The Effect of Scrum Implementation and Agile Organization on Project Productivity Mediated by Team Experience

Irpan Setiana
Universitas Padjadjaran; Bandung, Indonesia
E-mail: irpansetiana23@gmail.com

Yunizar
Universitas Padjadjaran; Bandung, Indonesia
E-mail: yunizar2017@unpad.ac.id

Submitted:
JUNE 2025

Accepted:
AUGUST 2025

ABSTRACT

The rapid evolution of the digital landscape compels information technology organizations to adopt adaptive project management approaches to remain competitive. This study examines the influence of Scrum implementation and Agile organizational culture on project productivity, with team experience as a mediating factor, in small and medium-sized information technology consulting firms in Bandung, Indonesia. The research employs a quantitative explanatory design, collecting data through questionnaires from 98 project managers and analyzing it using structural equation modeling with partial least squares. The findings reveal that Scrum implementation and Agile organizational practices significantly enhance project productivity by improving efficiency, deliverable quality, and team effectiveness. However, team experience does not mediate these relationships, indicating that Scrum and Agile frameworks exert strong direct effects. This study concludes that consistent Scrum practices and Agile culture are critical drivers of project success in Bandung's information technology sector. These insights provide practical guidance for managers to optimize project outcomes through strategic Agile adoption, emphasizing structured processes and collaborative cultures, while highlighting the need for further exploration of team experience's role in diverse contexts.

Keywords: *Agile, IT Consulting Firms, Productivity, Project Management, Scrum Implementation, SEM-PLS, Team Experience.*

ABSTRAK

Evolusi lanskap digital yang pesat mendorong organisasi teknologi informasi untuk mengadopsi pendekatan manajemen proyek adaptif agar tetap kompetitif. Penelitian ini mengkaji pengaruh implementasi Scrum dan budaya organisasi Agile terhadap produktivitas proyek, dengan pengalaman tim sebagai faktor mediasi, di perusahaan konsultan teknologi informasi skala kecil dan menengah di Bandung, Indonesia. Penelitian ini menggunakan desain eksplanatori kuantitatif, mengumpulkan data melalui kuesioner dari 98 manajer proyek dan menganalisisnya menggunakan SEM-PLS. Temuan penelitian menunjukkan bahwa implementasi Scrum dan praktik organisasi Agile secara signifikan meningkatkan produktivitas proyek dengan meningkatkan efisiensi, kualitas hasil, dan efektivitas tim. Pengalaman tim tidak memediasi hubungan ini, yang menunjukkan bahwa kerangka kerja Scrum dan Agile memberikan pengaruh langsung yang kuat. Studi ini menyimpulkan bahwa praktik Scrum yang konsisten dan budaya Agile merupakan pendorong penting keberhasilan proyek di sektor teknologi informasi Bandung. Wawasan ini memberikan panduan praktis bagi para manajer untuk mengoptimalkan hasil proyek melalui adopsi Agile yang

JIMKES

Jurnal Ilmiah Manajemen Kesatuan
Vol. 13 No. 5, 2025
pp. 3725-3734
IBI Kesatuan
ISSN 2337 – 7860
E-ISSN 2721 – 169X
DOI: 10.37641/jimkes.v13i5.3798

strategis, menekankan proses terstruktur dan budaya kolaboratif, sekaligus menyoroti perlunya eksplorasi lebih lanjut tentang peran pengalaman tim dalam beragam konteks.

Kata Kunci: *Agile, Perusahaan Konsultan TI, Produktivitas, Manajemen Proyek, Penerapan Scrum, SEM-PLS, Pengalaman Tim.*

INTRODUCTION

The rapid evolution of the digital era has intensified pressure on organizations to deliver high-quality products and services swiftly and adaptively in response to dynamic market demands (Hoe, 2024). Information Technology (IT) advancements have transformed industries, rendering traditional linear project management models, such as the waterfall approach, inadequate for addressing complex and rapidly changing environments (Cervone, 2011; Aziz et al., 2022). Agile methodologies, particularly Scrum, have emerged as effective frameworks to enhance project efficiency through iterative processes, collaboration, and adaptability (Azanha et al., 2017; Schwaber & Sutherland, 2020). Scrum, with its emphasis on transparency, inspection, and adaptation via short-term sprints, fosters accountability, accelerates development, and improves project outcomes (Mohammed et al., 2024). However, challenges such as resistance to change, limited understanding of Agile principles, and misalignment with hierarchical organizational structures often hinder successful Scrum implementation (Denning, 2016; Hutter et al., 2023).

