West Science Business and Management
Vol. 3, No. 04, December 2025, pp. 961~970

Market Orientation, Creativity, and Use of Digital Technology on the Performance of Technology Start-ups in Jakarta

Fitria Madaniah Prasetyo[1], Mahnun Mas'adi[2], Riski Baroroh[3], Fatari, Cikita Berlian Hakim
[1]Universitas Muhammadiyah Tangerang
[2]Universitas Pamulang
[3]Universitas Muhammadiyah Tapanuli Selatan
[4]Universitas Bina Bangsa
[5]Universitas Muhammadiyah Kudus

Article Info

Article history:

Received Dec, 2025
Revised Dec, 2025
Accepted Dec, 2025

Keywords:

Market orientation; Creativity; Digital technology; Start-up performance; Technology start-ups

ABSTRACT

This study examines the effects of market orientation, creativity, and the use of digital technology on the performance of technology start-ups in Jakarta. A quantitative research design was employed using a structured questionnaire distributed to 250 founders and managers of technology start-ups. All variables were measured using a five-point Likert scale, and data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 25. The results of multiple linear regression analysis indicate that market orientation ($\beta = 0.312$, $p < 0.001$), creativity ($\beta = 0.274$, $p < 0.001$), and the use of digital technology ($\beta = 0.356$, $p < 0.001$) each have a positive and significant effect on start-up performance. Furthermore, the simultaneous analysis shows that these three variables collectively explain 55.6% of the variance in start-up performance ($R^2 = 0.556$). The findings highlight that digital technology usage is the strongest predictor of performance, followed by market orientation and creativity. This study contributes to the literature by providing empirical evidence from an emerging economy context and offers practical insights for start-up founders and policymakers to enhance performance through strategic market orientation, creative capabilities, and effective digital technology utilization.

Corresponding Author:

Name: Fitria Madaniah Prasetyo
Institution Address: Universitas Muhammadiyah Tangerang
e-mail: fitriamadaniah@umt.ac.id

1. INTRODUCTION

The rapid growth of technology-based start-ups has become a significant driver of economic development in many emerging economies, including Indonesia [1]. Jakarta, as the country's primary economic and digital hub, hosts a large concentration of technology start-ups operating across sectors such as

financial technology, e-commerce, health technology, education technology, and digital services. These start-ups play an increasingly important role in job creation, innovation, and digital transformation. However, despite their potential, many technology start-ups face challenges related to intense competition, rapidly changing market demands, and technological uncertainty, which often lead to high failure rates [2]. Understanding the key factors that contribute to start-up performance is therefore essential for ensuring their sustainability and long-term growth.

In the context of a dynamic and highly competitive market, market orientation has been widely recognized as a critical strategic capability for organizational success [3]. Market orientation emphasizes the systematic generation, dissemination, and utilization of market intelligence related to customers and competitors. For technology start-ups, which often operate in volatile and fast-evolving environments, the ability to understand customer needs, respond to market changes, and anticipate competitive moves is crucial for delivering superior value and achieving competitive advantage [4]. Prior studies have shown that market-oriented firms tend to perform better due to their proactive approach in aligning products and services with market expectations. Nevertheless, empirical evidence on the role of market orientation in technology start-ups within emerging urban contexts such as Jakarta remains limited [5].

In addition to market orientation, creativity is increasingly viewed as a fundamental driver of start-up performance. Creativity enables start-ups to generate novel ideas, develop innovative solutions, and differentiate themselves from competitors [6]. Unlike established firms, technology start-ups often rely on creative thinking rather than abundant resources to overcome constraints and exploit new opportunities. Creative capabilities allow start-up teams to design unique business models, adapt products rapidly, and solve complex problems in uncertain environments [7]. Although creativity is frequently associated with innovation outcomes, its direct impact on organizational performance—particularly in technology-based start-ups—has not been sufficiently explored in quantitative research settings.

