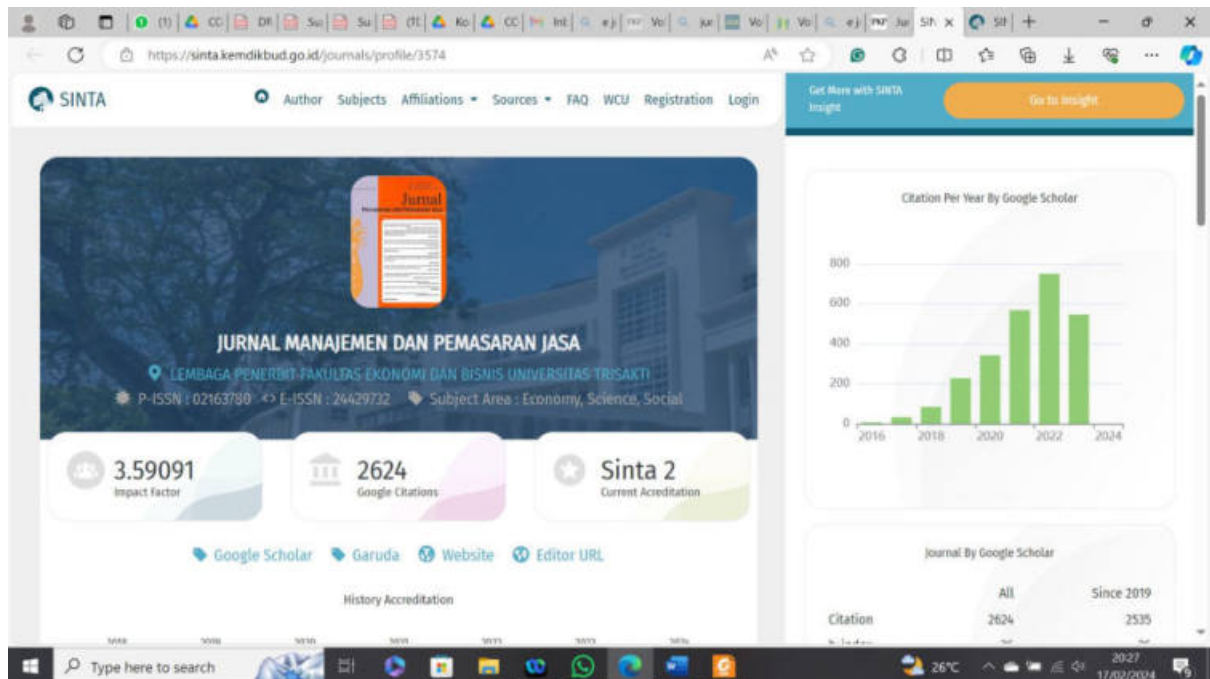


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Abstract

This study aims to develop a conceptual model framework that elucidates strategies for enhancing the performance of SMEs using a network theory approach. The novelty lies in developing a conceptual model that proposes the strength of SMEs network collaboration as an intervening variable, addressing the gap in the literature regarding the impact of relational capital on its performance. The study involves 238 SMEs in six regencies in Central Java and the Special Region of Yogyakarta, Indonesia. The majority of the proposed hypotheses are supported, indicating that relational capital, quality of value co-creation, voluntary knowledge sharing, and the strength of network collaboration significantly improve SMEs performance. The results validate the logical connection between the variables and clarify the reference theories. Additionally, the conceptual model is suitable for capturing business phenomena in the field, making it a valuable reference for SME development in Indonesia and other emerging market countries.



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Optimization of relational capital and the strength of SMEs network collaboration to improve its performance: Evidence from Indonesia

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Abstract

This study aims to develop a conceptual model framework that elucidates strategies for enhancing the performance of SMEs using a network theory approach. The novelty lies in developing a conceptual model that proposes the strength of SMEs network collaboration as an intervening variable, addressing the gap in the literature regarding the impact of relational capital on its performance. The study involves 238 SMEs in six regencies in Central Java and the Special Region of Yogyakarta, Indonesia. The majority of the proposed hypotheses are supported, indicating that relational capital, quality of value co-creation, voluntary knowledge sharing, and the strength of network collaboration significantly improve SMEs performance. The results validate the logical connection between the variables and clarify the reference theories. Additionally, the conceptual model is suitable for capturing business phenomena in the field, making it a valuable reference for SME development in Indonesia and other emerging market countries.

Keywords: SMEs performance; quality of value-co-creation; relational capital; the strength of network collaboration; and voluntary knowledge sharing.

JEL Classification: M41, M42

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INTRODUCTION

Amidst the crisis caused by the COVID-19 pandemic, all parties must endeavor to empower and strengthen the economic independence of the people. Small and medium-sized enterprises (SMEs) in Indonesia have been the most vulnerable economic groups impacted by the crisis. The pandemic-induced barriers and regulations, particularly restrictions on community activities, have adversely affected the SME sector, resulting in the closure of many businesses and their inability to adapt to changes and challenges (Juergensen, Guimón, and Narula, 2020). While expecting assistance and support from the government in the form of stimuli and facilitation, SMEs should also focus on enhancing their business capacity and capabilities to ensure economic independence, survival, and growth. The ability of SMEs to collaborate and form partnerships with diverse stakeholders is crucial for their success and management in the present era (Saputra, 2022). This will enable them to sustain their operation and accelerate and enhance business growth and performance, despite not fully recovering from the post-pandemic economic conditions.

In modern business management, optimizing relational capital through networking and collaboration has become a pivotal concern (Belitski & Mariani, 2022; Heirati & Siahtiri, 2019). Additionally, establishing partnerships with other parties in a business network has become essential to improve company performance (Chowdhury, Budhwar, Dey, Joel-Edgar, & Abadie, 2022). According to Belitski & Mariani (2022), Ma (2004), and Chowdhury et al. (2022), effective collaboration and cooperation with other parties are imperative for companies to gain a competitive edge in this era of fierce market competition.

Effective cooperation among SMEs and other parties is of utmost significance in Indonesia. Collaborating with members or associations based on mutual trust, commitment, transparency, and support can aid SMEs in achieving their business objectives (Saputra, 2022). According to Belitski and Mariani (2022), companies must establish good cooperation and effective partnership with other parties to gain a competitive advantage in the increasingly fierce market competition era.

Relational capital is a highly influential concept in inter-entity business relationships. It is defined as the strength of internal and external relationships, comprising the resources and capital owned by companies, which are extremely beneficial to business development (Abiola & Emmanuel, 2013). Furthermore, it is a critical driver of company earnings and viability (Martini, Corvino, Doni, & Rigolini, 2016; Sussan, 2012).

This study aims to investigate the inconsistencies in empirical findings regarding the impact of relational capital on SMEs performance. Several studies have explored the connection between relational capital and business performance, but their results and process relationships remain unexplained, leading to ambiguity. While some studies stated that relational capital has a positive impact on business performance (Ambrose, Marshall, & Lynch, 2010; Blonska, Storey, Rozemeijer, Wetzels, & de Ruyter, 2013; Cabrilo & Dahms, 2018; Ramírez-Solis, Llonch-Andreu, & Malpica-Romero, 2022; Retnawati & Nuryakin, 2016), others reported no such effect (Agostini, Anna, & Benedetta, 2017; Behyan, Mohamad, & Omar, 2011). Therefore, further study is required to clarify the relationship between relational capital and business performance.

This study aims to fill the existing gap by introducing a new conceptual framework that examines the relationship between SMEs performance and relational capital using the Network Theory approach. The Network Theory approach is particularly relevant as it explains why various parties are willing to cooperate and collaborate (Castells, 2011; Katz, Lazer, Arrow, & Contractor, 2004). This approach is based on several assumptions, including the rational self-interest paradigm, which suggests individuals form dyadic and group bonds to maximize their preferences and desires. Another assumption is the social exchange theory approach, which emphasizes dependence. The third assumption is based on the theory of mutual interest and collective action.

SMEs is the sector with the most actors and need special attention due to their susceptibility to macroeconomic fluctuations. Based on these conditions and characteristics it is highly relevant as a source of evidence for the empirical model developed in this study. The government can apply, replicate, or adapt the results to formulate policies and support SMEs in Indonesia. Additionally, the findings can be utilized to establish networks through communities or associations, promote partnerships and collaborations, and enhance business governance.