Agile organizations, characterized by flat structures, open communication, and cross-functional collaboration, play a pivotal role in supporting holistic Scrum adoption (McKinsey, 2022; Thomas & Suresh, 2023). These organizations prioritize customer feedback, continuous learning, and rapid decision-making, creating an environment conducive to Agile success (Hofman et al., 2023). Team experience, encompassing knowledge and skills accumulated from prior projects, is hypothesized to mediate the relationship between Scrum implementation, Agile organization, and project productivity by enhancing adaptability and problem-solving capabilities (Hassan et al., 2020; Rehder et al., 2023). Despite these theoretical benefits, a preliminary survey of IT consulting firms in Bandung, Indonesia, revealed a marginal increase in project delays from 3.8 months pre-Scrum to 3.9 months post-Scrum implementation, highlighting a gap between theoretical expectations and practical outcomes (Aziz et al., 2022).

The research gap lies in the limited exploration of how team experience mediates the impact of Scrum and Agile methodologies on project productivity, particularly in the context of small and medium-sized IT consulting firms in developing regions such as Bandung, Indonesia. According to Hofman et al. (2023), while Scrum enhances team productivity globally, its effectiveness in culturally and structurally distinct settings remains understudied. Similarly, Gabriel and Utami (2024) note that local studies in Indonesia are scarce, despite Bandung's emergence as a technology hub. Existing global research, such as Alomar et al. (2016) and Paasivaara et al. (2018), focuses on large-scale enterprises, leaving a gap in understanding smaller firms' dynamics. Furthermore, Wafa et al. (2022) highlight that the mediating role of team experience in Agile contexts is often assumed but rarely empirically tested in non-Western settings, necessitating localized investigations.

This study aims to address these gaps by examining several key objectives for analyzing the impact of Scrum implementation on project productivity, assessing the influence of Agile organizational culture on project productivity, evaluating the mediating role of team experience in the relationship between Scrum implementation and project productivity, and investigating the mediating role of team experience in the relationship between Agile organizational culture and project productivity. Conducted among 98 small and medium-sized information technology consulting firms in Bandung, Indonesia, this research employs a quantitative approach using structural equation modeling with partial least squares to analyze data collected from project managers (Ghozali & Latan, 2015;

Creswell & Creswell, 2018). By integrating insights from transformational leadership and team dynamics, this study aims to contribute to the theory of Agile-based project management and provide practical recommendations for enhancing productivity in Indonesia's information technology sector (Bass et al., 2003; Belbin, 2010; Srivastava & Jain, 2017; Alshurideh et al., 2024).

LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

Scrum Implementation and Agile Organization on Project Productivity

Scrum is an iterative and adaptive framework designed to enhance project efficiency through structured processes and collaboration. According to Schwaber and Sutherland (2020), Scrum operates on the principles of empiricism, with three pillars: transparency, inspection, and adaptation, and five core values: commitment, focus, openness, respect, and courage. These principles enable teams to deliver usable product increments through sprints, fostering accountability and flexibility (Azanha et al., 2017). Scrum implementation is measured through adherence to processes, tool utilization, team decision-making involvement, and application of Scrum values in communication (Paasivaara et al., 2018; Alomar et al., 2016). In IT consulting, Scrum enhances productivity by streamlining workflows and reducing project risks (Mohammed et al., 2024; Alshurideh et al., 2024).

Agile organizations complement Scrum by embedding flexibility, customer focus, and cross-functional collaboration into their culture. Denning (2016) emphasizes that Agile organizations prioritize rapid adaptation, open communication, and decentralized decision-making, creating environments conducive to project success. Key dimensions include customer responsiveness, transparency, continuous learning, and adaptability to market changes (Hutter et al., 2023; Hofman et al., 2023). In Bandung's IT consulting firms, Agile practices enhance efficiency by aligning organizational structures with the dynamic demands of projects (Gabriel & Utami, 2024). Studies show that both Scrum and Agile organizations significantly boost project productivity, measured by time and budget efficiency, deliverable quality, and team effectiveness (Sathe & Panse, 2024; Uraon et al., 2024).

H1: Scrum implementation has a positive and significant effect on project productivity.
H2: Agile organization has a positive and significant effect on project productivity.

