

# COMPETITIVE SOCIAL CAPITAL IN IMPROVING THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES (SMES): ROLE OF KNOWLEDGE DONATING AND KNOWLEDGE COLLECTING

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## Abstract

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The primary aim of this research is to investigate and establish the significance of competitive social capital in augmenting the performance of craft (batik) small and medium-sized enterprises (SMES) in the region of Central Java, Indonesia. This study centers its attention on the factors that influence knowledge donation and knowledge collection. The quantitative methodology used structural equation modelling with partial least squares (SEM-PLS). Participants were recruited from craft (batik) SMES in the cities of Semarang, Pekalongan, Kudus, Pati and Solo through an online questionnaire. The study's results suggest that engaging in knowledge donation and knowledge collecting has a positive and statistically significant influence on the competitive social capital and performance of SMES. Both the processes of knowledge donation and knowledge collection are key elements in the construction and utilization of a resilient social network, which subsequently has positive impacts on performance. Moreover, it is important to acknowledge that competitive social capital might serve as a mediator in the causal relationship between knowledge donation, knowledge collecting, and business performance. This suggests that the existence of competitive social capital functions as a mechanism for linking the facilitation of knowledge donating and knowledge collecting, ultimately resulting in the development of business performance.

**Keywords:** Knowledge Donation, Knowledge Collecting, SMES Performance, Competitive Social Capital

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## 1. INTRODUCTION

Numerous nations owe a great deal to the contributions of small and medium-sized enterprises (SMEs), which have been crucial in areas such as economic growth, job creation, and technological advancement (Kamar et al., 2022). In the context of a rapidly evolving and interconnected business landscape, SMEs are confronted with the imperative of maintaining competitiveness and ensuring their survival and expansion by ongoing adaptation to change (Ausat et al., 2022). To attain this objective, the acquisition of pertinent knowledge and the cultivation of robust relationships with stakeholders are progressively assuming greater significance.

The notion of competitive social capital has garnered growing interest as a determinant that might facilitate the achievement and expansion of SMEs. Competitive social capital refers to an enterprise's capacity to leverage relationships, networks, and interactions with diverse stakeholders within its business ecosystem to attain a competitive edge (Annamalah et al., 2023). Within this particular framework, two notable notions that emerge are "knowledge donation" and "knowledge collection", both of which have the potential to enhance the formation of competitive social capital and the performance of SMEs.

The concept of knowledge donation pertains to the capacity of a corporation to disseminate knowledge, expertise, or information to external parties without anticipating immediate reciprocation (Fayyaz et al., 2021). The aforementioned statement demonstrates a proactive approach toward making valuable contributions to the broader business community. This, in turn, has the potential to enhance networks and foster stronger ties within the business ecosystem. In contrast, the process of knowledge acquisition entails the systematic endeavors of an organization to accumulate information from diverse external sources, encompassing business alliances, research establishments, and the broader business milieu. According to Zahra et al. (2000), the acquisition of knowledge collection skills empowers organizations to effectively navigate market fluctuations and optimize their utilization of emerging prospects.

Prior studies have investigated the effects of knowledge donation and knowledge acquisition on SME performance, specifically about competitive social capital. Nahapiet and Ghoshal (1998) examined the interplay between social capital and intellectual capital within an organizational setting. The authors suggest that social capital, encompassing interconnected networks of relationships and shared social standards, might serve as the fundamental basis for intellectual capital. Three dimensions of social capital were discovered, including relational embeddedness, structural gaps, and cognitive social capital. This study posits that organizations that engage in knowledge donation exhibit enhanced social capital (Nahapiet & Ghoshal, 1998). Through the dissemination of knowledge, firms can broaden their network of connections with external stakeholders, while simultaneously cultivating a favorable reputation and fostering trust within these partnerships. This phenomenon leads to the augmentation of competitive social capital, wherein organizations can exploit robust relationships to acquire important resources, information, and opportunities.

Knowledge donation has a significant effect on innovation capability (Xie et al., 2021). It is only natural for coworkers to pool their knowledge and skills for the benefit of the company as a whole. Through the spread of fresh information and the development of novel processes and products, knowledge sharing/donating can boost the capacity of organizations for innovation (Aghion et al., 2023). Sharing new knowledge with colleagues without being asked or receiving new knowledge from colleagues without asking is a natural thing to find new ideas and try new methods of operation. In addition, knowledge donating is not always a positive predictor for competitive social capital aspects such as individual and organizational innovation attitudes. Knowledge donation outside the organization has an insignificant effect on exploitative innovation, exploratory innovation, and ambidextrous innovation (Kamaşak & Bulutlar, 2010). Information and communications technology-based knowledge donation does not affect new ideas generation innovation.