HYPOTHESES DEVELOPMENT

Network Theory

Networking and collaborating with multiple entities in a partnership is a crucial concern in modern business management (Chowdhury et al., 2022; Liao, Hu, & Ding, 2017). Therefore, sustainable partnerships within a robust network are necessary to enhance company performance (Chowdhury et al., 2022; Husain, Dayan, & Di Benedetto, 2016).

A network comprises actors and nodes bound by a mutually agreed model (Borgatti & Halgin, 2011). These nodes create paths that indirectly link to other nodes. The structure of the network is determined by the bonding pattern between nodes (Borgatti & Halgin, 2011). Individuals with common values and standards interact more frequently than those with different views. According to Borgatti and Halgin, the strength or weakness of social relationships and bonds influences interactions between individuals and groups. Network bonds promote cohesion among members of social groups who share the same values, norms, and goals.

There are various approaches to understanding why individuals create, maintain, terminate, and re-establish relationships within a business network. Network theory provides several basic assumptions about this phenomenon (Katz et al., 2004). First, people form dyadic and group bonds to maximize their personal preferences and desires, a concept known as the rational self-interest paradigm (James, 1990; Kotha et al., 2001; Lin, 2017). Second, there is a paradigm between the social exchange theory approach and social dependence. Naturally, various parties establish relationships with others who can exchange valuable resources. Its sustainability depends on the rewards or benefits obtained by each party (Homans, 2017). Finally, the theory of mutual interest and collective action suggests that parties with shared interests and potential benefits engage in coordinated action (Marwell & Oliver, 1993). These three assumptions elucidate why parties consider collaborating with others in a network.

Relational Capital

Relational capital is a concept that draws on the literature on Social Capital, as seen in studies by Krause, Handfield, & Tyler (2007) and Tsai & Ghoshal (1998). In the business context, the concept of social capital has been adapted and refined to become what is now known as relational capital (Chang & Gotcher, 2007). This type of social capital is embedded in business relationships (Kohtamäki, Partanen, & Möller, 2013) and consists of the intangible asset arising from developing and maintaining strong relationships with various organizations, individuals, and groups that have an impact on business performance. These may include customers, suppliers, employees, governments, partners, and other stakeholders (Falcone & Castelfranchi, 2011).

The concept of intellectual capital focuses on the ownership of knowledge and experience, professional skills, relational goals, and technological capacity. When these elements are combined synergistically, they can improve company performance (Sofian, Tayles, & Pike, 2004). In contrast, relational capital is concerned with a company's knowledge and relationships with various groups, such as communities, customers, competitors, government, and suppliers. These factors are crucial for successful operations (Fiona, 2012; Rodgers, 2003; Sveiby, 2001), as they can help to establish a perception of customer value and enhance cooperation between the company and its stakeholders.

This study aims to explore how the development of relational capital can improve the performance of SMEs, as it has been recognized by both practitioners and academics as a key driver of corporate earnings (Martini et al., 2016; Sussan, 2012). By enhancing their relational capital, SMEs can become more reliable and responsive to the dynamics of the market and better equipped to meet customer needs (Fiona, 2012). To establish a strong network, companies must have strong relational capital as a prerequisite for collaborating with other parties (Stovel & Bontis, 2002). The ability to access knowledge and respond quickly to changing circumstances is highly valuable and can lead to improved business outcomes.

The relationship between relational capital and the strength of SMEs network collaboration

Relational capital is a company asset or resource consisting of several dimensions, including trust, commitment, transparency, mutual respect, and partner interaction. These factors play a critical

role in the success of companies that engage in partnerships with their customers, as reported by studies conducted by Dario (2016) and Liu, Ghauri, & Sinkovics (2010).

For companies, maintaining ongoing partnerships is a key factor in achieving success. SMEs, in particular, can benefit from having strong relational capital, as it increases the confidence of the partners in the ability of the company to find effective solutions to any problems that arise, thereby strengthening the bonds between them (Kale, Singh, & Perlmutter, 2000). Kale et al. (2000) reported that good relational capital encourages close interaction, mutual trust, and respect between parties, leading to stronger and more meaningful relationships. This, in turn, enhances collaboration between partners in the SME association. Furthermore, high relational capital ownership can increase the enthusiasm of members in terms of partnering (Gregorio Martín de, Pedro López, & José Emilio Navas, 2004). Based on the preceding explanation, hypothesis 1 was formulated as follows

H1: Relational capital positively affects the strength of SMEs network collaboration.

Relationship between the strength of SMEs network collaboration and SMEs performance

Establishing strong collaborations between partners or SMEs associations is facilitated by mutual trust, commitment, transparency, and support, which facilitates achieving business targets (Soliman, 2011). Moreover, when various parties trust that the established business partnerships are mutually beneficial, retaining customers and improving performance becomes easier (Deborah, 2015).

Partners who remain loyal to established relationships can aid entrepreneurs in maintaining and accelerating company growth (Soliman, 2011). Moreover, another study reported that the ability of companies to collaborate in a close network and empower customers or business partners leads to improved performance (Niininen, Buhalis, & March 2007). Based on the earlier descriptions, hypothesis 2 was formulated as follows

H2: The strength of SMEs network collaboration has a positive effect on SMEs performance.

The relationship between the strength of SMEs network collaboration and the quality of value co-creation

According to Ulaga and Chacour (2001), there are three perspectives to consider when assessing value creation. This includes the perspectives of the buyers, sellers, and buyer-seller. The perspective of the buyer focuses on value creation through products and services, while that of the seller emphasizes customer equity. On the other hand, the buyer-seller perspective views value creation through networking. Gulati, Nohria, and Zaheer (2000) stated that value creation can be achieved in various ways, such as gaining access to valuable information, markets, and technologies, improving coordination, increasing transaction efficiency, and building networks between companies (networking). Furthermore, the quality of value creation can be enhanced through strong collaboration among SMEs partners who trust each other, as well as a commitment to transparency and mutual support (Soliman, 2011).

A commitment to mutual support and shared goals among partners or SMEs associations is expected to impact the quality of value creation shared positively. Based on the earlier mentioned descriptions, hypothesis 3 is formulated as follows.

H3: The strength of SMEs network collaboration has a positive effect on the quality of value co-creation

The relationship between value co-creation quality and SMEs performance

The significance of delivering superior value co-creation to consumers is widely acknowledged as a crucial aspect of achieving business success (Salem Khalifa, 2004; Sánchez-Fernández & Iniesta-Bonillo, 2006). According to several studies (Eggert, Ulaga, & Schultz, 2006; Salem Khalifa, 2004; Slater, 1997; Woodruff, 1997), creating superior customer value is a key driver of customer satisfaction, loyalty, and long-term company viability.

Töytäri and Rajala (2015) stated that the capacity of SMEs to deliver exceptional product value can impact customers' inclination to use their services, resulting in increased satisfaction and improved performance. The concept of value co-creation (Sheth & Uslay, 2007) has become increasingly relevant to traditional commercial marketing. Meanwhile, focusing on achieving results through delivering value to customers is an advantage for companies. The quality of value creation with customers can enhance the financial and non-financial performance of a company (Sheth & Uslay, 2007). Higher levels of value co-creation among SMEs partners are expected to lead to a significant improvement in SMEs performance. Based on the aforementioned descriptions, hypothesis 4 was formulated as follows.

H4: The quality of value co-creation positively affects SMEs performance.

The relationship between the strength of SMEs collaboration networks and voluntary knowledge sharing

The ability of SMEs to convince their business partners that the current partnership is a mutually beneficial collaboration will foster a passion for sharing experiences and knowledge (Menon, Bharadwaj, Phani Tej, & Edison, 1999). Meanwhile, Tajeddini, Elg, and Ghauri (2015) conceptualize marketing collaboration as the eagerness of companies to collaborate with business partners to enhance their capabilities through shared activities and knowledge.

Oly Ndubisi (2007) stated that a strong emotional connection in partnership leads to a greater willingness to share knowledge in product development, contributing to increased market expansion. Additionally, when SME partners have a stronger collaboration, there is a greater likelihood of voluntary sharing of information and knowledge. Based on these descriptions, hypothesis 5 was formulated as follows

H5 The strength of SMEs network collaboration positively affects the voluntary sharing of knowledge between partners.

