

Research Article

Leveraging Volunteerism and Digital Competencies to Overcome Innovation Barriers Among Nascent Entrepreneurs in Indonesia

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Abstract: This study explores how nascent entrepreneurs in Indonesia can improve their business innovation performance by utilizing volunteerism and digital competencies, particularly in the context of financial and technological limitations. These challenges significantly hinder their capacity for effective innovation, especially in resource-limited settings where access to tools and expertise is often scarce. A quantitative approach was employed, using data from 156 nascent entrepreneurs, which was analyzed through Structural Equation Modeling (SEM). The results indicate that the voluntary exchange of ideas and competences, framed through the Service-Dominant Logic (S-DL) perspective, plays a critical role in overcoming resource constraints and enhancing innovation outcomes. By facilitating collaboration and knowledge-sharing via volunteerism, nascent entrepreneurs can strengthen their digital and managerial capabilities, which are essential for driving innovation. The study highlights the importance of creating ecosystems that support stakeholder-driven volunteer initiatives, which help develop strategic digital competencies among emerging entrepreneurs, thereby fostering greater innovation capacity and ensuring long-term business sustainability.

Keywords: Digital Competencies; Innovation Performance; Nascent Entrepreneurs; Service-Dominant Logic; Volunteerism

1. Introduction

The In today's rapidly evolving market landscape, improving business innovation performance is critical for economic growth and sustainability. Nascent entrepreneurs, face significant challenges, including resource and experience limitations, which severely hinder their capacity to innovate effectively. These constraints often prevent entrepreneurs from leveraging the synergy of ideas and competencies from stakeholders resources essential for enhancing business performance. As a result, the lack of effective innovation jeopardizes the survival and competitiveness of new businesses, contributing to high failure rates and stunted economic growth (Chege et al., 2019; Cho & Lee, 2018).

The literature highlights several barriers to innovation faced by nascent entrepreneurs. Limited access to knowledge and resources, exacerbated by technological barriers in underdeveloped areas, is a recurring theme (Rajiani et al., 2023). Furthermore, entrepreneurial self-efficacy plays a critical role in determining business performance and career decisions (Sanaji, 2023). Uvarova & Vitola (2019), emphasize that deficiencies in managerial skills and business experience are significant obstacles, particularly for Small and Medium Enterprise (SMEs). Additionally, Lumpkin & Dess (2001) argue that low entrepreneurial orientation reduces the ability to identify and exploit new opportunities. Given these barriers, addressing resource constraints, enhancing knowledge access, building innovation capabilities, and improving managerial skills are essential steps toward enabling nascent entrepreneurs to overcome these challenges and achieve sustainable business growth.

Despite the growing body of literature on entrepreneurial innovation, there are significant gaps in understanding how nascent entrepreneurs can overcome these barriers within the Service-Dominant Logic (S-DL) framework. Previous studies, such as those by

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Cho & Lee (2018), have been criticized for methodological limitations, including small sample sizes that restrict the generalizability of their findings. Moreover, existing research has often failed to address the critical role of institutional infrastructures in supporting startups through funding mechanisms, e-commerce regulations, and access to digital technology (Samara & Terzian, 2021).

Indonesia is selected as the focus of this study due to its dual status as one of Southeast Asia's largest economies and a hub for entrepreneurial growth, particularly in the creative and culinary sectors. Despite its economic potential, systemic barriers such as limited funding access, inadequate technological infrastructure, and cultural norms inhibiting innovation pose significant challenges for nascent entrepreneurs (Tunio et al., 2021). Central Java, representing both urban and rural dynamics, serves as an ideal region for exploring these issues. This context aligns with the Service-Dominant Logic (S-DL) framework, offering a fertile ground to examine how mechanisms like volunteerism synergizing ideas (VSI) and competences (VSC) foster innovation under resource constraints.

This study addresses these gaps by introducing two novel concepts volunteerism synergizing ideas (VSI) and volunteerism synergizing competences (VSC) within the S-DL framework. These concepts focus on the voluntary exchange of ideas and competences as mechanisms for co-creating value and overcoming barriers such as resource limitations and lack of managerial experience. By operationalizing S-DL, this study examines how VSI and VSC enable nascent entrepreneurs to mobilize operant resources, such as knowledge and skills, to drive innovation and improve business outcome. The research questions are directly tied to these identified gaps and aligned with the S-DL framework:

RQ1: How do financial barriers and lack of technological skills affect the innovation ability of nascent entrepreneurs in Indonesia?

RQ2: How can business planning and product innovation enhance nascent entrepreneurial success in resource-constrained environments

While previous research has extensively documented the challenges faced by nascent entrepreneurs, this study offers a novel approach to addressing these issues. It introduces the concepts of "volunteerism synergizing ideas" and "volunteerism synergizing competences" as innovative mechanisms to overcome barriers such as resource constraints, limited knowledge access, and insufficient managerial experience. By applying the Service-Dominant Logic (S-DL) perspective to volunteerism, this study redefines it not merely as a social good but as a strategic tool for fostering innovation in resource-limited environments. This perspective highlights the potential of volunteerism to create value through collaboration and resource integration, providing a unique framework for overcoming entrepreneurial challenges.

This research introduces two novel concepts volunteerism synergizing ideas (VSI) and volunteerism synergizing competences (VSC) within the Service-Dominant Logic (S-DL) framework to address the resource challenges faced by nascent entrepreneurs. VSI emphasizes the voluntary exchange of creative and innovative ideas among stakeholders, enabling a low-cost yet effective mechanism to explore solutions for shared entrepreneurial challenges. Through VSI, stakeholders collaboratively generate new concepts, driving mutual understanding and unlocking innovation potential in resource-constrained environments. Meanwhile, VSC highlights the pooling and alignment of diverse competences from voluntary contributors, focusing on operational and strategic problem-solving to address gaps in skills and knowledge. VSC integrates managerial and technical expertise, fostering an environment where entrepreneurs can build and execute innovation strategies through co-creation processes (Vargo & Lusch, 2014; Zhou et al., 2020).