Mediating Role of Team Experience

Team experience, defined as the cumulative knowledge and skills acquired through project participation, is crucial in Agile environments. According to Hassan et al. (2020), experienced teams excel in managing challenges, adapting to iterative processes, and resolving conflicts constructively, enhancing project outcomes. Key dimensions of team experience include familiarity with Scrum and Agile methodologies, rapid adaptability, effective communication, and conflict management (Belbin, 2010; Rehder et al., 2023). In IT consulting, experienced teams utilize these skills to navigate complex projects, enhancing productivity through informed decision-making (Wafa et al., 2022; Siddiqui et al., 2023).

Team experience is hypothesized to mediate the relationship between Scrum implementation, Agile organization, and project productivity. Melo et al. (2013) and Kautz et al. (2014) suggest that experienced teams amplify Scrum's effectiveness by better executing sprints and utilizing tools like Jira, thus enhancing productivity. Similarly, in Agile organizations, team experience facilitates cross-functional collaboration and responsiveness to change, indirectly boosting project outcomes (Srivastava & Jain, 2017; Drazic & Schermuly, 2021). However, suboptimal Agile adoption in smaller firms, as observed in Bandung, may limit this mediation effect (Annosi et al., 2020; Gabriel & Utami, 2024). This mediation perspective aligns with empirical evidence that team experience indirectly influences productivity by strengthening Agile practices (Baxter & Turner, Ascendancy of Team Experience.

H3: Team experience mediates the relationship between scrum implementation and project productivity.
H4: Team experience mediates the relationship between agile organization and project productivity.

The research framework integrates Scrum Implementation (X1), Agile Organization (X2), Team Experience (M), and Project Productivity (Y) to elucidate their interrelationships. According to Creswell (2015), a robust framework clarifies causal pathways, guiding empirical analysis. In this study, Scrum Implementation and Agile Organization are posited as direct predictors of Project Productivity, with Team Experience as a mediator. Scrum Implementation enhances productivity through structured processes and collaborative tools (Paasivaara et al., 2018), while Agile Organization drives efficiency via cultural adaptability and cross-functional synergy (Denning, 2016; Hofman et al., 2023). Team Experience mediates these relationships by enabling effective execution of Agile practices and adaptation to dynamic project demands (Hassan et al., 2020; Wafa et al., 2022).

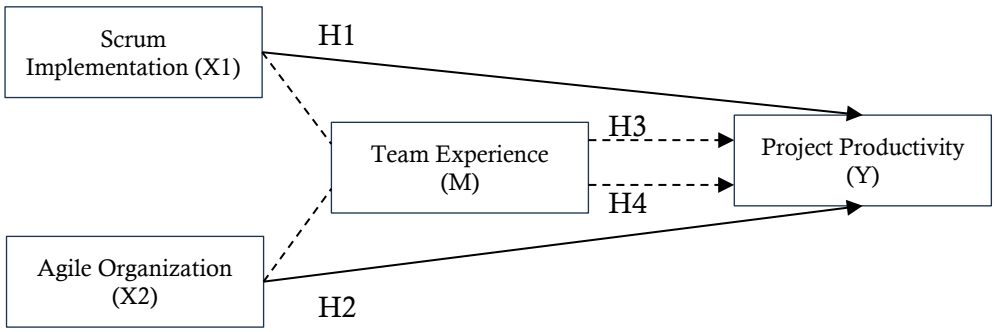

Figure 1. Research Framework

This framework is illustrated in Figure 1, which depicts the direct effects of X1 and X2 on Y, with M mediating these pathways. The framework aligns with quantitative analysis using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to test these relationships in Bandung's IT consulting firms (Hair et al., 2013; Ghozali & Latan, 2015). By incorporating team dynamics and leadership insights, the framework provides a comprehensive model for understanding productivity in Agile contexts (Bass et al., 2003; Srivastava & Jain, 2017).

RESEARCH METHOD

This study adopts a quantitative approach with an explanatory design to investigate the causal relationships between Scrum Implementation (X1), Agile Organization (X2), Project Productivity (Y), and Team Experience (M) as a mediating variable. Conducted in Bandung, Indonesia, the research targets small and medium-sized IT consulting firms, utilizing a survey strategy to collect data from project managers at an organizational level. The cross-sectional design captures data at a single point in time, aligning with the need to assess Agile practices in a dynamic IT environment (Saunders et al., 2016; Creswell & Creswell, 2018). This approach ensures a structured exploration of how Scrum and Agile frameworks influence productivity in a localized context.