Furthermore, the use of digital technology has become an indispensable element in the operations and strategic management of technology start-ups [8]. Digital technologies such as cloud computing, data analytics, social media, and digital platforms enable start-ups to improve efficiency, enhance customer engagement, and scale their operations more effectively. In the digital economy, technology not only supports internal processes but also shapes how start-ups interact with markets and deliver value to customers [9]. Although digital technology adoption is often assumed to positively influence performance, the extent to which its use contributes to start-up performance—particularly when combined with strategic and behavioral factors such as market orientation and creativity—still requires further empirical investigation [10].

While existing literature has examined the individual effects of market orientation, creativity, and digital technology on organizational outcomes, studies that integrate these three factors within a single empirical model remain limited, especially in the context of technology start-ups in developing countries. Most prior research has focused on large or established firms, leaving a gap in understanding how these factors jointly influence start-up performance under conditions of limited resources, high uncertainty, and rapid growth aspirations. Therefore, this study aims to examine the effects of market orientation, creativity, and the use of digital technology on the performance of technology start-ups in Jakarta using a quantitative approach. Data were collected from 250 start-up founders and managers and analyzed using SPSS version 25. By focusing on technology start-ups in Jakarta, this study contributes empirical insights from an emerging economy context and offers practical implications for start-up founders, managers,

and policymakers seeking to enhance start-up performance through strategic orientation, creative capabilities, and effective digital technology utilization.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Technology Start-up Performance

Performance is a central construct in entrepreneurship and strategic management research, particularly in the context of technology start-ups, as it reflects the extent to which firms achieve their strategic and operational objectives, including financial outcomes, market growth, customer satisfaction, and innovation success [11]. Unlike established firms, technology start-ups operate under conditions of uncertainty, resource constraints, and rapid environmental change, making performance measurement more complex and multidimensional [12]; consequently, many studies rely on subjective performance indicators based on managerial perceptions, which have been shown to be reliable and valid proxies when objective financial data are difficult to obtain [13]. In this context, start-up performance is closely linked to the ability to respond swiftly to market needs, innovate continuously, and leverage digital technologies effectively, given their strong dependence on intangible assets such as knowledge, creativity, and technological capabilities. Accordingly, this study conceptualizes start-up performance as a multidimensional construct encompassing financial performance, market performance, and overall business success as perceived by start-up founders and managers [14].

2.2 Market Orientation and Start-up Performance

Market orientation is defined as an organizational culture and strategic orientation that emphasizes the continuous generation of market intelligence, the dissemination of that intelligence across the organization, and responsiveness to market information, with a primary focus on understanding customer needs, monitoring competitor actions, and coordinating internal functions to deliver superior customer value [15]. In the context of technology start-ups, market orientation is particularly critical due to the fast-changing nature of technology-driven markets, as start-ups that actively gather customer feedback, track competitor strategies, and respond swiftly to market signals are better positioned to refine their products, improve customer satisfaction, and achieve sustainable growth while reducing the risk of product–market mismatch [16]. Although extensive marketing and strategic management literature has consistently shown a positive relationship between market orientation and firm performance, most empirical studies have concentrated on large or established firms in developed economies, leaving limited evidence on technology start-ups in emerging economies such as Indonesia [17]. Given the increasing competition and rapid digitalization of markets in Jakarta, market orientation is therefore expected to play a crucial role in enhancing the performance of technology start-ups. Based on the above discussion, the following hypothesis is proposed:

H1: Market orientation has a positive and significant effect on the performance of technology start-ups in Jakarta.