By focusing on the voluntary exchange of ideas and competences, this study offers a fresh perspective on how entrepreneurs can transform their limited operant resources into effective, low-cost outputs that drive business innovation. This innovative approach has significant implications for both theory and practice. Theoretically, it extends the S-DL framework by positioning volunteerism as a crucial component of value co-creation, thereby enhancing our understanding of how social interactions can influence business innovation. Practically, it provides actionable strategies for empowering nascent entrepreneurs. For instance, fostering volunteer initiatives that encourage the sharing of ideas and competences can help entrepreneurs overcome resource constraints and improve their innovation outcomes, especially in resource-limited settings where traditional support mechanisms are often inadequate.

Moreover, this approach directly addresses key barriers highlighted in previous research, such as limited managerial skills and insufficient business experience, which are frequently cited as significant challenges for SMEs (Ali et al., 2017; Becheikh & Bouaddi, 2023). By integrating these insights, the study contributes a comprehensive framework for addressing entrepreneurial constraints through volunteer-driven value creation. Research by Lumpkin & Dess (2001) indicates that low entrepreneurial orientation hampers the ability to identify and

exploit new opportunities. Despite this, there is limited research exploring the roles of business planning and product innovation in nascent entrepreneurship. Additionally, insufficient attention has been given to the unique innovation barriers faced by nascent entrepreneurs in developing countries. To address these gaps, this study aims to provide new insights by examining both business planning and innovation challenges within the context of resource-constrained environments.

The manuscript is structured as follows: Section 2 presents a comprehensive review of the relevant literature, focusing on the challenges faced by nascent entrepreneurs, the theoretical underpinnings of the Service-Dominant Logic (S-DL) framework, and the roles of volunteerism synergizing ideas (VSI) and volunteerism synergizing competences (VSC) in fostering innovation. Section 3 outlines the research methodology, detailing the research design, data collection, and analysis techniques employed to explore the relationships between financial barriers, business planning, product innovation, and business innovation performance. Section 4 presents the results, providing empirical insights and statistical analyses that address the research questions. Section 5 discusses the findings, interpreting them in light of existing literature and highlighting theoretical and practical implications. Finally, Section 6 concludes the manuscript, summarizing key contributions, practical recommendations, and suggestions for future research directions.

2. Literature Review

A perspective S-DL in marketing concept

Service-Dominant Logic (S-DL) in marketing represents a significant shift from traditional goods-dominant logic to a service-oriented approach, emphasizing value co-creation between businesses and customers. This perspective redefines marketing as a collaborative process where value is created together through continuous interaction and engagement (Vargo & Lusch, 2014). While S-DL offers a robust theoretical foundation, its application in resource-constrained environments, particularly in developing countries, faces significant limitations due to social and structural barriers. For example Yodchai et al. (2021) highlight how S-DL enhances customer engagement and business success, yet note that these benefits are often hindered in underdeveloped regions by inadequate institutional support and cultural resistance. Similarly, Amarasoorya et al. (2024) underscore the need for context-specific adaptations of S-DL to overcome these barriers. Building on these insights, this study extends the application of S-DL by integrating volunteerism as a strategic mechanism for fostering co-creation in resource-constrained environments. This novel approach addresses existing gaps in the literature by proposing practical solutions for overcoming systemic challenges.

Nascent Entrepreneur

Nascent entrepreneurs are pivotal in driving innovation, yet they face unique challenges in resource-limited settings, such as inadequate access to capital, limited managerial skills, and technological barriers (Rajani et al., 2023; Uvarova & Vitola, 2019). Existing research often overlooks how these constraints hinder their ability to leverage entrepreneurial traits for innovation, particularly in developing countries. While studies by Osuagwu (2022) and Petrylaite (2020) emphasize the importance of social interaction and entrepreneurial knowledge, these works fail to address how nascent entrepreneurs can overcome resource gaps to co-create value effectively. This study fills this gap by examining how volunteerism synergizing ideas (VSI) and volunteerism synergizing competences (VSC) enable nascent entrepreneurs to transform resource limitations into innovation opportunities.

Volunteerisms Synergize Ideas

Volunteerism Synergizing Ideas (VSI) represents the collaborative exchange of innovative ideas among stakeholders to address shared entrepreneurial challenges. Zhou et al. (2020) and Tapaninaho & Heikkinen (2022) highlight how VSI promotes mutual benefits and facilitates co-creation, yet empirical studies on its role in resource-limited entrepreneurial ecosystems are scarce. This study expands on Brozović et al. (2020) who emphasize the orchestrating role of VSI in service ecosystems, and, who highlight its potential to align stakeholder interests. By focusing on VSI within the S-DL framework, this research explores its ability to enhance innovation outcomes for nascent entrepreneurs in developing countries.

Volunteerisms Synergize Competences

The concept of Voluntary Synergize Competences (VSC) within the Service-Dominant Logic (S-DL) framework in marketing refers to the voluntary integration of competences to create synergies that enhance marketing effectiveness and facilitate value co-creation. S-DL emphasizes the collaborative nature of value creation, positioning customers as partners rather than mere recipients of services. While, Liu & Xu (2022); Aqmala et al. (2021) demonstrate the role of VSC in aligning Corporate Social Responsibility (CSR) with strategic goals, little is known about its impact on nascent entrepreneurship. Existing studies by

Hwang et al. (2020); Vu & Nwachukwu (2021) emphasize the importance of competences in improving organizational success but fail to address how volunteer-driven competences can mitigate the barriers faced by nascent entrepreneurs. Additionally, Shulga and Busser (2020) focus on customer self-determination in co-creating value, reinforcing the importance of competences in meaningful interactions. Mili and Hashim (2020) also show that voluntary human capital disclosure enhances transparency and value creation. Overall, VSC within the S-DL framework strengthens collaboration, boosts customer engagement, and aligns strategic objectives, thereby fostering innovation and competitive advantage in marketing.