The population comprises 103 IT consulting firms in Bandung that have implemented Agile and Scrum methodologies, with 98 firms meeting the inclusion criteria after verification. A census sampling technique was employed, incorporating all eligible firms to ensure comprehensive representation (Ghozali & Latan, 2015). Data were collected using an online questionnaire via Google Forms, designed with a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to measure variables ordinally. The variables Scrum Implementation, Agile Organization, Project Productivity, and Team

Experience were operationalized based on theoretical constructs, with indicators such as adherence to Scrum processes, cross-functional collaboration, deliverable quality, and team adaptability (Hair et al., 2013; Hamid & Anwar, 2019).

Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3.2.9 software, suitable for explanatory studies with complex variable relationships. The analysis process followed the Research Onion model, encompassing problem identification, method design, data collection, measurement model testing (outer model), and structural model analysis (inner model) (Saunders et al., 2016). Validity and reliability were assessed through convergent validity (outer loading > 0.7, AVE > 0.5), discriminant validity (highest cross-loading in constructs, HTMT < 0.90), and reliability (Cronbach's Alpha and Composite Reliability > 0.7), confirming robust constructs (Ghozali & Latan, 2015; Hamid & Anwar, 2019). Importance Performance Map Analysis (IPMA) was also employed to prioritize improvement strategies, enhancing practical implications for IT consulting firms in Bandung (Hofman et al., 2023).

RESULTS

This study examines the influence of Scrum Implementation (X1) and Agile Organization (X2) on Project Productivity (Y), with Team Experience (M) serving as a mediating variable, in 98 small and medium-sized IT consulting firms in Bandung, Indonesia. Utilizing Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3.2.9, the analysis encompasses descriptive statistics, measurement model evaluation, structural model testing, and Importance Performance Map Analysis (IPMA). The results, derived from questionnaire data collected from project managers, provide insights into the effectiveness of Agile practices in enhancing project outcomes. The following sections present the findings systematically, starting with descriptive statistics, followed by measurement model validation, hypothesis testing, and IPMA analysis, ensuring a comprehensive understanding of the relationships among variables (Hair et al., 2013; Ghozali & Latan, 2015).

Table 1. Descriptive Statistics

Variable	Mean (%)	Standard Deviation	Category
Scrum Implementation (X1)	84.99	0.62	Very Good
Agile Organization (X2)	83.42	0.65	Good
Project Productivity (Y)	86.94	0.60	Very Good
Team Experience (M)	90.15	0.58	Very Good

Table 1 shows the descriptive statistics. It offers an initial overview of the data, summarizing the performance of each variable based on responses to a five-point Likert scale. As shown in Table 1, Scrum Implementation achieved a mean score of 84.99% (standard deviation = 0.62), indicating robust adherence to Scrum processes and tool utilization, categorized as "Very Good." Agile Organization scored 83.42% (standard deviation = 0.65), reflecting strong implementation of customer focus and collaboration, though slightly lower, rated as "Good." Project Productivity recorded a mean of 86.94% (standard deviation = 0.60), demonstrating high efficiency in time, budget, and deliverable quality, also categorized as "Very Good." Team Experience had the highest mean of 90.15% (standard deviation = 0.58), rated as "Very Good," suggesting strong familiarity with Agile methodologies and adaptability among teams (Creswell & Creswell, 2018; Azanha et al., 2017). These scores indicate a positive reception of Agile practices in Bandung's IT consulting firms, setting the stage for further analysis.

The measurement model was evaluated to ensure the validity and reliability of the constructs, critical for robust SEM-PLS analysis. Table 2 presents the outer loadings, Average Variance Extracted (AVE), Cronbach's Alpha, Composite Reliability, and Heterotrait-Monotrait (HTMT) ratios for each construct. All indicators exhibited outer loadings above 0.7 (ranging from 0.70 to 0.80), confirming convergent validity. AVE values ranged from 0.54 to 0.58, exceeding the threshold of 0.5, while Cronbach's Alpha

(0.79–0.83) and Composite Reliability (0.82–0.85) surpassed 0.7, indicating reliable constructs. HTMT values (0.80–0.84) were below 0.90, verifying discriminant validity. These results affirm that the constructs for Scrum Implementation, Agile Organization, Project Productivity, and Team Experience are well-defined and suitable for testing the proposed relationships (Hair et al., 2013; Hamid & Anwar, 2019; Hofman et al., 2023).