The relationship between voluntary knowledge sharing and SMEs performance

The process of exchanging information, thoughts, and opinions between individuals in a business is known as knowledge sharing, and it has mutual benefits (Suppiah & Sandhu, 2011). It not only allows for the exploration of existing knowledge but also creates opportunities for generating new ones. Based on an innovation perspective, exploratory knowledge sharing is an anticipated trend in the future (Estrada, Faems, & de Faria, 2016).

Sharing information and knowledge, along with experiences of both success and failure, can be incredibly beneficial for businesses and their partners. By exchanging these insights, SMEs can directly improve their abilities and performance. Based on these descriptions

H6: Voluntary knowledge sharing among partners positively affects SMEs performance.

The mediating effect of the strength of SMEs network collaboration on the relationship between relational capital and SMEs performance.

Small and Medium-sized Enterprises (SMEs) can improve their performances significantly by leveraging relational capital. Meanwhile, relational capital refers to intangible assets such as relationships with customers, suppliers, employees, and partners. Close and strong network collaborations that empower each other, in terms of using relational capital tend to strengthen the partnership relations within the SME community. As a result, business relationships become more synergistic, committed, passionate, and mutually beneficial in the long run. This strengthening of relationships can also provide the impetus for SMEs to work together towards common goals.

By maximizing their relational capital, actors within SMEs associations can promote and enhance network collaboration, resulting in improved performance outcomes and increased business profitability. Based on these descriptions, hypothesis 7 was formulated as follows.

H7: The strength of SMEs collaborative networks plays a role in mediating the relationship between relational capital and SMEs performance

The following figure shows the empirical model designed for this study.

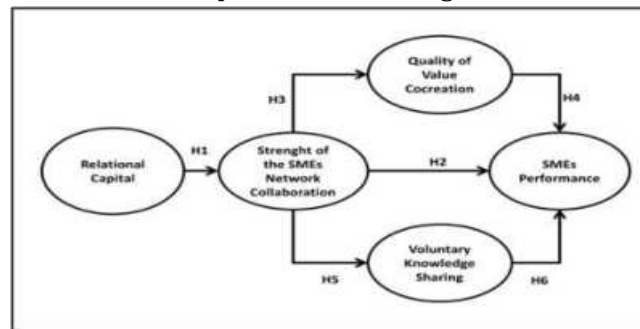


Figure 1. Research Model

METHOD

Sample and Data Collection

The study utilized structured questionnaires to collect data and employed purposive sampling to select participants. The target population consisted of SME entrepreneurs who had been members of a community or business association in their field for at least one year and were located in Central Java and the Special Region of Yogyakarta, which are known as centers of the developed SME community in Indonesia (as reported by bisnis.com). A sample size of 238 SMEs from various fields in six regencies of these provinces was determined, based on the recommendation of Hair et al., to have a sample five to 10 times the number of indicators. This sample size was deemed adequate, representative, and compatible with the analytical tools used.

Measurement

The study examines five constructs, namely relational capital, quality of value-co-creation, voluntary knowledge sharing, the strength of SMEs network collaboration, and SMEs performance. The instruments utilized were adopted or developed from previous studies to measure these constructs. The operational definitions of variables and their corresponding indicators are shown in Appendix I. Each statement item and indicator was assessed using a 10-point scale ranging from 1 to 10, indicating strong disagreement and agreement.

To assess the construction of the conceptual framework, the study utilized Structural Equation Modeling-AMOS (SEM-AMOS) for analysis. The SEM analysis involved two stages, namely, the measurement and the structural measurement models. The first stage, known as the measurement model, aimed to evaluate the validity and reliability of the instruments used to measure the variables under investigation. The findings from this assessment are shown in Table 1.

Table 1
Instrument Validity and Reliability

Variables & Indicators	Loading Factor	Convergent Validity (AVE)	Construct Reliability (CR)	Discriminant Validity
Relational Capital (RC)		0.526	0.847	0.725
Trust	0.724			
Commitment	0.759			
Transparency	0.716			
Mutual respect	0.742			
Partner interaction capability	0.684			
Quality of Value Co-creation (QVC)		0.555	0.861	0.745
Quality Dialogue or discussions between partners	0.734			
Access (Quality of access to tools required)	0.802			
Goodwill (good intentions for improvement)	0.709			
Co-development product (joint product development)	0.740			
Connection quality/partner participation	0.736			
Voluntary Knowledge Sharing (VKS)		0.562	0.837	0.750
Sharing current business knowledge between partners	0.714			
Sharing success experiences	0.812			
Sharing failure experience	0.699			
Sharing effective marketing tips	0.769			
The Strength of the SMEs Network Collaboration (SSNC)		0.534	0.851	0.731
Togetherness achieves business goals	0.736			
Mutual support between partners	0.749			
Many Benefits are obtained in partnership	0.769			
Synergize in business	0.722			
Willingness to strengthen each other	0.676			
SMEs Performance (SP)		0.524	0.815	0.724
Increase in sales volume	0.735			
Growth in the number of customers	0.765			
Expansion of sales area coverage	0.678			
Profitability Improvement	0.716			

Source: Data processed (2022)

The results presented in Table 1 indicate that all indicators demonstrate factor loading values greater than 0.5, and all careful constructs exhibit an average variance extracted (AVE) value above 0.5 m. Table 1 shows that all indicators have a factor loading and an average variance extracted (AVE) value

greater than 0.5. These findings suggest that the instrument used in the study possesses good convergent validity. The construct reliability is calculated by dividing its square by the total standard loading value plus the sum (total) error value. The recommended cut-off value of > 0.70 was surpassed by all construct reliability values, indicating the instrument had good reliability. Based on the loading factor, AVE, and CR (construct reliability) values, the instruments used are valid and reliable. Based on the loading factor, AVE, and CR values, it can be concluded that the instrument used is valid and reliable.

Discriminant validity testing was conducted to assess the extent to which different constructs are conceptually distinct (Ferdinand, 2014). The analysis involved comparing the square root value of the average variance extracted (AVE) with the correlation value between variables. This type of analysis helps to establish whether one construct is distinguishable from another. The analysis results showed that all constructs exhibited good discriminant validity values, as the square root of AVE was higher than the correlation value between them. This suggests that each concept is unique and distinct, with its own set of characteristics. In addition, these differences were adequately captured by the instrument used in the study.

RESULTS AND DISCUSSION

Results

Data Analysis

The AMOS program was used to perform Structural Equation Modeling and data analysis. In the empirical model, the relational capital (RC) was considered an exogenous variable. Meanwhile, the quality of value-co-creation (QVC), voluntary knowledge sharing (VKS), the strength of SMEs network collaboration (SSNC), and SMEs performance (SP) were regarded as endogenous variables. The following figure shows the results of the full structural model testing.

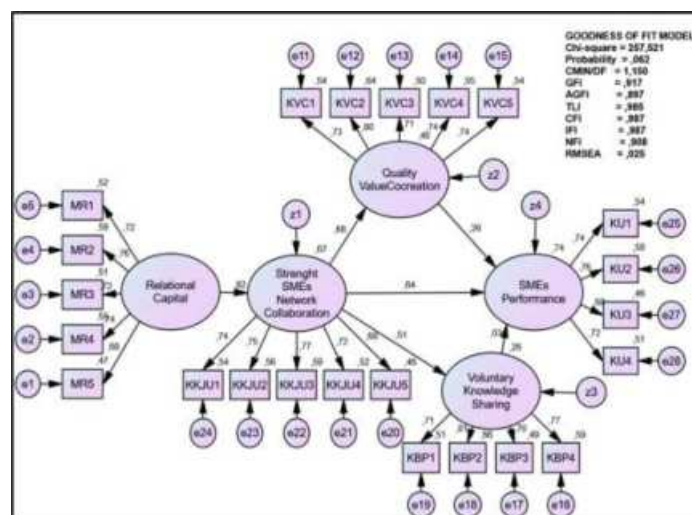


Figure 2
Structural Model Output

The goodness of fit index: Chi-square:257,621, Sig. Probability: 0,062, CMIN/DF: 1.150, GFI: 0,917, AGFI: 0,897, TLI: 0,985, CFI: 0,987, IFI: 0,987, NFI: 0,908, RMSEA: 0,025

Source: processed data (2022)

The hypothesis test is summarized in Table 2.