Business Innovation Performance

Business innovation performance is a key metric of entrepreneurial success. However, the role of S-DL and volunteerism in enhancing innovation performance across diverse socio-economic contexts remains underexplored. Existing studies focus predominantly on developed economies, leaving gaps in understanding how these frameworks apply to Micro, Small, and Medium Enterprise (MSMEs) in developing countries (Sathana et al., 2021). However, the extent to which these strategies can be adapted to different organizational contexts, particularly in underdeveloped regions, remains underexplored. This study addresses these gaps by exploring how VSI and VSC drive innovation performance, particularly in resource-constrained environments like Indonesia.

Hypotheses Development

Challenges faced by nascent entrepreneurs often negatively impact business innovation performance. These challenges highlight the limitations of resources and essential capabilities, hindering innovative strategies and ultimately worsening business performance (Lu et al., 2024). Similarly from perspective Goyal and Mishra (2023b) emphasize that entrepreneurial incompetence among new entrepreneurs can obstruct the effective implementation of entrepreneurial strategies, adversely affecting innovation outcomes.

Additionally, Yang & Yu (2022) stress that weak institutional support is a critical factor that can impact innovation and overall business success. Besides weak institutional support, female entrepreneurs face financial limitations based on gender, restricting their ability to innovate further (Mozumdar et al., 2022). Furthermore, environmental health conditions, such as the COVID-19 pandemic, can worsen the spirit of innovation and business performance (Voinea et al., 2022). Consequently, these factors can simultaneously trigger a decline in business innovation performance for MSMEs. The greater the barriers due to lack of support, the more negatively they impact the improvement of business innovation performance.

Nascent entrepreneurs often face significant barriers that negatively impact their ability to innovate and perform. These barriers include limited resources, inadequate institutional support, and environmental challenges, which hinder their ability to implement innovative strategies effectively (Lu et al., 2024; Yang & Yu, 2022). Additionally, gender-based financial constraints Mozumdar et al. (2022) and external shocks, such as the COVID-19 pandemic, further exacerbate these challenges, leading to reduced business innovation performance (Voinea et al., 2022).

This research seeks to address these challenges by focusing on entrepreneurial creativity, volunteerism synergizing competences (VSC), and volunteerism synergizing ideas (VSI) as key mechanisms for enhancing innovation performance, grounded in the Service-Dominant Logic (S-DL) framework. Entrepreneurial creativity plays a critical role in driving innovation, as it enables entrepreneurs to identify unique opportunities and develop novel solutions (Fadaee & Alzahrh, 2014). However, not all creative individuals are innovative, as innovation also requires the application of ideas within resource-constrained environments (Roberts & Armitage, 2015). By fostering creativity, nascent entrepreneurs can overcome the lack of resources and institutional barriers to improve innovation outcomes, forming the basis of the first hypothesis: H1: Entrepreneurial Creativity positively influences Business Innovation Performance.

The emergence of new entrepreneurs positively impacts the volunteerism synergizing competences for MSMEs. While existing studies have discussed the role of entrepreneurial competences in driving innovation (Biswas, 2023; Mamun & Fazal, 2018), they often overlook how nascent entrepreneurs leverage VSC to overcome systemic barriers, particularly in resource-constrained environments. The S-DL perspective emphasizes co-creating value through collaborative processes, which is crucial for new entrepreneurs in the early stages of business development. This study addresses this gap by exploring the mediating role of VSC in the relationship between nascent entrepreneurs and business innovation performance. Although there is initially a negative correlation with business performance, new entrepreneurs can leverage voluntary value creation to enhance knowledge resonance and innovation (Moonti et al., 2023).

In developing countries like Indonesia, entrepreneurial competence and orientation are crucial for competitive advantage and success. This is evident in the empirical findings of small entrepreneurs in Indonesia, where these factors positively impact business outcomes (Goyal & Mishra, 2023a).

This impact is due to the role of competences as practical solutions that can help MSMEs outperform competitors (Biswas, 2023). Additionally, entrepreneurial motivation combined with competence can improve performance by emphasizing the importance of intrinsic motivation and innovative traits (Sun et al., 2023). Another trigger for improving innovation performance lies in the mindset of nascent entrepreneurs, which can be strengthened by their actions as entrepreneurs, utilizing knowledge resources to create business strategies (Ndururi & Mukulu, 2015; Vliamos, 2017).

Furthermore, entrepreneurial competence among low-income entrepreneurs to improve business innovation performance through competence synergy will lead to better business outcomes (Mamun & Fazal, 2018). This is further supported by evidence that competence synergy positively influences opportunity identification, research and development (R&D) activities, and sustainable innovation (Ng et al., 2020). Another view by Koliby et al. (2022) discusses that volunteerism synergizing competences arises from a creative mindset, which in turn drives innovation. This has led to many opinions that creative people are often innovators, but not all creative people are necessarily innovative (Fadaee & Abd Alzahrh, 2014; Roberts & Armitage, 2015). Additionally, exploring the mediating effects of entrepreneurial innovation on the relationship between personality traits and company innovation performance implies that innovation driven by personality traits is key to innovation success (Nguyen et al., 2021a).

Ultimately, entrepreneurial competences in enhancing innovation capabilities can leverage competitive advantage and improve business innovation performance. Overall, these insights illustrate that new entrepreneurs can significantly enhance MSMEs' innovation performance through volunteerism synergizing competences. However, prior research has rarely examined how VSC, as a mediating construct, enables nascent entrepreneurs to transform their competences into innovation outcomes in MSMEs. Aligning with the S-DL perspective, competences are derived from operant resources through exchange processes in market segments, as well as perceptions and approaches to customers (Lusch et al., 2007; Vargo & Lusch, 2004; Vargo & Lusch, 2008). The role of volunteerism in synergizing competences offers a unique lens for understanding how nascent entrepreneurs can drive collaborative innovation and co-create value in resource-constrained environments. This, the hypothesis developed from this relationship is: H2: Nascent entrepreneurs significantly influence and have a positive effect on volunteerism synergizing competences. H5: Volunteerism synergizing competences significantly influences and have a positive effect on business innovation performance. H6: Nascent entrepreneurs significantly influence and has a positive effect on business innovation performance through volunteerism synergizing competences.