Table 2. Measurement Model Results

Construct	Indicator	Outer Loading	AVE	Cronbach's Alpha	Composite Reliability	HTMT
Scrum Implementation (X1)	X1.1 (Process Adherence)	0.78	0.56	0.81	0.83	0.82
	X1.2 (Tool Utilization)	0.76				
	X1.3 (Team Involvement)	0.74				
	X1.4 (Scrum Values)	0.72				
Agile Organization (X2)	X2.1 (Customer Focus)	0.77	0.54	0.79	0.82	0.80
	X2.2 (Collaboration)	0.73				
	X2.3 (Transparency)	0.75				
	X2.4 (Continuous Learning)	0.71				
	X2.5 (Adaptability)	0.70				
Project Productivity (Y)	Y1 (Time Efficiency)	0.79	0.57	0.82	0.84	0.83
	Y2 (Budget Efficiency)	0.76				
	Y3 (Deliverable Quality)	0.74				
	Y4 (Team Effectiveness)	0.73				
Team Experience (M)	M1 (Scrum Familiarity)	0.80	0.58	0.83	0.85	0.84
	M2 (Adaptability)	0.77				
	M3 (Communication)	0.76				
	M4 (Conflict Management)	0.74				

Table 3. Hypothesis Testing Results

Hypothesis	Influence	β Value	t-Statistic	p-Value	Decision
H1	X1 (Scrum) → Y	0.285	3.094	0.002	Accepted
H2	X2 (Agile) → Y	0.266	2.303	0.022	Accepted
H3	X1 → M → Y (Mediation)	-0.162	1.251	0.211	Rejected
H4	X2 → M → Y (Mediation)	-0.011	0.110	0.912	Rejected

Hypothesis testing was conducted to examine the relationships among variables, as summarized in Table 3. The structural model yielded an R-Square value of 0.825, indicating that 82.5% of the variation in Project Productivity is explained by Scrum Implementation, Agile Organization, and Team Experience, reflecting strong predictive power (Ghozali & Latan, 2015). Hypothesis H1, positing that Scrum Implementation positively affects Project Productivity, was accepted ($\beta = 0.285$, $t = 3.094$, $p = 0.002$), aligning with findings that iterative processes and tools like Jira enhance efficiency (Paasivaara et al., 2018; Mohammed et al., 2024). Hypothesis H2, stating that Agile Organization positively influences Project Productivity, was also accepted ($\beta = 0.266$, $t = 2.303$, $p = 0.022$), consistent with studies highlighting the role of cross-functional collaboration and adaptability (Denning, 2016; Hutter et al., 2023). However, Hypothesis H3, proposing that Team Experience mediates the relationship between Scrum

Implementation and Project Productivity, was rejected (β = -0.162, t = 1.251, p = 0.211), as was Hypothesis H4, which tested mediation between Agile Organization and Project Productivity (β = -0.011, t = 0.110, p = 0.912). These findings suggest that the direct effects of Scrum and Agile practices dominate over mediation (Melo et al., 2013; Wafa et al., 2022).

The absence of significant mediation by Team Experience warrants further exploration. Despite its high mean score (90.15%), Team Experience did not amplify the effects of Scrum or Agile Organization on productivity, possibly due to the robust structure of these frameworks or suboptimal Agile adoption in Bandung's firms (Drazic & Schermuly, 2021; Gabriel & Utami, 2024). For instance, the inconsistent application of Scrum practices or cultural resistance to Agile principles may limit the mediating effects (Annosi et al., 2020). This aligns with Kautz et al. (2014), who note that Agile frameworks can independently drive outcomes in structured environments. The results suggest that while experienced teams are valuable, their mediating role is less critical in contexts where Scrum and Agile practices are well-implemented (Siddiqui et al., 2023).

Importance Performance Map Analysis (IPMA) provides practical insights into prioritizing improvement strategies. Team Experience exhibited the highest performance score (80.233) and total effect (0.367), followed by Scrum Implementation (performance = 72.691, total effect = 0.285) and Agile Organization (performance = 72.444, total effect = 0.266). These findings suggest that Team Experience, although it does not mediate, remains a crucial factor in project success, warranting continued investment in training and skill development (Hofman et al., 2023). Scrum Implementation and Agile Organization, while slightly lower in performance, significantly influence productivity, suggesting that firms should maintain consistent Scrum practices and foster Agile cultures (Alshurideh et al., 2024; Uraon et al., 2024). These results offer actionable guidance for IT managers in Bandung to optimize Agile practices.

The findings confirm that Scrum Implementation and Agile Organization significantly enhance Project Productivity in Bandung's IT consulting firms, consistent with global studies (Azanha et al., 2017; Paasivaara et al., 2018). The lack of mediation by Team Experience highlights the dominant direct effects of Agile frameworks, which may be attributed to their structured nature or contextual implementation challenges in smaller firms (Gabriel & Utami, 2024). These insights contribute to Agile project management theory and provide practical recommendations for improving productivity in Indonesia's IT sector (Srivastava & Jain, 2017).

