future research could explore different industry sectors and governance contexts. While agile methods originated in the software and technology industries, they are increasingly applied in manufacturing, finance, and service sectors. Comparative studies across industries or organizational governance types could provide deeper insights into how contextual factors shape agile effectiveness.

Fourth, research should examine the organizational transformation processes involved in agile adoption. While agile has become a catalyst for transformation in some organizations, it may encounter resistance in more traditional structures or cultures. Future studies may explore agile implementation through the lenses of organizational change, cultural orientation, or change readiness to better understand its transformative potential and enabling conditions.

Fifth, although agile methods encompass a variety of frameworks—including Kanban, Extreme Programming (XP), and Lean Development—this study primarily focused on Scrum. This focus reflects the fact that Scrum was the most widely adopted and recognizable agile framework among respondents, as indicated by their reported roles and project practices. Future studies are encouraged to conduct comparative analyses across different agile methodologies to better understand their distinct impacts on project success in various governance contexts.

In sum, this study offers empirical evidence on the relationship between agile practices and project success while highlighting the importance of governance context. Continued efforts to improve sample diversity, methodological rigor, and industry sensitivity will help build a more contextually grounded body of theory and practical knowledge on agile management.

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Appendix. Construct and Measurement Items

Construct	Item Code	Item
Agile Methods	AG1	Our project team is capable of rapidly responding to changing customer needs.
	AG2	Our project team can quickly adjust to changes in customer needs and service requirements.
	AG3	Once decisions are made, our team adjusts product or service offerings in a timely manner, ensuring quality delivery.
	AG4	Our organization can adapt flexibly to environmental changes.
	AG5	Our organization frequently adjusts products/services in response to market shifts.
Project Efficiency		
Project Success	PE1	How well did the project meet its budget goals?
	PE2	How well did the project meet its time goals?
	PE3	How well did the project meet its scope and requirement goals?
	Stakeholder Satisfaction	
	SS1	How do you evaluate the success of the project from the perspective of project initiators and stakeholders?
Project Success	SS2	How would you rate the project team's satisfaction with the project outcomes?
	SS3	How would you rate the client's satisfaction with the project outcomes?
	SS4	How would you rate the sponsor's satisfaction with the project outcomes?
	SS5	How would you rate the end user's satisfaction with the project outcomes?
Future Development Potential		
	FP1	This project enabled you to gain new knowledge and

understanding.

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| FP2 | You were able to continuously learn during the project execution. |
| FP3 | Upon completion, this project enhanced your organization's capability to manage future projects. |
| FP4 | The project contributed to the advancement of future project initiatives. |
| FP5 | The project completion served as a driving force for future projects. |
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