These hypotheses align with the study's objectives by addressing gaps in existing literature on the mediating role of VSC in enhancing BIP. They also offer a focused approach for empirically testing the relationships among nascent entrepreneurship, VSC, and BIP, contributing to a deeper understanding of value co-creation mechanisms in MSMEs.

Besides leveraging entrepreneurial competences, creativity, and proactivity, new entrepreneurs inspire and drive collaborative efforts that generate innovative ideas and solutions through Volunteerism Synergizing Ideas (VSI) and Volunteerism Synergizing Competences (VSC). Their active involvement in promoting VSI fosters environments conducive to idea sharing, knowledge exchange, and collective problem-solving, enhancing innovation capacity and driving MSME performance. This collaborative approach builds stronger social networks and mobilizes social capital, as emphasized Glińska-Noweś and Górká (2020) shows that new entrepreneurs involved in volunteer activities develop stronger social networks and greater social capital, which are important for entrepreneurial success and innovation.

This positive impact emphasizes the importance of leadership, vision, and commitment of new entrepreneurs in driving positive change and fostering a culture of innovation within the entrepreneurial ecosystem (Emami et al., 2023). Moreover, for entrepreneurs, the importance of collaboration in multi-stakeholder and multicultural environments is increasingly recognized, as it helps manage expectations and maximize outcomes, even in potentially confrontational relationships (Straka, 2017). However, barriers such as distrust and ineffective communication remain challenges in stakeholder participation (Saengsupavanich et al., 2012). VSI provides a practical mechanism to overcome these barriers by fostering trust and collaboration, enabling entrepreneurs to co-create value with stakeholders. By addressing these challenges and fostering a collaborative environment, stakeholders can collectively

contribute to the goals and community of nascent entrepreneurs, leading to more effective and inclusive decision-making processes.

Volunteerism synergizing ideas also significantly and positively influences business innovation performance by integrating social capital and knowledge sharing within collaborative innovation communities. This is reflected in the involvement of employees and volunteers, which accelerates workforce development and distribution, fostering an environment conducive to innovation and improving business performance (Fait et al., 2023). In line with this thinking, the role of companies in developing CSR initiatives is a voluntary action that has been proven to increase investment and innovation performance (Yoo et al., 2022; Zhou et al., 2020). Furthermore, it is explained that nascent entrepreneurs significantly influence business innovation performance through volunteerism synergizing ideas by leveraging proactive and innovative indicators of entrepreneurial orientation as part of CSR strategy implementation. Entrepreneurial orientation directs innovative efforts, improving business performance, while involvement in volunteerism and CSR creates a synergistic environment conducive to innovation (Mondal et al., 2024).

Consistent with the Service-Dominant Logic (S-DL) framework, VSI enables nascent entrepreneurs to align stakeholder resources for mutual benefit, thus improving business innovation performance (Lusch & Vargo, 2014). Empirical studies show that VSI integrates social capital and knowledge sharing within collaborative innovation communities, directly enhancing organizational creativity and innovation (Fait et al., 2023). This highlights the significant, yet underexplored, role of VSI as a mediator between nascent entrepreneurs and business innovation performance, particularly in resource-constrained environments. Therefore, the hypothesis developed from these relationships is: H3: Nascent entrepreneur significantly influences and has a positive effect on volunteerisms synergize ideas. H4: Volunteerisms synergize ideas significantly influence and has a positive effect on business innovation performance. H7: Nascent entrepreneur significantly influences and has a positive effect on business innovation performance through volunteerisms synergize idea.

From the seven hypotheses developed above, the study will be illustrated in the conceptual framework.

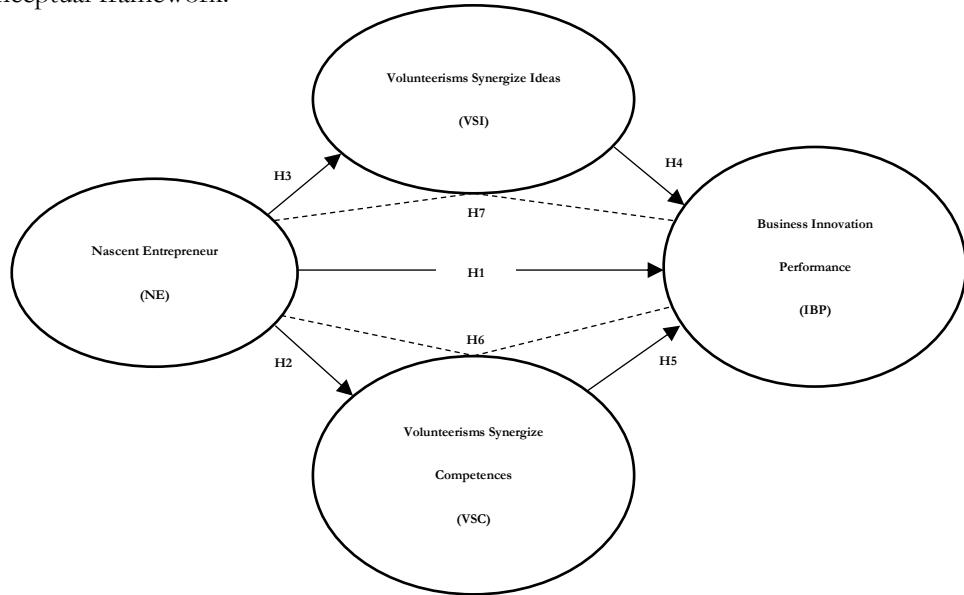


Figure 1. Conceptual Framework
Source: Author's concept

3. Research Method

Data and Methodology

The study used purposive sampling to collect data through questionnaires and empirical observations of inter-construct influences. The targeted respondents were managers or nascent entrepreneurs in the creative industry, trading, digital services, and other sectors in Indonesia. Nascent entrepreneurs were defined as individuals who have started committing resources, such as time or money, to a business that has not been paying wages for more than three months, following GEM criteria. However, to ensure comprehensive analysis, the sample also included individuals managing businesses up to 42 months old. The purposive sampling method was chosen based on the research objective to explore the role of volunteerism in triggering business innovation performance, particularly among nascent entrepreneurs.