DISCUSSION

This study confirms that Scrum Implementation (β = 0.285, p = 0.002) and Agile Organization (β = 0.266, p = 0.022) significantly enhance Project Productivity in Bandung's IT consulting firms, aligning with global research on Agile methodologies. According to Azanha et al. (2017), Scrum's structured processes, such as sprints and daily stand-ups, streamline workflows and reduce project delays, as evidenced by the high mean score of 84.99% for Scrum Implementation. Similarly, Agile Organization fosters cross-functional collaboration and rapid adaptability, as highlighted by Denning (2016), who notes that flat structures and customer-centric cultures drive efficiency. The substantial R-squared value (0.825) indicates that these variables explain 82.5% of the variance in project productivity, consistent with findings from Paasivaara et al. (2018) and Hofman et al. (2023) in larger IT contexts. The robust performance of Scrum and Agile practices in Bandung's smaller firms underscores their applicability across diverse organizational scales (Hutter et al., 2023; Mohammed et al., 2024).

However, the absence of significant mediation by Team Experience (H3: β = -0.162, p = 0.211; H4: β = -0.011, p = 0.912) is a notable finding. According to Melo et al. (2013), experienced teams are expected to amplify Agile outcomes by leveraging familiarity with tools like Jira and effective conflict management. However, the high mean score for Team Experience (90.15%) suggests that its direct contribution is substantial but does not mediate the effects of Scrum or Agile Organization. This may reflect the dominant

structural influence of Scrum, as noted by Kautz et al. (2014), or suboptimal Agile adoption in Bandung, as suggested by Gabriel and Utami (2024). For instance, cultural resistance or inconsistent Scrum practices, as discussed by Drazic and Schermuly (2021), may limit mediation effects. Additionally, Hernandi and Tamtana (2020) and Chew et al. (2023) highlight that tool-specific expertise, while valuable, may not always translate into mediation if processes are rigidly applied, a pattern observed in smaller firms. In the local context of Bandung, many IT consulting firms are in the early stages of Agile adoption. Agile and Scrum implementations are often implemented procedurally but have not been fully understood. Therefore, even if the team has high technical expertise, its experience cannot serve as a moderator due to a lack of empowerment or participation in decision-making.

The findings also resonate with broader Agile literature, particularly in non-Western contexts. According to Wafa et al. (2022), Agile frameworks can independently drive productivity in environments with strong process adherence, reducing reliance on team experience. This is supported by Annosi et al. (2020), who argue that systemic Agile cultures often outweigh individual team attributes. In Bandung, the high performance of Team Experience (80.233 in IPMA) suggests that, even in the absence of mediation, experienced teams contribute directly to project success, aligning with Belbin's (2010) emphasis on team role dynamics. However, challenges such as limited Agile training or hierarchical structures, as noted by Yakut and Çerasi (2024), may explain the lack of mediation, particularly in smaller IT firms (Ozorhon et al., 2022; Junker et al., 2023).

From a resource-based perspective, the findings of this study show that Scrum implementation and Agile organizational practices can act as firm-specific capabilities. This shows that while team experience is important, structured and systematic work practices can standardize project performance, reduce reliance on team experience and boost productivity. Theoretically, this study contributes to Agile project management by validating the direct effects of Scrum and Agile Organization, while challenging the assumption that team experience mediates these effects, as proposed by Pfeiffer et al. (2019). Practically, IT managers in Bandung should prioritize consistent Scrum practices, such as regular sprint reviews, and foster an Agile culture through open communication and a customer-focused approach, as recommended by Hennel and Rosenkranz (2021). Training programs to enhance team adaptability, as suggested by Baxter and Turner (2023), can further support direct contributions to productivity. Future research should explore other mediators, such as leadership styles or technology infrastructure, using longitudinal designs to capture the dynamic nature of Agile adoption. These insights provide actionable strategies for improving project outcomes in Indonesia's rapidly expanding IT sector.

CONCLUSION

This study demonstrates that the implementation of Scrum and the adoption of Agile Organization significantly enhance Project Productivity in small and medium-sized IT consulting firms in Bandung, Indonesia. The findings reveal that structured Scrum processes, such as sprints and tool utilization, alongside Agile organizational practices like cross-functional collaboration and adaptability, directly improve project outcomes in terms of time efficiency, budget adherence, and deliverable quality. However, Team Experience does not mediate the relationships between Scrum Implementation or Agile Organization and Project Productivity, suggesting that the robust frameworks of Scrum and Agile practices are the primary drivers of success in these firms. These results highlight the effectiveness of Agile methodologies in optimizing project management within Bandung's dynamic IT sector, confirming their applicability in a localized context.