Table 2
Hypothesis Test

Hypothesis	Construct	Unstandardized Coefficient	Standardized Coefficient	S.E.	CR.	P	Result
H1	RC → SSNC	0.783	0.817	0.094	8.339	***	Supported
H2	SSNC → SP	0.619	0.641	0.102	6.101	***	Supported
H3	SSNC → QVC	0.677	0.680	0.087	7.803	***	Supported
H4	QVC → SP	0.257	0.265	0.080	3.215	0.001**	Supported
H5	SSNC → VKS	0.604	0.514	0.097	6.252	***	Supported
H6	VKS → SP	0.022	0.027	0.053	0.418	0.676	Not Supported
H7	RC → SSNC → SP	Z-value= 4.90494715				***	Supported

***) Significant $\leq 1\%$; **) Significant $\leq 5\%$

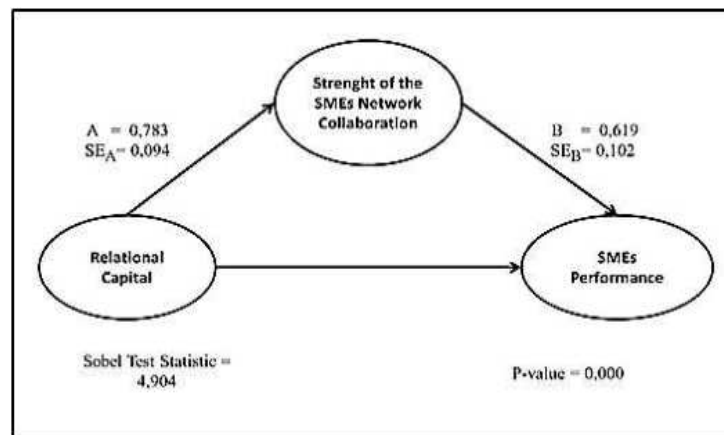
Source: processed data (2022)

Relational Capital (RC), Quality of Value Co-creation (QVC), Voluntary Knowledge Sharing (VKS), The Strength of the SMEs Network Collaboration (SSNC), SMEs Performance (SP) In Table 2, the critical ratio values for H1, H2, H3, H4, and H5 exceeded the cut-off of 1.96, with a significance probability value of less than 5%, indicating that the hypotheses were accepted. The critical ratio value for H6 was less than the cut-off, with a significance probability greater than 5%, therefore, the hypothesis was rejected. Additionally, the goodness of fit parameters of the structural model was evaluated, and all values met the feasibility requirements, showing satisfactory results. The values of Chi-square, Sig. Probability, CMIN/DF, GFI, AGFI, TLI, CFI, IFI, NFI, and RMSEA were 257,621, 0.062, 1.150, 0.917, 0.897, 0.985, 0.987, 0.987, 0.908, and 0.025, respectively. It was concluded that the developed structural model met the goodness of fit requirements.

Testing the Role of Mediating Variables

The 7th hypothesis (H7) was formulated to investigate the function of the mediating variable. The study intended to assess the contribution of the proposed construct, which tests the strength of SMEs network collaboration (SSNC) as a mediator of the relationship between the relational capital construct and SMEs performance. The primary goal of this investigation was to bridge the gap in the literature, as mentioned in the introductory section.

The study aimed to evaluate the significance of the newly proposed construct by analyzing the direct and indirect impacts of relational capital on SMEs performance. Table 2 shows a significant association between RC and SSNC, with a regression coefficient and a p-value of 0.783 and 0.000, respectively. Additionally, it was reported that SSNC had a substantial effect on SP, with a regression coefficient and a p-value of 0.619 and 0.000, respectively. A Sobel test was then conducted to determine the significance level of the indirect or mediating effect in the structural equation model (Sobel, 1982).

**Figure 3****Mediation Test Result**

Source: processed data (2022)

The results of the Sobel test indicated that the z-value was 4.90494715, and it surpassed the critical value of 1.98, with a significance level of less than 0.001. These findings provide evidence that SSNC is an important mediating variable for the connection between relational capital and SMEs performance.

Discussion

The study outcomes indicate that almost all hypotheses were supported, except for the 6th one, where voluntary knowledge sharing among SME partners does not significantly impact SME performance. This implies that although entrepreneurs are willing to exchange information, it does not enhance their business performance. The study shows that relational capital has a positive impact on the strength of SME network collaboration and indirect performance. Additionally, it effectively increases the strength of network collaboration between partnering SMEs, thereby ultimately influencing their performance (Ambrose et al., 2010; Gogan, Artene, Sarca, & Draghici, 2016; ENREF_23).

As mentioned earlier, this study aims to address the gaps and inconsistencies in empirical findings regarding the impact of relational capital on SMEs performance. The proposed conceptual model framework has successfully clarified the relationship between relational capital and SMEs performance. The mediation test results indicate partial mediation revealing that the strength of collaboration among small entrepreneurs (SSNC) directly and indirectly affects SMEs performance through relational capital. These findings highlight the importance of collaboration among small entrepreneurs in enhancing their business performance.

The results prove that the strength of SMEs network collaboration, perceived as a new concept, is significant in linking relational capital to enhanced SMEs performance. For relational capital to impact SMEs performance, collaboration among SME partners must meet certain conditions, including building a strong bond to achieve business objectives, providing tangible support, reaping numerous benefits, synergizing efforts, and mutually reinforcing each other. This condition is essential for building sustainable cooperation and aligns with the fundamental principles of network theory previously discussed (Borgatti & Halgin, 2011; Katz et al., 2004).

The utilization of network theory has proven to be relevant in explaining the basic motivations for partnerships among SMEs within an association. These natural bonds foster cohesion as members share the same values and goals. The findings also support the claims of experts that individuals and organizations are willing to form reciprocal or dyadic bonds. This aims to maximize their personal preferences and desires, engage in valuable social exchanges, and achieve goals through collective action

and common interests. These results are consistent with previous studies by Marwell and Oliver [24] (1993) and Lin [22] (2017). Moreover, optimizing relational capital can enhance the bonding and mutually reinforcing collaboration between members of the SME community.

The framework for testing the relationship between various variables has been mostly validated. The findings indicate that stronger collaboration networks lead to higher quality value co-creation, ultimately improving SMEs performance (Borgatti & Halgin, 2011; Katz et al., 2004). This is because a greater emphasis on creating shared value with partners or associations owned by SME entrepreneurs benefits their customers. The results are consistent with those of Panigyrakis and Theodoridis (Borgatti & Halgin, 2011; Katz et al., 2004). The study provides empirical evidence that SME associations should optimize their relational capital, thereby enhancing performance. Moreover, the proposed model bridges gaps in and complements prior models for explaining strategies to improve SME performance using a networking approach.

The results of the study provide effective guidance for SMEs communities or associations to improve their performance by optimizing their relational capital. This optimization can lead to an increase in sales volume, customer base, marketing reach, and product variants. Given the social and cultural context of Indonesia, where cohesive values and non-formal relationships are highly valued, SMEs should prioritize maintaining and strengthening their relationships with partners.

The accuracy and relevance of the objects as proof-of-concept media are also important. This study focuses on SMEs within a community, albeit an informal one, making its object and subject highly representative and appropriate as an empirical model.

CONCLUSION

In conclusion, this study aimed to examine a novel conceptual model that explores the impact of the strength of collaboration networks among SMEs on their performance to address gaps in the current understanding of how relational capital affects performance. Based on the result obtained, nearly all the hypotheses were supported, indicating that the strength of SMEs network collaboration has a substantial positive effect on improving their performance.

The present study offers theoretical insights into novel concepts in the field of marketing management, with a particular focus on SMEs. The findings have practical implications for policymakers, who can leverage these insights to formulate strategies and policies to enhance SME performance. Specifically, the study highlights the importance of strengthening collaboration networks among SMEs, which has been proven to be a critical factor in improving their capacity, capability, and, ultimately, performance.