Central Java was selected for its representation of entrepreneurial conditions in developing regions, which is relevant to the context of this study. Data were collected from July to September 2024, with sampling criteria including business duration and average monthly income. To explore the level of volunteerism, each statement in the questionnaire was accompanied by detailed explanations of the role of volunteerism in triggering business innovation performance. This exploration of the volunteerism construct served as a prediction to be further investigated using the PLS-SEM model. A total of 156 observations were collected and deemed suitable for analysis using SmartPLS. The highest statistical power value achieved was 0,901, surpassing the minimum threshold of 0,8 (Carranza et al., 2020; Hair, 2019). The characteristics of the respondent profiles are shown in Table 1.

Data Analysis

The data were analyzed using the Partial Least Squares - Structural Equation Modelling (PLS-SEM) method, which was selected due to its capability to handle models with latent variables and reflective indicators. SmartPLS 3.2.9 was utilized as the analytical tool, following PLS-SEM guidelines to assess the measurement and structural models (Hair, 2019). The choice of PLS-SEM was based on its purpose of predicting and exploring complex inter-constructed relationships by testing the reliability and validity of reflective constructions. The structural model was evaluated by analyzing R^2 , f^2 , Q^2 , and path coefficients, which provided comprehensive insights into the variance explained by the model.

Instruments and Measurements

The instruments used in this study were developed by adapting questionnaire statements from previous researchers, resulting in a total of nineteen indicators. A five-point Likert scale, ranging from strongly disagree to strongly agree, was employed to measure these indicators. The constructs were measured as follows: nascent entrepreneurs with 5 indicators, volunteerism synergizing ideas with 5 indicators, volunteerism synergizing competences with 4 indicators, and business innovation performance with 5 indicators. These indicator items were carefully selected to reflect the four constructs in this study, based on relevant elaborations from previous research. The sources for each indicator are detailed in Table 1.

Table 1. The Measurement and Indicator of Variables

Variables	Dimension/Indicators	Description	References
Nascent Entrepreneur (NE)	Price leadership	We include feedback channels with every product purchase.	Adapted from: Fait et al. (2023); Moonti et al. (2023).
	Product Specialization	We provide a suggestion contact to enhance customer engagement.	
	Market-based background	Our service includes a customer hotline for prompt inquiry responses.	
	Resilience to Failure	We are resilient to sales failures.	
	Highly Competitive Orientation	We thrive under highly competitive pressure.	
	Autonomy Supportive Leadership	We welcome constructive suggestions for improvements from customers.	
	Opportunities for Decision-Making	We participate in decision-making and select projects to enhance competence and autonomy.	Adapted from: Fernandes and de Matos (2023); McBey et al. (2017).
	Intrinsic Motivation	We provide job autonomy to boost competence and independence.	
	Organizational Commitment	We value team contributions with a focus on well-being to enhance voluntary competence.	
	Perceived Organizational Support	We demonstrate dedication to organizational goals and are willing to make the necessary efforts.	
Volunteerism synergizes ideas (VSI)	Leveraging Diverse Skill Sets	We bring diverse skills and experiences to generate innovative ideas.	Adapted from: Kim et al. (2018); Toner and Martins (2022).
	Internal and External Collaboration	We synergize ideas through internal and external collaboration.	
	Encouraging Open-mindedness	We openly accept external ideas.	
	Building a Sense of Community	We foster a sense of togetherness to enhance	

Variables	Dimension/Indicators	Description	References
Business innovation performance (IBP)	Enhancing Problem-solving Skills	collaboration and idea exchange. We provide practical solutions to drive innovation.	Adapted from: Kehbila (2021); Nathan and Rosso (2022); Purchase and Volery (2020).
	Continuous new Product	We prioritize superior product innovation.	
	Marketing & Financial growth	We target net profit growth and increased marketing budgets over three years.	
	Create new target market	We have a strategy to penetrate new market segments in every sales plan.	
	Market expansion	We aim to increase distribution and retail partners in new markets.	

Source: Elaborated from previous research

4. Results and Discussion

Demographic Profile

Table 2. Profile Respondent (n = 156)

No	Characteristics	Total	%
1	Sex	Male	89 57,1%
		Female	67 42,9%
2	Age	< 25 years old	18 11,5%
		> 25 to 35 years old	79 50,6%
3	Education	> 35 years old	59 37,8%
		Senior high school	33 21,2%
4	Education	Bachelor's degree	57 36,5%
		Master's degree	40 25,6%
5	Age of business	Doctoral degree	26 16,7%
		< 4 years	43 27,6%
6	Age of business	> 4 to 8 years	62 39,7%
		> 8 years	51 32,7%
5	Average Income per month	< Rp7.000.000	62 39,7%
		> Rp7.000.000 to Rp20.000.000	51 32,7%
6	Business Sector	> Rp20.000.000	43 27,6%
		Creative industry	59 37,8%
	Business Sector	Trading	39 25,0%
		Digital service	41 26,3%
		Others	17 10,9%

Source: Data collected (2024)

Table 2 summarizes the respondent profile. The data shows that most of the respondents were male (57,1%), with the majority aged between 25 and 35 years (50,6%). The most common level of education was a bachelor's degree (36,5%), followed by a master's degree (25,6%). In terms of business age, most businesses had been operating between 4 to 8 years (39,7%). Regarding monthly income, nearly 40% of the respondents had an income of less than Rp7.000.000. Most respondents were engaged in the creative industry sector (37,8%), followed by digital services (26,3%) and trading (25%).