The findings offer valuable implications for both theory and practice. Theoretically, this study reinforces the importance of Agile frameworks in project management while challenging assumptions about the mediating role of team experience. Practically, IT managers in Bandung should prioritize consistent Scrum practices and foster Agile cultures to maximize productivity, while continuing to invest in team training to enhance

direct contributions. However, the study is limited by its cross-sectional design, which captures data at a single point, potentially overlooking long-term dynamics of Agile adoption. The focus on Bandung's IT firms may also limit generalizability to other industries or regions. Future research should adopt longitudinal approaches to explore the evolving impacts of Agile and investigate other potential mediators, such as leadership styles or technological infrastructure, to provide deeper insights into optimizing project outcomes in diverse contexts.

Acknowledgment

The authors would like to thank all respondents from IT consulting firms in Bandung who participated in completing the questionnaire. Also, thanks to supervisors, fellow researchers, families, and all those who supported the development of this research.

REFERENCE

[1] Alomar, N., Almobarak, N., Alkoblan, S., Alhozaimy, S., & Alharbi, S. (2016). *Usability engineering of agile software project management tools*. Cham: Springer International Publishing.

[2] Alshurideh, M., Akour, I. A., Al Kurdi, B., & Hamadneh, S. (2024). Exploring the impact of Scrum framework on project effectiveness: A quantitative analysis of agile implementation challenges and benefits. *International Journal of Theory of Organization and Practice, 4*(2), 161–174.

[3] Annosi, M. C., Foss, N., & Martini, A. (2020). When agile harms learning and innovation: (and what can be done about it). *California Management Review, 63*(1), 61–80.

[4] Azanha, A., Argoud, A. R. T. T., de Camargo Junior, J. B., & Antoniolli, P. D. (2017). Agile project management with Scrum: A case study of a Brazilian pharmaceutical company IT project. *International Journal of Managing Projects in Business, 10*(1), 121–142.

[5] Aziz, A., Pinem, D., Tubagus, S., Gunaedi Argo, J., Firmansyah, H., Ranggana Putra, A., Tito Permadhy, Y., Moridu, I., Sembiring Colia, R., Nastiti, H., Hasriany, N., Ngii, E., & Kadir, A. (2022). *Manajemen proyek*. Bandung: Widina Bhakti Persada.

[6] Bany Mohammed, A., Hmoud, H., Sultan, L., & Yaseen, H. (2024). The influence of remote work on scrum-based information technology projects management: Insights for success. *TQM Journal, 37*(2), 211–230.

[7] Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology, 88*(2), 207–218.

[8] Baxter, D., & Turner, N. (2023). Why Scrum works in new product development: The role of social capital in managing complexity. *Production Planning & Control, 34*(13), 1248–1260.

[9] Belbin, R. M. (2010). *Management teams: Why they succeed or fail*. London: Butterworth-Heinemann.

[10] Cervone, H. F. (2011). Understanding agile project management methods using Scrum. *OCLC Systems & Services, 27*(1), 18–22.

[11] Chew, X. Y., Alharbi, R., Khaw, K. W., & Alnoor, A. (2023). How information technology influences organizational communication: The mediating role of organizational structure. *PSU Research Review, 9*(1), 50–68.

[12] Creswell, J. W. (2015). *Qualitative and mixed-method approaches*. Yogyakarta: Andi Publisher.

[13] Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed-methods approaches* (5th ed.). Thousand Oaks, CA: SAGE Publishing.

[14] Denning, S. (2016). How to make the whole organization "agile." *Strategy & Leadership, 44*(4), 10–17.

[15] Drazic, I., & Schermuly, C. C. (2021). Too old for agility? Employee age and readiness for change toward Scrum—The moderating roles of age climate and subjective age. *Work, Aging and Retirement, 7*(3), 174–196.

[16] Gabriel Bintang Timur, & Emma Utami. (2024). Implementation of the scrum-agile methodology framework in project management: A case study in an IT consulting company. *TJI, 15*(1), 18–19.

[17] Ghozali, G., & Latan, H. (2015). *Partial least squares: Concepts, techniques and applications using the SmartPLS 3.0 program for empirical research*. Semarang: Penerbit Universitas Diponegoro.

[18] Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). A primer on partial least squares structural equation modeling. *Long Range Planning, 46*(1), 56-74.