A new conceptual framework for understanding the relationship between variables was presented. It aims to bridge the gap and clarify causal relationships that previous studies are yet to address. The novelty is the conceptual model framework that incorporates elements of collaboration and shared value creation to build bonds that can energize and strengthen each other. Furthermore, the network theory approach was used as the main reference for solving the study problems and explaining phenomena that occur in informal partnerships between SMEs community members, a form of non-structural networking. The model was constructed logically and coherently. The logically constructed model is expected to contribute to developing knowledge in marketing management science, particularly concerning SMEs.

The predictor variables, namely relational capital, the quality of value co-creation, and the strength of SMEs network collaboration can effectively explain the relationship pattern that leads to improved SMEs performance. Previous studies on relational capital have largely overlooked the critical role played by collaboration and shared value creation among community members, which stems from the interaction process, as well as the skills and abilities of businesspeople. The study fills a significant

gap by introducing a new conceptual model that offers valuable insights into how these variables can be leveraged to enhance SMEs performance.

In addition to its theoretical contributions, the results offer practical guidance to relevant stakeholders and SMEs in developing policies and strategic decisions related to customer management. The findings highlight the importance of strengthening partnerships to enhance performance, which can be achieved through increased capacity and capability. SMEs must focus on developing their ability and proficiency in building and optimizing relational capital, including trust, commitment, transparency, mutual respect, and partner interaction skills. These efforts aim to foster strong and mutually reinforcing network bonds with other actors as partners to improve SMEs performance.

Although the construction and design of the model were well-executed, there are several limitations and weaknesses that future studies should address. Firstly, to obtain more comprehensive results, future studies should incorporate perspectives and opinions from other relevant stakeholders. Secondly, the data collection was obtained from November 2021 to early January 2022, during which time the COVID-19 pandemic significantly impacted SMEs performance. Therefore, future studies need to consider the ongoing effects of the pandemic on SMEs.

Author contribution:

Murry Harmawan Saputra served as the first author, who developed the research topics, theory, research framework, and instruments, and performed the statistical analysis and methods.

Luki Adiati Pratomo served as the corresponding author responsible for the development and inclusion of the manuscript in the journal template, revising the article based on the reviewer.

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Optimization of relational capital and the strength of SMEs network collaboration to improve its performance: Evidence from Indonesia

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Optimization of relational capital and the strength of SMEs network collaboration to improve its performance: Evidence from Indonesia

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Abstract

This study aims to develop a conceptual model framework that elucidates strategies for enhancing the performance of SMEs using a network theory approach. The novelty lies in developing a conceptual model that proposes the strength of SMEs network collaboration as an intervening variable, addressing the gap in the literature regarding the impact of relational capital on its performance. The study involves 238 SMEs in six regencies in Central Java and the Special Region of Yogyakarta, Indonesia. The majority of the proposed hypotheses are supported, indicating that relational capital, quality of value co-creation, voluntary knowledge sharing, and the strength of network collaboration significantly improve SMEs performance. The results validate the logical connection between the variables and clarify the reference theories. Additionally, the conceptual model is suitable for capturing business phenomena in the field, making it a valuable reference for SME development in Indonesia and other emerging market countries.

Keywords: SMEs performance; quality of value-co-creation; relational capital; the strength of network collaboration; and voluntary knowledge sharing.

JEL Classification: M41, M42

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INTRODUCTION

Amidst the crisis caused by the COVID-19 pandemic, all parties must endeavor to empower and strengthen the economic independence of the people. Small and medium-sized enterprises (SMEs) in Indonesia have been the most vulnerable economic groups impacted by the crisis. The pandemic-induced barriers and regulations, particularly restrictions on community activities, have adversely affected the SME sector, resulting in the closure of many businesses and their inability to adapt to changes and challenges (Juergensen, Guimón, and Narula, 2020). While expecting assistance and support from the government in the form of stimuli and facilitation, SMEs should also focus on enhancing their business capacity and capabilities to ensure economic independence, survival, and growth. The ability of SMEs to collaborate and form partnerships with diverse stakeholders is crucial for their success and management in the present era (Saputra, 2022). This will enable them to sustain their operation and accelerate and enhance business growth and performance, despite not fully recovering from the post-pandemic economic conditions.

In modern business management, optimizing relational capital through networking and collaboration has become a pivotal concern (Belitski & Mariani, 2022; Heirati & Siahtiri, 2019). Additionally, establishing partnerships with other parties in a business network has become essential to improve company performance (Chowdhury, Budhwar, Dey, Joel-Edgar, & Abadie, 2022). According to Belitski & Mariani (2022), Ma (2004), and Chowdhury et al. (2022), effective collaboration and cooperation with other parties are imperative for companies to gain a competitive edge in this era of fierce market competition.

Effective cooperation among SMEs and other parties is of utmost significance in Indonesia. Collaborating with members or associations based on mutual trust, commitment, transparency, and support can aid SMEs in achieving their business objectives (Saputra, 2022). According to Belitski and Mariani (2022), companies must establish good cooperation and effective partnership with other parties to gain a competitive advantage in the increasingly fierce market competition era.

Relational capital is a highly influential concept in inter-entity business relationships. It is defined as the strength of internal and external relationships, comprising the resources and capital owned by companies, which are extremely beneficial to business development (Abiola & Emmanuel, 2013). Furthermore, it is a critical driver of company earnings and viability (Martini, Corvino, Doni, & Rigolini, 2016; Sussan, 2012).

This study aims to investigate the inconsistencies in empirical findings regarding the impact of relational capital on SMEs performance. Several studies have explored the connection between relational capital and business performance, but their results and process relationships remain unexplained, leading to ambiguity. While some studies stated that relational capital has a positive impact on business performance (Ambrose, Marshall, & Lynch, 2010; Blonska, Storey, Rozemeijer, Wetzels, & de Ruyter, 2013; Cabrilo & Dahms, 2018; Ramírez-Solis, Llonch-Andreu, & Malpica-Romero, 2022; Retnawati & Nuryakin, 2016), others reported no such effect (Agostini, Anna, & Benedetta, 2017; Behyan, Mohamad, & Omar, 2011). Therefore, further study is required to clarify the relationship between relational capital and business performance.

This study aims to fill the existing gap by introducing a new conceptual framework that examines the relationship between SMEs performance and relational capital using the Network Theory approach. The Network Theory approach is particularly relevant as it explains why various parties are willing to cooperate and collaborate (Castells, 2011; Katz, Lazer, Arrow, & Contractor, 2004). This approach is based on several assumptions, including the rational self-interest paradigm, which suggests individuals form dyadic and group bonds to maximize their preferences and desires. Another assumption is the social exchange theory approach, which emphasizes dependence. The third assumption is based on the theory of mutual interest and collective action.

SMEs is the sector with the most actors and need special attention due to their susceptibility to macroeconomic fluctuations. Based on these conditions and characteristics it is highly relevant as a source of evidence for the empirical model developed in this study. The government can apply, replicate, or adapt the results to formulate policies and support SMEs in Indonesia. Additionally, the findings can be utilized to establish networks through communities or associations, promote partnerships and collaborations, and enhance business governance.

HYPOTHESES DEVELOPMENT

Network Theory

Networking and collaborating with multiple entities in a partnership is a crucial concern in modern business management (Chowdhury et al., 2022; Liao, Hu, & Ding, 2017). Therefore, sustainable partnerships within a robust network are necessary to enhance company performance (Chowdhury et al., 2022; Husain, Dayan, & Di Benedetto, 2016).

A network comprises actors and nodes bound by a mutually agreed model (Borgatti & Halgin, 2011). These nodes create paths that indirectly link to other nodes. The structure of the network is determined by the bonding pattern between nodes (Borgatti & Halgin, 2011). Individuals with common values and standards interact more frequently than those with different views. According to Borgatti and Halgin, the strength or weakness of social relationships and bonds influences interactions between individuals and groups. Network bonds promote cohesion among members of social groups who share the same values, norms, and goals.