Measurement model

Table 3. Measurement Mode

Indicators	Outer Loading	Cronbach's Alpha	rho_A	CR	AVE
NE1	0,715	0,818	0,829	0,872	
NE2	0,751				0,578
NE3	0,718				
NE4	0,800				
NE5	0,811				
IBP1	0,845	0,899	0,899	0,930	
IBP2	0,868				0,768
IBP3	0,890				
IBP4	0,901				
VSI1	0,860	0,856	0,863	0,897	
VSI2	0,778				
VSI3	0,766				0,635
VSI4	0,778				
VSI5	0,797				
VSC1	0,854	0,882	0,885	0,914	
VSC2	0,790				
VSC3	0,818				
VSC4	0,846				0,680
VSC5	0,814				

Source: Data collected (2024)

Note: IBP: Innovation business performance; NE: Nascent entrepreneur; VSI: Voluntary synergize idea; VSC: Volunteerism synergizes competence; CR: Construct reliability; AVE: Average variance extracted

The results showed in table 3, that the measurement model satisfied the necessary criteria for reliability and validity. Specifically, all factor loadings were above the acceptable threshold of 0,7, as suggested by Hair (2019) indicating that each indicator was reliably measuring its respective construct. For instance, the loadings for NE ranged from 0,715 to 0,811, while those for IBP ranged from 0,845 to 0,901, all demonstrating sufficient indicator reliability. Cronbach's Alpha values for all constructs exceeded the 0,7 threshold, with NE at 0,818, IBP at 0,899, VSI at 0,856, and VSC at 0,882, confirming that the items within each construct were consistently measuring the same concept. The composite reliability (CR) values were also well above the recommended minimum of 0,7, further supporting the internal consistency of the constructs (CR for NE = 0,872, IBP = 0,930, VSI = 0,897, VSC = 0,914). Additionally, the AVE for each construct exceeded the cut-off value of 0,5, with NE at 0,578, IBP at 0,768, VSI at 0,635, and VSC at 0,680, indicating adequate convergent validity.

Furthermore, the Fornell-Larcker criterion was utilized to evaluate discriminant validity, revealing that the constructs were indeed distinct. The square root of the AVE for each construct exceeded its correlations with other constructs, a key requirement for confirming discriminant validity (Fornell & Larcker, 1981). For instance, the square root of the AVE for IBP was 0,876, surpassing its correlations with NE at 0,575, VSC at 0,793, and VSI at 0,720. Similarly, the square root of the AVE for VSC was 0,825, exceeding its correlations with IBP (0,793) and NE (0,720). These results underscore that each construct uniquely captures different facets of the model, thereby enhancing the overall integrity of the research framework. By clearly differentiating these constructs, the analysis not only supports theoretical advancements but also provides a solid foundation for practical applications in the field. Collectively, these findings validate the robustness of the measurement model, demonstrating satisfactory reliability, convergent validity, and discriminant validity, which affirm the constructs' capability to accurately represent the studied variables (Table 4).

Table 4. Fornell-Larcker Criterion

Construct	IBP	NE	VSC	VSI
IBP	0,876			
NE	0,575	0,760		
VSC	0,793	0,720	0,825	
VSI	0,720	0,707	0,828	0,797

Source: Data collected (2024)

Structural Model

Before analyzing structural relationships, it was essential to check for collinearity to ensure no bias in regression findings, using the variance inflation factor (VIF), which should be below 3 (Hair, 2019). No collinearity issues were identified as VIF values were below the specified threshold. This indicates that the model is free from multicollinearity issues, ensuring the reliability of the regression analysis. Next, the structural model was evaluated using the bootstrap method with 5,000 iterations to assess the relevance of indicators and path coefficients. The coefficient of determination (R^2) was analyzed to gauge the variance explained by the model. The R^2 value for IBP was 0,642, indicating substantial influence from exogenous variables, while the R^2 value of 0,500 for VSI indicated a moderate influence. These R^2 values suggest that the model explains a significant portion of the variance in the outcomes, particularly in IBP, underscoring the strength of the predictors used.

Based on Table 5, the Predictive Relevance (Q^2) and R-Square results demonstrate that the construct Innovation Business Performance (IBP) achieved an R-Square value of 0,642. This indicates that the model explains 64,2% of the variance observed in IBP. The Q^2 value of 0,564 demonstrated strong predictive relevance, as it exceeded 0. The construct VSC had an R-Square of 0,519, meaning that 51,9% of the variance in VSC was explained by the independent variables in the model, with a Q^2 of 0,380, also indicating sufficient predictive relevance. The construct VSI had an R-Square of 0,500, showing that 50% of the variance in VSI was explained by the model, with a Q^2 value of 0,386, which was also above the predictive relevance cut-off. NE did not have an R-Square value, suggesting that it may have been an exogenous variable in the model, with SSE equal to SSO, indicating no predictive relevance. The general cut-off values for R-Square are 0,75 (substantial), 0,50 (moderate), and 0,25 (weak) (Hair Jr et al., 2017), and $Q^2 > 0$ indicates predictive relevance (Chin, 1998).

Table 5. Predictive Relevance (Q^2) and R-Square Results

Construct	SSO	SSE	Q^2	R Square	Adj R Square
IBP	88252,000	38509	0,564	0,642	0,635
NE	75687,000	75687			
VSC	105439,000	65341	0,380	0,519	0,516
VSI	98020,000	60228	0,386	0,500	0,497

Sources: Data processed, (2024)

Based on the (f^2) in Table 6 effect size values displayed, it was interpreted that the NE variable had a very small effect on IBP with a value of 0,002, a moderate effect on VSC with a value of 0,323, and a small effect on VSI with a value of 0,037. According to Cohen's (1988), effect size values are generally interpreted as small around 0,02, moderate around 0,15, and large above 0,35 (Correll et al., 2020). Therefore, the effect of NE on VSC could be categorized as moderate, while its effect on VSI was considered small, and on IBP, it was considered very small or almost negligible. This indicated that NE had a varied impact on these three variables, with the most significant influence on VSC.