2.3 Creativity and Start-up Performance

Creativity refers to the ability to generate novel and useful ideas, processes, or solutions that can be applied to organizational challenges and, in the entrepreneurial context, serves as a key driver of opportunity recognition, innovation, and competitive differentiation [18]. Technology start-ups rely heavily on creative capabilities to develop innovative products, design unique business models, and respond to complex market and technological challenges, as creativity enables experimentation, adaptability to environmental uncertainty, and the identification of unconventional solutions [7]. By supporting the transformation of ideas into value-creating products and services, creativity is closely linked to performance outcomes such as growth, market expansion, and competitive advantage, while fostering flexibility and resilience during early-stage development. Although creativity is widely recognized as an important antecedent of innovation, empirical evidence on its direct impact on organizational performance remains limited, particularly in quantitative studies on start-ups, with mixed findings suggesting both indirect effects through innovation and direct positive relationships [19]. In technology-intensive environments where continuous innovation is essential, creativity is therefore expected to exert a more direct and significant influence on start-up performance, leading this study to propose the following hypothesis:

H2: Creativity has a positive and significant effect on the performance of technology start-ups in Jakarta.

2.4 *Use of Digital Technology and Start-up Performance*

The use of digital technology refers to the extent to which firms adopt and utilize digital tools and platforms in their business operations and strategic activities, and for technology start-ups this includes technologies such as cloud computing, social media, digital marketing platforms, data analytics, and online collaboration tools that support efficiency, customer engagement, and scalability [9]. Digital technology enables start-ups to operate with greater flexibility and lower costs—an important advantage given their limited resources—while also allowing them to access wider markets, collect real-time customer data, and make faster, data-driven decisions. Moreover, the effective use of digital technology facilitates innovation by supporting experimentation, collaboration, and rapid product development [20]. Although prior studies generally indicate a positive relationship between digital technology adoption and firm performance, particularly in knowledge-intensive and service-oriented industries, its impact may vary depending on how well these technologies are integrated into business processes and strategic decision-making [21]. In emerging economies, where digital infrastructure and capabilities continue to evolve, understanding this relationship is increasingly critical. Given the digital nature of technology start-ups and the highly competitive environment in Jakarta, the use of digital technology is therefore expected to significantly enhance start-up performance, leading to the formulation of the following hypothesis:

H3: The use of digital technology has a positive and significant effect on the performance of technology start-ups in Jakarta.

2.5 Market Orientation, Creativity, and Digital Technology Use

While market orientation, creativity, and the use of digital technology have each been shown to influence organizational performance, their combined effects on start-up performance remain underexplored, particularly in an integrated framework [10]. Market orientation provides strategic direction by aligning organizational activities with market needs, creativity enables the generation of innovative ideas and solutions, and digital technology facilitates the efficient implementation and scaling of these ideas [22]. Together, these factors constitute a complementary set of capabilities that can strengthen the competitive position of technology start-ups by ensuring that creative efforts are market-relevant, innovation-driven, and effectively executed through digital means. Examining these variables simultaneously therefore offers a more comprehensive understanding of the determinants of start-up performance, leading this study to propose the following hypothesis:

H4: Market orientation, creativity, and the use of digital technology simultaneously have a positive and significant effect on the performance of technology start-ups in Jakarta.

3. RESEARCH METHODS

3.1 Research Design

This study adopts a quantitative research design using a cross-sectional survey approach. The quantitative method is considered appropriate because the research aims to examine causal relationships between market orientation, creativity, the use of digital technology, and the performance of technology start-ups. A survey method enables the collection of standardized data from a large number of respondents, allowing for statistical analysis and hypothesis testing. The study focuses on technology start-ups operating in Jakarta, which represents Indonesia's largest digital and entrepreneurial ecosystem.

3.2 Population and Sample

The population of this study consists of technology start-ups operating in Jakarta, with the firm as the unit of analysis and founders, co-founders, owners, or top-level managers serving as respondents, as they are directly involved in strategic decision-making and daily operations and are therefore the most knowledgeable about the firm's strategic orientation, creative processes, use of digital technology, and overall performance [23]. A total of 250 respondents were selected using purposive sampling, a sample size that meets the minimum requirements for multivariate statistical analysis and is considered sufficient to produce reliable and generalizable results. The sampling criteria include: (1) the firm operates as a technology-based start-up, (2) the firm is located in Jakarta, and (3) the respondent holds a managerial or ownership position, ensuring that the collected data are relevant and aligned with the research objectives.