There are various approaches to understanding why individuals create, maintain, terminate, and re-establish relationships within a business network. Network theory provides several basic assumptions about this phenomenon (Katz et al., 2004). First, people form dyadic and group bonds to maximize their personal preferences and desires, a concept known as the rational self-interest paradigm (James, 1990; Kotha et al., 2001; Lin, 2017). Second, there is a paradigm between the social exchange theory approach and social dependence. Naturally, various parties establish relationships with others who can exchange valuable resources. Its sustainability depends on the rewards or benefits obtained by each party (Homans, 2017). Finally, the theory of mutual interest and collective action suggests that parties with shared interests and potential benefits engage in coordinated action (Marwell & Oliver, 1993). These three assumptions elucidate why parties consider collaborating with others in a network.

Relational Capital

Relational capital is a concept that draws on the literature on Social Capital, as seen in studies by Krause, Handfield, & Tyler (2007) and Tsai & Ghoshal (1998). In the business context, the concept of social capital has been adapted and refined to become what is now known as relational capital (Chang & Gotcher, 2007). This type of social capital is embedded in business relationships (Kohtamäki, Partanen, & Möller, 2013) and consists of the intangible asset arising from developing and maintaining strong relationships with various organizations, individuals, and groups that have an impact on business performance. These may include customers, suppliers, employees, governments, partners, and other stakeholders (Falcone & Castelfranchi, 2011).

The concept of intellectual capital focuses on the ownership of knowledge and experience, professional skills, relational goals, and technological capacity. When these elements are combined synergistically, they can improve company performance (Sofian, Tayles, & Pike, 2004). In contrast, relational capital is concerned with a company's knowledge and relationships with various groups, such as communities, customers, competitors, government, and suppliers. These factors are crucial for successful operations (Fiona, 2012; Rodgers, 2003; Sveiby, 2001), as they can help to establish a perception of customer value and enhance cooperation between the company and its stakeholders.

This study aims to explore how the development of relational capital can improve the performance of SMEs, as it has been recognized by both practitioners and academics as a key driver of corporate earnings (Martini et al., 2016; Sussan, 2012). By enhancing their relational capital, SMEs can become more reliable and responsive to the dynamics of the market and better equipped to meet customer needs (Fiona, 2012). To establish a strong network, companies must have strong relational capital as a prerequisite for collaborating with other parties (Stovel & Bontis, 2002). The ability to access knowledge and respond quickly to changing circumstances is highly valuable and can lead to improved business outcomes.

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The relationship between relational capital and the strength of SMEs network collaboration

Relational capital is a company asset or resource consisting of several dimensions, including trust, commitment, transparency, mutual respect, and partner interaction. These factors play a critical

role in the success of companies that engage in partnerships with their customers, as reported by studies conducted by Dario (2016) and Liu, Ghauri, & Sinkovics (2010).

For companies, maintaining ongoing partnerships is a key factor in achieving success. SMEs, in particular, can benefit from having strong relational capital, as it increases the confidence of the partners in the ability of the company to find effective solutions to any problems that arise, thereby strengthening the bonds between them (Kale, Singh, & Perlmutter, 2000). Kale et al. (2000) reported that good relational capital encourages close interaction, mutual trust, and respect between parties, leading to stronger and more meaningful relationships. This, in turn, enhances collaboration between partners in the SME association. Furthermore, high relational capital ownership can increase the enthusiasm of members in terms of partnering (Gregorio Martín de, Pedro López, & José Emilio Navas, 2004). Based on the preceding explanation, hypothesis 1 was formulated as follows

H1: Relational capital positively affects the strength of SMEs network collaboration.

Relationship between the strength of SMEs network collaboration and SMEs performance

Establishing strong collaborations between partners or SMEs associations is facilitated by mutual trust, commitment, transparency, and support, which facilitates achieving business targets (Soliman, 2011). Moreover, when various parties trust that the established business partnerships are mutually beneficial, retaining customers and improving performance becomes easier (Deborah, 2015).

Partners who remain loyal to established relationships can aid entrepreneurs in maintaining and accelerating company growth (Soliman, 2011). Moreover, another study reported that the ability of companies to collaborate in a close network and empower customers or business partners leads to improved performance (Niininen, Buhalis, & March 2007). Based on the earlier descriptions, hypothesis 2 was formulated as follows

H2: The strength of SMEs network collaboration has a positive effect on SMEs performance.

The relationship between the strength of SMEs network collaboration and the quality of value co-creation

According to Ulaga and Chacour (2001), there are three perspectives to consider when assessing value creation. This includes the perspectives of the buyers, sellers, and buyer-seller. The perspective of the buyer focuses on value creation through products and services, while that of the seller emphasizes customer equity. On the other hand, the buyer-seller perspective views value creation through networking. Gulati, Nohria, and Zaheer (2000) stated that value creation can be achieved in various ways, such as gaining access to valuable information, markets, and technologies, improving coordination, increasing transaction efficiency, and building networks between companies (networking). Furthermore, the quality of value creation can be enhanced through strong collaboration among SMEs partners who trust each other, as well as a commitment to transparency and mutual support (Soliman, 2011).

A commitment to mutual support and shared goals among partners or SMEs associations is expected to impact the quality of value creation shared positively. Based on the earlier mentioned descriptions, hypothesis 3 is formulated as follows.

H3: The strength of SMEs network collaboration has a positive effect on the quality of value co-creation

The relationship between value co-creation quality and SMEs performance

The significance of delivering superior value co-creation to consumers is widely acknowledged as a crucial aspect of achieving business success (Salem Khalifa, 2004; Sánchez-Fernández & Iniesta-Bonillo, 2006). According to several studies (Eggert, Ulaga, & Schultz, 2006; Salem Khalifa, 2004; Slater, 1997; Woodruff, 1997), creating superior customer value is a key driver of customer satisfaction, loyalty, and long-term company viability.

Töytäri and Rajala (2015) stated that the capacity of SMEs to deliver exceptional product value can impact customers' inclination to use their services, resulting in increased satisfaction and improved performance. The concept of value co-creation (Sheth & Uslay, 2007) has become increasingly relevant to traditional commercial marketing. Meanwhile, focusing on achieving results through delivering value to customers is an advantage for companies. The quality of value creation with customers can enhance the financial and non-financial performance of a company (Sheth & Uslay, 2007). Higher levels of value co-creation among SMEs partners are expected to lead to a significant improvement in SMEs performance. Based on the aforementioned descriptions, hypothesis 4 was formulated as follows.

H4: The quality of value co-creation positively affects SMEs performance.

The relationship between the strength of SMEs collaboration networks and voluntary knowledge sharing

The ability of SMEs to convince their business partners that the current partnership is a mutually beneficial collaboration will foster a passion for sharing experiences and knowledge (Menon, Bharadwaj, Phani Tej, & Edison, 1999). Meanwhile, Tajeddini, Elg, and Ghauri (2015) conceptualize marketing collaboration as the eagerness of companies to collaborate with business partners to enhance their capabilities through shared activities and knowledge.

Oly Ndubisi (2007) stated that a strong emotional connection in partnership leads to a greater willingness to share knowledge in product development, contributing to increased market expansion. Additionally, when SME partners have a stronger collaboration, there is a greater likelihood of voluntary sharing of information and knowledge. Based on these descriptions, hypothesis 5 was formulated as follows

H5 The strength of SMEs network collaboration positively affects the voluntary sharing of knowledge between partners.

The relationship between voluntary knowledge sharing and SMEs performance

The process of exchanging information, thoughts, and opinions between individuals in a business is known as knowledge sharing, and it has mutual benefits (Suppiah & Sandhu, 2011). It not only allows for the exploration of existing knowledge but also creates opportunities for generating new ones. Based on an innovation perspective, exploratory knowledge sharing is an anticipated trend in the future (Estrada, Faems, & de Faria, 2016).

Sharing information and knowledge, along with experiences of both success and failure, can be incredibly beneficial for businesses and their partners. By exchanging these insights, SMEs can directly improve their abilities and performance. Based on these descriptions

H6: Voluntary knowledge sharing among partners positively affects SMEs performance.

The mediating effect of the strength of SMEs network collaboration on the relationship between relational capital and SMEs performance.

Small and Medium-sized Enterprises (SMEs) can improve their performances significantly by leveraging relational capital. Meanwhile, relational capital refers to intangible assets such as relationships with customers, suppliers, employees, and partners. Close and strong network collaborations that empower each other, in terms of using relational capital tend to strengthen the partnership relations within the SME community. As a result, business relationships become more synergistic, committed, passionate, and mutually beneficial in the long run. This strengthening of relationships can also provide the impetus for SMEs to work together towards common goals.