Table 6. Effect size (f^2) Results

Construct	IBP	VSC	VSI
IBP			
NE	0,002	1078,000	1002,000
VSC	0,323		
VSI	0,037		

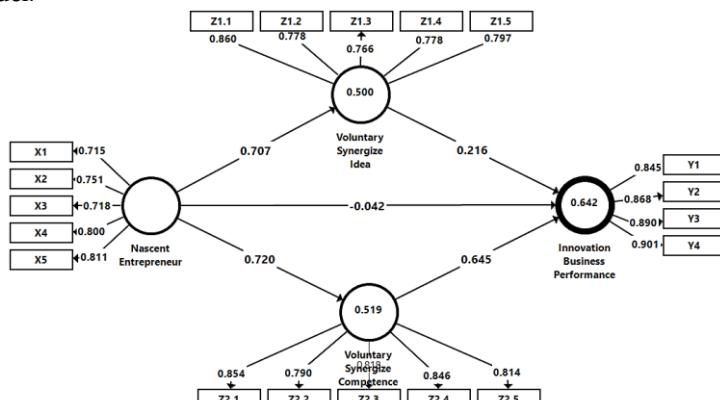
Sources: Data processed, (2024)

The hypothesis testing results using a one-tailed test showed that hypothesis H1 (NE does not significantly influence IBP) was rejected ($\beta = -0,042$, $t = 0,662$, $p = 0,508$). Hypothesis H2 (NE positively influences VSC) was accepted with $\beta = 0,72$, $t = 19,094$, $p = 0,000$. Similarly, hypothesis H3 (NE positively influences VSI) was accepted ($\beta = 0,707$, $t = 18,219$, $p = 0,000$). Hypotheses H4 and H5, which stated that VSC and VSI positively influence IBP, were also accepted with $\beta = 0,645$ and $\beta = 0,216$, respectively. Mediation hypotheses H6 and H7, stating that NE positively influences IBP through VSC and VSI, were accepted with $\beta = 0,464$ and $\beta = 0,153$. The hypothesis testing results further support the significance of VSC and VSI as mediators in the relationship between NE and IBP, highlighting the crucial role of these variables in driving business innovation performance (Table 7).

Table 7. Hypothesis Result

Hypotheses	Path	β	T Statistics	P Values	Conclusion
H1	NE \rightarrow IBP	-0,042	0,662	0,508	Rejection
H2	NE \rightarrow VSC	0,72***	19,094	0,000	Accepted
H3	NE \rightarrow VSI	0,707***	18,219	0,000	Accepted
H4	VSC \rightarrow IBP	0,645***	5,199	0,000	Accepted
H5	VSI \rightarrow IBP	0,216***	2,083	0,038	Accepted
	NE \rightarrow VSC \rightarrow				
H6	IBP	0,464***	4,800	0,000	Accepted
	NE \rightarrow VSI \rightarrow				
H7	IBP	0,153***	2,017	0,044	Accepted

Further results of the data processing in this study are shown in Figure 2 in the full structural model.

**Figure 2.** Full Structural Innovation Business Performance

Sources: Output figure PLS processed, (2024)

Discussion

The study's results align with the hypothesis that challenges faced by NE negatively impact BIP, primarily due to resource limitations and a lack of essential capabilities that hinder innovative strategies (Lu et al., 2024). This supports previous findings by Goyal and Mishra (2023b), which highlighted how entrepreneurial incompetence can obstruct innovation. However, this study also reveals that the negative impact of these challenges can be mitigated by strong social capital networks, allowing NE to leverage these networks to foster innovation (Kaciak et al., 2021). Moreover, the involvement of nascent entrepreneurs in volunteerism and Corporate Social Responsibility (CSR) activities was found to enhance BIP by building and strengthening these social networks, consistent with findings by Nguyen et al. (2021b). This contrasts with Voinea et al. (2022), who noted a decline in innovation performance during the COVID-19 pandemic, highlighting that the effectiveness of volunteerism and CSR strategies can be significantly influenced by external factors.

Theoretically, these findings expand the S-DL framework by demonstrating that value co-creation through volunteerism is essential for overcoming structural constraints, thus emphasizing the critical role of institutional support in enhancing social networks and, subsequently, innovation performance (Stephen L Vargo & Robert F Lusch, 2008). Practically, the study suggests that fostering social capital and promoting CSR initiatives among nascent entrepreneurs are key strategies for improving their innovative outcomes, especially in environments where external challenges are prevalent.

In this study, the emergence of new entrepreneurs positively impacts the VSC for MSMEs. This shows that new entrepreneurs have great potential in creating shared value through collaboration, which is crucial in the early stages of business development. This result aligns with Moonti et al. (2023), explaining that new entrepreneurs can leverage voluntary value creation to enhance knowledge resonance and innovation, despite initially having a negative correlation with business performance. Additionally, Goyal and Mishra (2023b) support these findings, showing that in developing countries like Indonesia, entrepreneurial competence and orientation are crucial for MSME competitiveness and success. This result also reflects the S-DL view, emphasizing shared value creation through collaborative processes (Lusch et al., 2007; Vargo & Lusch, 2004; Vargo & Lusch, 2008).

However, this study finds that volunteerism synergizing competences has a more significant impact on business innovation performance than previous studies. This is due to (Ng et al., 2020). perspective Koliby et al. (2022) discuss that volunteerism synergizing competences arises from a creative mindset, which in turn drives innovation. Additionally, show that innovation driven by personality traits is key to innovation success. These results indicate that entrepreneurial competences, especially among low-income entrepreneurs, can significantly enhance business innovation performance through volunteerism synergizing competences. These findings reinforce the importance of the S-DL approach in creating value from operant resources through customer interactions, ultimately improving micro small medium enterprise IBP.

In this study, nascent entrepreneurs significantly influence and have a positive effect on volunteerism synergizing ideas, which in turn positively impacts BSI. This shows that active involvement of entrepreneurs in volunteer activities creates an environment conducive to sharing ideas and innovation. This result aligns with Glińska-Newsé and Górká (2020), explaining that new entrepreneurs involved in volunteer activities develop stronger social networks and greater social capital, which are important for entrepreneurial success and innovation. This finding is also supported by Emami et al. (2023), explaining that the vision and commitment of new entrepreneurs drive positive changes and foster a culture of innovation in the entrepreneurial ecosystem. However, research by Straka (2017) shows that stakeholder participation success can be hindered by factors such as distrust and ineffective communication. This occurs due to communication and trust gaps among stakeholders. Thus, this study's findings show that the active role of new entrepreneurs in VSI successfully overcomes these obstacles by creating a collaborative environment that supports innovation.