3.3 Data Collection Method

Primary data were collected using a structured questionnaire distributed both online and offline, which was developed based on established measurement scales adapted from previous studies and modified to suit the context of technology start-ups in Jakarta. Prior to full distribution, the questionnaire was reviewed to ensure the clarity and relevance of all items. Respondents were asked to indicate their level of agreement with each statement using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), a measurement approach that is appropriate for capturing perceptions, attitudes, and behavioral tendencies central to the constructs examined in this study [23].

3.4 Measurement of Variables

This study includes four main variables: market orientation, creativity, use of digital technology, and start-up performance. Market orientation is measured through indicators capturing customer orientation, competitor orientation, and interfunctional coordination, reflecting the extent to which start-ups collect market information, understand customer needs, monitor competitor actions, and coordinate internal resources to respond to market changes. Creativity is assessed by evaluating the ability of start-ups to generate novel ideas, develop innovative solutions, and encourage creative thinking among team members, with indicators focusing on idea generation, problem-solving approaches, and openness to new ways of working. The use of digital technology is measured by examining the extent to which start-ups utilize digital tools and platforms in their business operations, including digital marketing, social media, data analytics, cloud computing, and other digital applications that support operational efficiency and strategic decision-making. Start-up performance is measured using subjective indicators based on respondents' perceptions of financial performance, market growth, customer satisfaction, and overall business success, as such measures are commonly employed in start-up research due to limited access to objective financial data and have been shown to provide reliable assessments of firm performance.

3.5 Validity and Reliability Testing

To ensure the quality of the measurement instruments, this study conducted validity and reliability tests, with construct validity assessed using item–total correlation analysis, where an item is considered valid if its correlation coefficient exceeds the minimum acceptable threshold. Reliability was evaluated using Cronbach's alpha coefficient, with a value of 0.70 or higher indicating acceptable internal consistency. The results show that all variables in this study met the required validity and reliability criteria, confirming that the measurement instruments were appropriate and suitable for further analysis.

3.6 Data Analysis Technique

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 25 through several stages, beginning with descriptive statistics to summarize respondents' demographic characteristics and the distribution of responses for each variable, followed by validity and reliability tests to ensure the adequacy of the measurement instruments. Classical assumption tests, including normality, multicollinearity, and heteroscedasticity tests, were then performed to confirm that the data met the requirements for regression analysis. Subsequently, multiple linear regression analysis was employed to test the proposed hypotheses and examine the effects of market orientation, creativity, and the use of digital technology on start-up performance, both individually and simultaneously. All statistical results were interpreted at a significance level of 0.05, enabling a comprehensive evaluation of the relationships among the variables and providing empirical evidence to address the research objectives.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

A total of 250 valid questionnaires were analyzed. Respondents consisted of founders, co-founders, owners, and senior managers of technology start-ups operating in Jakarta. The descriptive statistics for the main research variables are presented in Table 1.

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation

Market Orientation	250	2.10	5.00	4.12	0.56
Creativity	250	2.30	5.00	4.05	0.59
Use of Digital Technology	250	2.40	5.00	4.18	0.54
Start-up Performance	250	2.20	5.00	4.09	0.58

Table 1 presents the descriptive statistics of the study variables, revealing generally high mean values across all constructs, which indicates a strong presence of market orientation, creativity, use of digital technology, and start-up performance among technology start-ups in Jakarta. The use of digital technology shows the highest mean score (M = 4.18, SD = 0.54), suggesting that most start-ups have extensively adopted digital tools and platforms in their operational and strategic activities, reflecting the inherently digital nature of these firms and the critical role of digital infrastructure in supporting efficiency, customer engagement, and scalability. Market orientation (M = 4.12, SD = 0.56) and start-up performance (M = 4.09, SD = 0.58) also demonstrate high average values, indicating that respondents generally perceive their firms as customer-focused, responsive to market changes, and performing well in terms of financial outcomes, market growth, and overall business success, while creativity (M = 4.05, SD = 0.59) reflects a strong capability for generating innovative ideas and solutions. The relatively low and narrow range of standard deviations across all variables suggests homogeneous perceptions among respondents, supporting the suitability of the data for further inferential analysis and indicating that these strategic and behavioral factors are well embedded in the operational practices of technology start-ups in Jakarta.