By maximizing their relational capital, actors within SMEs associations can promote and enhance network collaboration, resulting in improved performance outcomes and increased business profitability. Based on these descriptions, hypothesis 7 was formulated as follows.

H7: The strength of SMEs collaborative networks plays a role in mediating the relationship between relational capital and SMEs performance

The following figure shows the empirical model designed for this study.

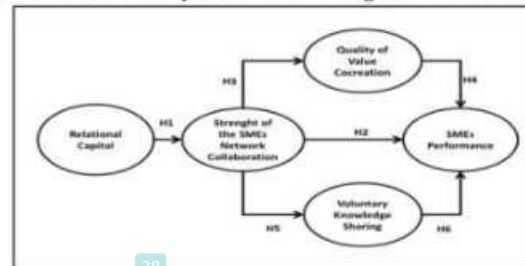


Figure 1. Research Model

METHOD

Sample and Data Collection

The study utilized structured questionnaires to collect data and employed purposive sampling to select participants. The target population consisted of SME entrepreneurs who had been members of a community or business association in their field for at least one year and were located in Central Java and the Special Region of Yogyakarta, which are known as centers of the developed SME community in Indonesia (as reported by bisnis.com). A sample size of 238 SMEs from various fields in six regencies of these provinces was determined, based on the recommendation of Hair et al., to have a sample five to 10 times the number of indicators. This sample size was deemed adequate, representative, and compatible with the analytical tools used.

Measurement

The study examines five constructs, namely relational capital, quality of value-co-creation, voluntary knowledge sharing, the strength of SMEs network collaboration, and SMEs performance. The instruments utilized were adopted or developed from previous studies to measure these constructs. The operational definitions of variables and their corresponding indicators are shown in Appendix I. Each statement item and indicator was assessed using a 10-point scale ranging from 1 to 10, indicating strong disagreement and agreement.

To assess the construction of the conceptual framework, the study utilized Structural Equation Modeling-AMOS (SEM-AMOS) for analysis. The SEM analysis involved two stages, namely, the measurement and the structural measurement models. The first stage, known as the measurement model, aimed to evaluate the validity and reliability of the instruments used to measure the variables under investigation. The findings from this assessment are shown in Table 1.

Table 1
Instrument Validity and Reliability

Variables & Indicators	Loading Factor	Convergent Validity (AVE)	Construct Reliability (CR)	Discriminant Validity
Relational Capital (RC)		0.526	0.847	0.725
Trust	0.724			
Commitment	0.759			
Transparency	0.716			
Mutual respect	0.742			
Partner interaction capability	0.684			
Quality of Value Co-creation (QVC)		0.555	0.861	0.745
Quality Dialogue or discussions between partners	0.734			
Access (Quality of access to tools required)	0.802			
Goodwill (good intentions for improvement)	0.709			
Co-development product (joint product development)	0.740			
Connection quality/partner participation	0.736			
Voluntary Knowledge Sharing (VKS)		0.562	0.837	0.750
Sharing current business knowledge between partners	0.714			
Sharing success experiences	0.812			
Sharing failure experience	0.699			
Sharing effective marketing tips	0.769			
The Strength of the SMEs Network Collaboration (SSNC)		0.534	0.851	0.731
Togetherness achieves business goals	0.736			
Mutual support between partners	0.749			
Many Benefits are obtained in partnership	0.769			
Synergize in business	0.722			
Willingness to strengthen each other	0.676			
SMEs Performance (SP)		0.524	0.815	0.724
Increase in sales volume	0.735			
Growth in the number of customers	0.765			
Expansion of sales area coverage	0.678			
Profitability Improvement	0.716			

Source: Data processed (2022)

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The results presented in Table 1 indicate that all indicators demonstrate factor loading values greater than 0.5, and all careful constructs exhibit an average variance extracted (AVE) value above 0.5 m. Table 1 shows that all indicators have a factor loading and an average variance extracted (AVE) value

greater than 0.5. These findings suggest that the instrument used in the study possesses good convergent validity. The construct reliability is calculated by dividing its square by the total standard loading value plus the sum (total) error value. The recommended cut-off value of >0.70 was surpassed by all construct reliability values, indicating the instrument had good reliability. Based on the loading factor, AVE, and CR (construct reliability) values, the instruments used are valid and reliable. Based on the loading factor, AVE, and CR values, it can be concluded that the instrument used is valid and reliable.

Discriminant validity testing was conducted to assess the extent to which different constructs are conceptually distinct (Ferdinand, 2014). The analysis involved comparing the square root value of the average variance extracted (AVE) with the correlation value between variables. This type of analysis helps to establish whether one construct is distinguishable from another. The analysis results showed that all constructs exhibited good discriminant validity values, as the square root of AVE was higher than the correlation value between them. This suggests that each concept is unique and distinct, with its own set of characteristics. In addition, these differences were adequately captured by the instrument used in the study.

RESULTS AND DISCUSSION

Results

Data Analysis

The AMOS program was used to perform Structural Equation Modeling and data analysis. In the empirical model, the relational capital (RC) was considered an exogenous variable. Meanwhile, the quality of value-co-creation (QVC), voluntary knowledge sharing (VKS), the strength of SMEs network collaboration (SSNC), and SMEs performance (SP) were regarded as endogenous variables. The following figure shows the results of the full structural model testing.

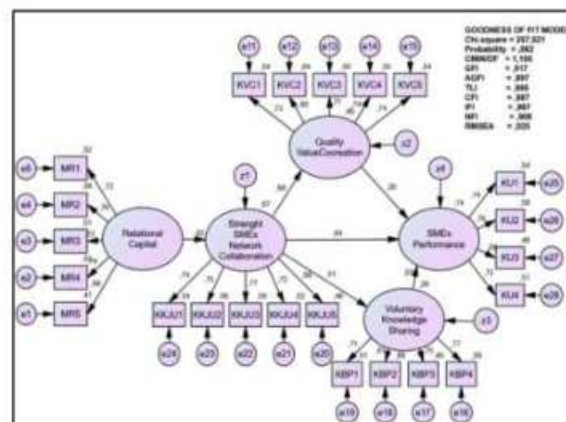


Figure 2
Structural Model Output

The goodness of fit index: Chi-square:257,621, Sig. Probability: 0,062, CMIN/DF: 1.150, GFI: 0,917, AGFI: 0,897, TLI: 0,985, CFI: 0,987, IFI: 0,987, NFI: 0,908, RMSEA: 0,025

Source: processed data (2022)

The hypothesis test is summarized in Table 2.

Table 2
Hypothesis Test

Hypothesis	Construct	Unstandardized Coefficient	Standardized Coefficient	S.E.	CR.	P	Result
H1	RC → SSNC	0.783	0.817	0.094	8.339	***	Supported
H2	SSNC → SP	0.619	0.641	0.102	6.101	***	Supported
H3	SSNC → QVC	0.677	0.680	0.087	7.803	***	Supported
H4	QVC → SP	0.257	0.265	0.080	3.215	0.001**	Supported
H5	SSNC → VKS	0.604	0.514	0.097	6.252	***	Supported
H6	VKS → SP	0.022	0.027	0.053	0.418	0.676	Not Supported
H7	RC → SSNC → SP	Z-value = 4.90494715				***	Supported

***) Significant ≤1% ; **) Significant ≤5%

Source: processed data (2022)

Relational Capital (RC), Quality of Value Co-creation (QVC), Voluntary Knowledge Sharing (VKS), The Strength of the SMEs Network Collaboration (SSNC), SMEs Performance (SP). In Table 2, the critical ratio values for H1, H2, H3, H4, and H5 exceeded the cut-off of 1.96, with a significance probability value of less than 5%, indicating that the hypotheses were accepted. The critical ratio value for H6 was less than the cut-off, with a significance probability greater than 5%, therefore, the hypothesis was rejected. Additionally, the goodness of fit parameters of the structural model was evaluated, and all values met the feasibility requirements, showing satisfactory results. The values of Chi-square, Sig. Probability, CMIN/DF, GFI, AGFI, TLI, CFI, IFI, NFI, and RMSEA were 257,621, 0.062, 1.150, 0.917, 0.897, 0.985, 0.987, 0.987, 0.908, and 0.025, respectively. It was concluded that the developed structural model met the goodness of fit requirements.