[19] Hamid, R. S., & Anwar, S. (2019). *Variance-based structural equation modeling (SEM)*. Jakarta: PT Inkubator Penulis Indonesia.

[20] Haputhanthrige, V., Asghar, I., Saleem, S., & Shamim, S. (2024). The impact of a skill-driven model on scrum teams in software projects: A catalyst for digital transformation. *Systems*, *12*(5), 149-164.

[21] Hassan, A., Saleem, I., Anwar, I., & Hussain, S. A. (2020). Entrepreneurial intentions of Indian university students: The role of opportunity recognition and entrepreneurship education. *Education and Training, 62*(7–8), 843–861.

[22] Hennel, P., & Rosenkranz, C. (2021). Investigating the "socio" in socio-technical development: The case for psychological safety in agile information systems development. *Project Management Journal, 52*(1), 11–30.

[23] Hernandi, Y., & Tamtana, J. S. (2020). Factors influencing worker productivity in the implementation of high-rise building construction. *Civil Engineering Partner Journal, 3*(2), 95–108.

[24] Hoe, S. L. (2024). Digital transformation and the future of work: Closing the digital skills gap. *Development and Learning in Organizations, 39*(1), 22–35.

[25] Hofman, M., Grela, G., & Oronowicz, M. (2023). Impact of shared leadership quality on agile team productivity and project results. *Project Management Journal, 54*(3), 285–305.

[26] Junker, T. L., Bakker, A. B., Derks, D., & Molenaar, D. (2023). Agile work practices: Measurement and mechanisms. *European Journal of Work and Organizational Psychology, 32*(1), 1–22.

[27] Kautz, K., Johanson, T. H., & Uldahl, A. (2014). The perceived impact of the agile development and project management method Scrum on information systems and software development productivity. *Australasian Journal of Information Systems, 18*(3), 78-95.

[28] McKinsey. (2022). The journey to an agile organization. Retrieved from https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-journey-to-an-agile-organization

[29] Melo, C. D. O., Cruzes, D. S., Kon, F., & Conradi, R. (2013). Interpretative case studies on agile team productivity and management. *Information and Software Technology, 55*(2), 412–427.

[30] Ozorhon, B., Cardak, F., & Caglayan, S. (2022). Investigating the agile hybrid approach in construction. *Journal of Management in Engineering, 38*(4), 402-422.

[31] Paasivaara, M., Behm, B., Lassenius, C., & Hallikainen, M. (2018). Large-scale agile transformation at Ericsson: a case study. *Empirical Software Engineering*, *23*(5), 2550-2596.

[32] Pfeiffer, S., Sauer, S., & Ritter, T. (2019). Agile methods as stress management tools? An empirical study. *Work Organisation, Labour & Globalisation, 13*(2), 20–36.

[33] Rehder, A., Souza, J. V., Marx, R., & Salerno, M. S. (2023). Emerging field or passing fashion? A case study of Agile-Stage-Gate model in innovation processes. *Revista de Gestao*, *30*(4), 362-386.

[34] Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students (7th ed.)*. Harlow, UK: Pearson Education Limited.

[35] Schwaber, K., & Sutherland, J. (2020). The Scrum Guide.

[36] Siddiqui, A. W., Ali, A., & Shaukat, M. B. (2023). Impact of agile project management methodology on IT project success: Exploring the mediating role of team communication and team empowerment. *City University Research Journal, 13*(2), 165–182.

[37] Srivastava, P., & Jain, S. (2017). A leadership framework for distributed self-organized Scrum teams. *Team Performance Management, 23*(5/6), 293–314.

[38] Thomas, A., & Suresh, M. (2023). Readiness for agile-sustainability in health-care organizations. *International Journal of Quality and Service Sciences*, *15*(2), 148-167.

[39] Uraon, R. S., Bharati, R., Sahu, K., & Chauhan, A. (2024). Agile work practices and team creativity: The mediating role of team efficacy. *Journal of Organizational Effectiveness: People and Performance, 11*(2), 500–521.

[40] Wafa, R., Khan, M. Q., Malik, F., Abdusalomov, A. B., Cho, Y. I., & Odarchenko, R. (2022). The impact of agile methodology on project success, with a moderating role of person's job fit in the IT industry of Pakistan. *Applied Sciences, 12*(21), 10698-10709.

[41] Yakut, B., & Çerasi, C. Ç. (2024). The relationship between the Scrum method and employee satisfaction. *WSEAS Transactions on Business and Economics, 21*(11), 2277–2290.