4.2 Validity and Reliability Analysis

Validity testing was conducted using item–total correlation, and all measurement items showed correlation coefficients above 0.30, indicating satisfactory construct validity. Reliability testing was subsequently performed using Cronbach's alpha, with the results presented in Table 2.

Table 2. Reliability Test Results

Variable	Number of Items	Cronbach's Alpha
Market Orientation	8	0.874
Creativity	7	0.861
Use of Digital Technology	7	0.882
Start-up Performance	6	0.869

Table 2 presents the results of the reliability tests for all study variables, showing that each construct demonstrates a high level of internal consistency. The Cronbach's alpha values for market orientation (α = 0.874), creativity (α = 0.861), use of digital technology (α = 0.882), and start-up performance (α = 0.869) all exceed the commonly accepted threshold of 0.70, indicating that the measurement scales are reliable. Among the variables, the use of digital technology exhibits the highest reliability coefficient, suggesting a strong consistency among its measurement items, while the other constructs also show robust reliability despite

differing numbers of items. These results confirm that the instruments used in this study are stable and internally consistent, providing a sound basis for subsequent regression and hypothesis testing analyses.

4.3 Classical Assumption Tests

Before hypothesis testing, classical assumption tests were conducted to ensure the suitability of the regression model. The normality test using the Kolmogorov–Smirnov method produced a significance value of 0.087 (> 0.05), indicating that the residuals were normally distributed. The multicollinearity test showed tolerance values ranging from 0.612 to 0.734 and VIF values between 1.362 and 1.636, confirming the absence of multicollinearity among the independent variables. In addition, the heteroscedasticity test using the Glejser method yielded significance values above 0.05 for all independent variables, indicating no heteroscedasticity. These results demonstrate that all classical assumptions for multiple linear regression analysis were satisfied.

4.4 Multiple Regression Analysis

Multiple linear regression analysis was conducted to examine the effects of market orientation, creativity, and use of digital technology on start-up performance. The regression results are presented in Table 3.

Table 3. Multiple Regression Results

Independent Variable	β (Standardized)	t-value	Sig.
Market Orientation	0.312	5.876	0.000
Creativity	0.274	5.021	0.000
Use of Digital Technology	0.356	6.482	0.000
R	0.746		
R^2	0.556		
Adjusted R^2	0.550		
F-value	102.45		0.000

Based on the regression results, all proposed hypotheses are supported. Market orientation has a positive and significant effect on start-up performance ($\beta = 0.312$, $p < 0.001$), indicating that greater alignment with market needs enhances performance outcomes. Creativity also shows a positive and significant influence on start-up performance ($\beta = 0.274$, $p < 0.001$), suggesting that the ability to generate innovative ideas contributes meaningfully to business success. The use of digital technology demonstrates the strongest positive effect on start-up performance ($\beta = 0.356$, $p < 0.001$), highlighting the critical role of digital tools in improving efficiency, scalability, and competitiveness. Furthermore, market orientation, creativity, and the use of digital technology simultaneously influence start-up performance, as evidenced by a significant F-statistic ($F = 102.45$, $p < 0.001$). The coefficient of determination (R^2) of 0.556 indicates that 55.6% of the variance in start-up performance is explained by these three independent variables, while the remaining 44.4% is attributable to other factors not included in the model.

4.5 Discussion

The results demonstrate that market orientation significantly enhances the performance of technology start-ups in Jakarta, indicating that firms which actively monitor customer needs, competitor behavior, and market trends are better able to align their offerings with market demands and achieve

superior performance outcomes [20], [21]. In a highly competitive and rapidly evolving digital environment, market orientation helps start-ups reduce uncertainty, improve strategic decision-making, and respond more effectively to changing market conditions, thereby strengthening their overall business performance [22].