VSI significantly and positively influences BIP by integrating social capital and knowledge sharing within collaborative innovation communities. This effect is evident in the involvement of employees and volunteers, which accelerates workforce development and distribution, thereby fostering an environment conducive to innovation and enhancing overall business performance (Ahmed et al., 2018). These findings align with those of Yoo et al. (2022) and Zhou & Wu (2021), who found that voluntary CSR initiatives significantly boost investment and innovation performance. Furthermore, nascent entrepreneurs play a crucial role in driving BIP through VSI by leveraging proactive and innovative aspects of entrepreneurial orientation, particularly as part of CSR strategy implementation. Entrepreneurial orientation not only directs innovative efforts but also improves business performance by creating a synergistic environment that is highly conducive to innovation

(Mondal et al., 2024). The value creation approach, rooted in idea exchange, can lead to the development of new products, services, and processes, ultimately enhancing overall business performance.

This is largely because active involvement in volunteer activities and collaboration enables new entrepreneurs to play an essential role in co-creating value, thereby enhancing innovation and business performance through the effective use of social capital (Lusch & Vargo, 2014). In summary, the study's findings indicate that new entrepreneurs significantly and positively influence business innovation performance through volunteerism synergizing ideas. Moreover, VSI directly contributes to BIP by integrating social capital and knowledge sharing within collaborative communities. Finally, the ability of new entrepreneurs to directly enhance BIP by leveraging proactive and innovative indicators of entrepreneurial orientation and CSR strategy implementation underscores their vital role in promoting volunteerism and collaboration, thus fostering an environment conducive to superior innovation and business performance.

5. Conclusion

This study concludes that nascent entrepreneurs play a pivotal, albeit indirect, role in improving business innovation performance through the synergy of volunteerism in ideas and competences. The research objective, which sought to examine how nascent entrepreneurs overcome financial and technological barriers, has been addressed by demonstrating the significant mediating role of volunteerism. While the direct effect of nascent entrepreneurs on innovation performance was found to be insignificant ($\beta = -0,042$, $P = 0,508$), the study revealed that VSC and VSI are critical mechanisms through which nascent entrepreneurs can build stronger networks and enhance collaboration.

These mechanisms allow them to access resources, exchange knowledge, and foster innovation, which they might not achieve independently due to resource limitations. VSC, with a positive influence ($\beta = 0,72$), strengthens trust and collaboration among stakeholders, thus enhancing access to resources crucial for innovation. Similarly, VSI ($\beta = 0,707$) accelerates the flow of ideas and knowledge-sharing, leading to better decision-making and faster innovation processes. These combined mechanisms lead to a significant improvement in business innovation performance ($\beta = 0,645$ and $\beta = 0,216$ for VSC and VSI, respectively), demonstrating the indirect but impactful contribution of nascent entrepreneurs to fostering innovation through collaborative efforts.

Theoretically, this research expands the Service-Dominant Logic (S-DL) framework by illustrating how the synergy of volunteerism in ideas and competences functions as a vital mechanism linking nascent entrepreneurs to improved business innovation performance. The theoretical contribution of this study is that the synergy of volunteerism in ideas is an essential mechanism linking nascent entrepreneurs to improved business innovation performance, aligning with the S-DL perspective on co-creating value. Implementing practical initiatives such as training and partnerships demonstrates the direct relevance of the S-DL perspective, as nascent entrepreneurs facilitate collaboration and resource exchange among various stakeholders, which is central to co-creating value within S-DL.

This study concludes that stakeholders and policymakers should prioritize volunteer initiatives to help nascent entrepreneurs overcome resource and skill limitations. Governments should focus on programs that address technological and resource barriers, such as technology training provided by volunteers from the tech industry. Additionally, governments can partner with tech companies to offer free or discounted access to essential tools and software. They can also organize networking events and business incubators connecting entrepreneurs with mentors and investors, while providing platforms for knowledge and resource sharing. For business managers, these initiatives present significant opportunities to enhance the technological skills and innovation capacity of their entrepreneurial teams through collaboration with industry experts. By leveraging volunteerism, managers can address resource limitations and build broader social networks, ultimately driving innovation within their organizations.

Partnerships with technology companies provide managers with crucial resources, enabling faster adaptation to new technologies and increasing competitiveness. Networking events and business incubators facilitate strategic connections with mentors and investors, while online platforms encourage open exchange of ideas and competences within the entrepreneurial community. When effectively implemented, these strategies can help managers across various sectors accelerate innovative processes within their organizations, fostering sustainable business growth. These volunteer-based initiatives can be generalized beyond the tech sector, making them applicable to a wide range of business environments. Promoting volunteerism not only addresses immediate entrepreneurial challenges but also

builds a strong foundation for long-term organizational resilience and competitiveness in the global marketplace.

Factors such as cultural attitudes, government policies, and access to resources vary widely and directly impact success. In some regions, strong regulatory frameworks promote innovation, while in others, bureaucratic obstacles and economic instability hinder growth. These variations create unique challenges and opportunities, making it difficult to apply the results universally without considering these factors.

This study provides valuable insights, it has several limitations that should be addressed in future research. First, the study relies on cross-sectional data, which limits its ability to capture the dynamic and evolving nature of nascent entrepreneurship and its impact on business innovation performance. Future studies should employ longitudinal methods to provide deeper insights into these relationships over time. Second, the study focuses exclusively on VSI and VSC, which, although central to the S-DL framework, do not encompass all potential external factors influencing business innovation performance. Future research should integrate variables such as financial support mechanisms, regulatory frameworks, and cultural factors to create a more comprehensive understanding of entrepreneurial success. Third, this study is context-specific to Indonesia, limiting the generalizability of the findings to other countries with different entrepreneurial ecosystems.

Comparative studies across different regions and economies could provide a broader perspective on the role of volunteerism and the S-DL framework in enhancing innovation. Finally, incorporating perspectives such as the Resource-Based View (RBV) could provide further insights into how internal and external resources, including social-digital resonance and knowledge asset management, drive innovation and entrepreneurial success.

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