Testing the Role of Mediating Variables

The 7th hypothesis (H7) was formulated to investigate the function of the mediating variable. The study intended to assess the contribution of the proposed construct, which tests the strength of SMEs network collaboration (SSNC) as a mediator of the relationship between the relational capital construct and SMEs performance. The primary goal of this investigation was to bridge the gap in the literature, as mentioned in the introductory section.

The study aimed to evaluate the significance of the newly proposed construct by analyzing the direct and indirect impacts of relational capital on SMEs performance. Table 2 shows a significant association between RC and SSNC, with a regression coefficient and a p-value of 0.783 and 0.000, respectively. Additionally, it was reported that SSNC had a substantial effect on SP, with a regression coefficient and a p-value of 0.619 and 0.000, respectively. A Sobel test was then conducted to determine the significance level of the indirect or mediating effect in the structural equation model (Sobel, 1982).

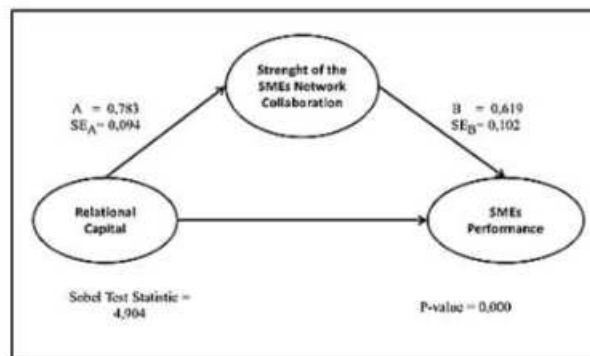


Figure 3
Mediation Test Result
Source: processed data (2022)

The results of the Sobel test indicated that the z-value was 4.90494715, and it surpassed the critical value of 1.98, with a significance level of less than 0.001. These findings provide evidence that SSNC is an important mediating variable for the connection between relational capital and SMEs performance.

Discussion

The study outcomes indicate that almost all hypotheses were supported, except for the 6th one, where voluntary knowledge sharing among SME partners does not significantly impact SME performance. This implies that although entrepreneurs are willing to exchange information, it does not enhance their business performance. The study shows that relational capital has a positive impact on the strength of SME network collaboration and indirect performance. Additionally, it effectively increases the strength of network collaboration between partnering SMEs, thereby ultimately influencing their performance (Ambrose et al., 2010; Gogan, Artene, Sarca, & Draghici, 2016; ENREF_23).

As mentioned earlier, this study aims to address the gaps and inconsistencies in empirical findings regarding the impact of relational capital on SMEs performance. The proposed conceptual model framework has successfully clarified the relationship between relational capital and SMEs performance. The mediation test results indicate partial mediation revealing that the strength of collaboration among small entrepreneurs (SSNC) directly and indirectly affects SMEs performance through relational capital. These findings highlight the importance of collaboration among small entrepreneurs in enhancing their business performance.

The results prove that the strength of SMEs network collaboration, perceived as a new concept, is significant in linking relational capital to enhanced SMEs performance. For relational capital to impact SMEs performance, collaboration among SME partners must meet certain conditions, including building a strong bond to achieve business objectives, providing tangible support, reaping numerous benefits, synergizing efforts, and mutually reinforcing each other. This condition is essential for building sustainable cooperation and aligns with the fundamental principles of network theory previously discussed (Borgatti & Halgin, 2011; Katz et al., 2004).

The utilization of network theory has proven to be relevant in explaining the basic motivations for partnerships among SMEs within an association. These natural bonds foster cohesion as members share the same values and goals. The findings also support the claims of experts that individuals and organizations are willing to form reciprocal or dyadic bonds. This aims to maximize their personal preferences and desires, engage in valuable social exchanges, and achieve goals through collective action.

and common interests. These results are consistent with previous studies by Marwell and Oliver [24] (1993) and Lin [22] (2017). Moreover, optimizing relational capital can enhance the bonding and mutually reinforcing collaboration between members of the SME community.

The framework for testing the relationship between various variables has been mostly validated. The findings indicate that stronger collaboration networks lead to higher quality value co-creation, ultimately improving SMEs performance (Borgatti & Halgin, 2011; Katz et al., 2004). This is because a greater emphasis on creating shared value with partners or associations owned by SME entrepreneurs benefits their customers. The results are consistent with those of Panigyrakis and Theodoridis (Borgatti & Halgin, 2011; Katz et al., 2004). The study provides empirical evidence that SME associations should optimize their relational capital, thereby enhancing performance. Moreover, the proposed model bridges gaps in and complements prior models for explaining strategies to improve SME performance using a networking approach.

The results of the study provide effective guidance for SMEs communities or associations to improve their performance by optimizing their relational capital. This optimization can lead to an increase in sales volume, customer base, marketing reach, and product variants. Given the social and cultural context of Indonesia, where cohesive values and non-formal relationships are highly valued, SMEs should prioritize maintaining and strengthening their relationships with partners.

The accuracy and relevance of the objects as proof-of-concept media are also important. This study focuses on SMEs within a community, albeit an informal one, making its object and subject highly representative and appropriate as an empirical model.

CONCLUSION

In conclusion, this study aimed to examine a novel conceptual model that explores the impact of the strength of collaboration networks among SMEs on their performance to address gaps in the current understanding of how relational capital affects performance. Based on the result obtained, nearly all the hypotheses were supported, indicating that the strength of SMEs network collaboration has a substantial positive effect on improving their performance.

The present study offers theoretical insights into novel concepts in the field of marketing management, with a particular focus on SMEs. The findings have practical implications for policymakers, who can leverage these insights to formulate strategies and policies to enhance SME performance. Specifically, the study highlights the importance of strengthening collaboration networks among SMEs, which has been proven to be a critical factor in improving their capacity, capability, and, ultimately, performance.

A new conceptual framework for understanding the relationship between variables was presented. It aims to bridge the gap and clarify causal relationships that previous studies are yet to address. The novelty is the conceptual model framework that incorporates elements of collaboration and shared value creation to build bonds that can energize and strengthen each other. Furthermore, the network theory approach was used as the main reference for solving the study problems and explaining phenomena that occur in informal partnerships between SMEs community members, a form of non-structural networking. The model was constructed logically and coherently. The logically constructed model is expected to contribute to developing knowledge in marketing management science, particularly concerning SMEs.

The predictor variables, namely relational capital, the quality of value co-creation, and the strength of SMEs network collaboration can effectively explain the relationship pattern that leads to improved SMEs performance. Previous studies on relational capital have largely overlooked the critical role played by collaboration and shared value creation among community members, which stems from the interaction process, as well as the skills and abilities of businesspeople. The study fills a significant

gap by introducing a new conceptual model that offers valuable insights into how these variables can be leveraged to enhance SMEs performance.

In addition to its theoretical contributions, the results offer practical guidance to relevant stakeholders and SMEs in developing policies and strategic decisions related to customer management. The findings highlight the importance of strengthening partnerships to enhance performance, which can be achieved through increased capacity and capability. SMEs must focus on developing their ability and proficiency in building and optimizing relational capital, including trust, commitment, transparency, mutual respect, and partner interaction skills. These efforts aim to foster strong and mutually reinforcing network bonds with other actors as partners to improve SMEs performance.

Although the construction and design of the model were well-executed, there are several limitations and weaknesses that future studies should address. Firstly, to obtain more comprehensive results, future studies should incorporate perspectives and opinions from other relevant stakeholders. Secondly, the data collection was obtained from November 2021 to early January 2022, during which time the COVID-19 pandemic significantly impacted SMEs performance. Therefore, future studies need to consider the ongoing effects of the pandemic on SMEs.

Author contribution:

Murry Harmawan Saputra served as the first author, who developed the research topics, theory, research framework, and instruments, and performed the statistical analysis and methods.

Luki Adiati Pratomo served as the corresponding author responsible for the development and inclusion of the manuscript in the journal template, revising the article based on the reviewer.

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