Creativity also shows a significant positive effect on start-up performance, highlighting the critical role of creative thinking and idea generation in technology-based entrepreneurship. Start-ups that cultivate creativity are more capable of developing innovative products, adapting their business models, and addressing complex operational challenges [19]. In contexts characterized by limited resources and high uncertainty, creativity serves as an important strategic asset that enables start-ups to overcome financial and structural constraints and sustain competitive advantage [13].

Furthermore, the use of digital technology emerges as the strongest predictor of start-up performance among the examined variables, underscoring the central role of digital tools in improving operational efficiency, expanding market reach, and supporting data-driven decision-making. For technology start-ups in Jakarta, digital technology functions not merely as a supporting mechanism but as a core driver of competitiveness and growth. The simultaneous influence of market orientation, creativity, and digital technology also indicates a complementary relationship among these factors, where market orientation provides strategic direction, creativity generates innovative solutions, and digital technology enables effective implementation and scalability, forming an integrated framework that enhances start-up performance in dynamic and technology-driven markets.

5. Conclusion

This study provides empirical evidence on the determinants of technology start-up performance in Jakarta by examining the roles of market orientation, creativity, and the use of digital technology. The findings confirm that all three factors have significant and positive effects on start-up performance, both individually and simultaneously, with the use of digital technology emerging as the most influential determinant. This result underscores the importance of effective digital technology adoption in enhancing operational efficiency, enabling scalability, and strengthening the competitiveness of technology-based start-ups in a dynamic digital environment.

Market orientation is shown to play a critical role in helping start-ups understand customer needs, monitor competitor actions, and respond effectively to market dynamics, while creativity contributes to performance by fostering innovation, problem-solving, and differentiation under conditions of uncertainty and intense competition . The combined influence of market orientation, creativity, and digital technology highlights the importance of aligning strategic market awareness, creative capabilities, and technological utilization. Overall, this study contributes to the entrepreneurship and strategic management literature by providing quantitative evidence from an emerging urban digital ecosystem and suggests that start-up founders and managers should prioritize market-driven strategies, cultivate a creative organizational culture, and invest in digital technologies to achieve sustainable performance and long-term growth.

Reference

[1] T. Qoriawan and I. D. Apriliyanti, "Exploring connections within the technology-based entrepreneurial ecosystem (EE) in emerging economies: understanding the entrepreneurship struggle in the Indonesian EE," *J. Entrep. Emerg. Econ.*, vol. 15, no. 2, pp. 301–332, 2023.

[2] G. Bardazzi, "The role of start-up companies in creating job opportunities," in *Studies in Surface Science and Catalysis*, vol. 179, Elsevier, 2020, pp. 499–510.

[3] K. Z. Zhou and C. B. Li, "How strategic orientations influence the building of dynamic capability in emerging economies," *J. Bus. Res.*, vol. 63, no. 3, pp. 224–231, 2010.
[4] S. Rakthin, R. J. Calantone, and J. F. Wang, "Managing market intelligence: The comparative role of absorptive capacity and market orientation," *J. Bus. Res.*, vol. 69, no. 12, pp. 5569–5577, 2016.
[5] D. Sushandoyo, R. A. M. Kencanasari, E. A. Prasetio, and Y. Matsuura, "The influences of technological capability and market orientation toward business model innovations of digital startups," *Int. J. Innov. Manag.*, vol. 26, no. 02, p. 2250018, 2022.
[6] W.-S. Jun, H.-T. Yi, and F. E. Amenuvor, "The effect of startup marketing agility on new product creativity and new product performance: the moderating effect of technological turbulence," *Mark. Intell. Plan.*, vol. 42, no. 8, pp. 1494–1521, 2024.
[7] P. Pisano, M. Pironti, and A. Rieple, "Identify innovative business models: can innovative business models enable players to react to ongoing or unpredictable trends?," *Entrep. Res. J.*, vol. 5, no. 3, pp. 181–199, 2015.
[8] A. Sreenivasan and M. Suresh, "Factors influencing competitive advantage in start-ups operations 4.0," *Compet. Rev. An Int. Bus. J.*, vol. 34, no. 6, pp. 1155–1177, 2024.
[9] R. Ruggieri, M. Savastano, A. Scalingi, B. Dorina, and F. D'Ascenzo, "The impact of Digital Platforms on Business Models: an empirical investigation on innovative start-ups," *Manag. Mark.*, pp. 1210–1225, 2018.
[10] H. Guo, C. Wang, Z. Su, and D. Wang, "Technology push or market pull? Strategic orientation in business model design and digital start-up performance," *J. Prod. Innov. Manag.*, vol. 37, no. 4, pp. 352–372, 2020.
[11] B. Balboni, G. Bortoluzzi, R. Pugliese, and A. Tracogna, "Business model evolution, contextual ambidexterity and the growth performance of high-tech start-ups," *J. Bus. Res.*, vol. 99, pp. 115–124, 2019.
[12] S. Ahn, K.-S. Kim, and K.-H. Lee, "Technological capabilities, entrepreneurship and innovation of technology-based start-ups: The resource-based view," *J. Open Innov. Technol. Mark. Complex.*, vol. 8, no. 3, p. 156, 2022.
[13] S. Singh, T. K. Darwish, and K. Potočnik, "Measuring organizational performance: A case for subjective measures," *Br. J. Manag.*, vol. 27, no. 1, pp. 214–224, 2016.
[14] T. A. Arshi, V. Rao, S. Islam, and S. Morande, "SECURE–a new business model framework for measuring start-up performance," *J. Entrep. Emerg. Econ.*, vol. 13, no. 3, pp. 459–485, 2021.
[15] B. Leisen, B. Lilly, and R. D. Winsor, "The effects of organizational culture and market orientation on the effectiveness of strategic marketing alliances," *J. Serv. Mark.*, vol. 16, no. 3, pp. 201–222, 2002.
[16] M. Dehghani, A. M. Abubakar, and M. Pashna, "Market-driven management of start-ups: The case of wearable technology," *Appl. Comput. informatics*, vol. 18, no. 1/2, pp. 45–60, 2022.
[17] A. Grinstein, "The relationships between market orientation and alternative strategic orientations: A meta-analysis," *Eur. J. Mark.*, vol. 42, no. 1/2, pp. 115–134, 2008.
[18] A. J. Antonites and J. J. Van Vuuren, "Inducing entrepreneurial creativity, innovation and opportunity-finding skills," *South African J. Econ. Manag. Sci.*, vol. 8, no. 3, pp. 255–271, 2005.
[19] J. Zhang, B. Yu, and C. Lu, "Exploring the effects of innovation ecosystem models on innovative performances of start-ups: the contingent role of open innovation," *Entrep. Res. J.*, vol. 13, no. 4, pp. 1139–1168, 2023.
[20] T. J. Marion and S. K. Fixson, "The transformation of the innovation process: How digital tools are changing work, collaboration, and organizations in new product development," *J. Prod. Innov. Manag.*, vol. 38, no. 1, pp. 192–215, 2021.
[21] A. Usai, F. Fiano, A. M. Petruzzelli, P. Paoloni, M. F. Briamonte, and B. Orlando, "Unveiling the impact of the adoption of digital technologies on firms' innovation performance," *J. Bus. Res.*, vol. 133, pp. 327–336, 2021.
[22] R. Masa'deh, J. Al-Henzab, A. Tarhini, and B. Y. Obeidat, "The associations among market orientation, technology orientation, entrepreneurial orientation and organizational performance," *Benchmarking An Int. J.*, vol. 25, no. 8, pp. 3117–3142, 2018.
[23] Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta, 2010.