Nevertheless, the importance of the above studies confirms that they provide a strong conceptual foundation on how knowledge-donating practices can shape competitive social capital in an organization. Although this research focuses more on large organizations, the concepts can be applied to SMEs that also have an interest in building positive relationships and contributing to their business ecosystem through knowledge donation.

Furthermore, Lin and Lee (2005) investigated the factors that influence the adoption of e-business by companies. One of the variables under investigation pertained to the impact of knowledge acquisition on a firm's capacity to effectively adapt and make informed decisions about the adoption of novel technologies, such as e-business. According to this study, businesses that possess efficient knowledge acquisition practices are more likely to possess robust competitive social capital. Organizations can establish extensive and profound networks of interactions by acquiring knowledge from many external sources, including commercial partners, research institutes, and adjacent sectors. This practice can facilitate firms in acquiring pertinent information, market trends, and novel prospects that may otherwise remain inaccessible if they simply depend on internal expertise. Within the scope of this study, knowledge pooling is regarded as a variant of competitive social capital, as the capacity to acquire and employ external knowledge emerges as a valued resource in the realm of commercial rivalry. Organizations can enhance their competitiveness and performance by establishing robust networks of contacts and leveraging external knowledge, enabling them to promptly and accurately adapt to market fluctuations (Cenamor et al., 2019).

According to Phelps et al. (2012), it has been observed that in certain situations, the excessive accumulation of information can impede the cultivation of competitive social capital inside companies. The authors contend that an excessive emphasis on acquiring knowledge from external sources has the potential to undermine internal mechanisms of knowledge generation and collaborative efforts. In the context of this study, excessive knowledge collecting might lead to an imbalance between internal and external knowledge.

The results of various previous studies discussed above have highlighted the importance of knowledge donating and knowledge sharing to competitive social capital. However, there is still a knowledge gap in understanding how knowledge donating and knowledge collecting interact with competitive social capital and their contribution to SME performance. On the other hand, there are still inconsistent findings when discussing the predictors of increasing competitive social capital through the key variables of this study between knowledge donating and knowledge collecting. Therefore, the purpose of this study is to analyze the effect of knowledge donating and knowledge collecting on the formation of competitive social capital and its implications for SME performance with different models, concepts, and locations.

Globally, competitive social capital plays a crucial role in SME performance. It facilitates access to resources and information that impact a firm's competitiveness and growth. Strong relationships with stakeholders like customers, suppliers, business partners, and international research institutions provide access to the latest technology, specialized expertise, and new market opportunities (He et al., 2020). Competitive social capital enables global collaboration, enhancing innovation by merging diverse perspectives and expertise (Fu et al., 2022). Sharing knowledge, collaborating on product development, and participating in joint research projects boost innovation and global market adaptation. SMEs can expand their global market reach through cross-border relationships and collaborations, entering foreign markets, building international brands, and reaching a broader customer base. This reduces the risk of relying solely on domestic markets with potential fluctuations.

From the previous explanation, global economic growth depends on SMEs. Numerous SMEs can boost employment, income, and economic sustainability (Hernita et al., 2021). Improved SME performance can boost national and global economic stability. Innovation is often associated with SMEs. SME success can boost industrial development and worldwide competitiveness by creating new products, services, and ideas (Prasanna et al., 2019). Due to resource and income variety, a strong SME sector can also make the economy more resilient to external shocks. Good SME performance inspires global entrepreneurship and creativity. This can allow young people to start businesses, innovate, and boost the global economy.

In the context of SMEs, Indonesia stands out for its significant contribution to the sector, especially in developing countries. Indonesia boasts the highest number of SMEs among the Association of Southeast Asian Nations (ASEAN) member countries (Ahdia, 2022). In 2021, Indonesia had approximately 65.46 million micro-, small and medium enterprises (MSMEs), a number notably higher than its neighboring ASEAN nations, including Thailand, Malaysia, the Philippines, Vietnam, Cambodia, Singapore, Laos, and Myanmar (Ahdia, 2022). Indonesian MSMEs made substantial contributions to the country's economy in 2021. They employed 97% of the labor force, contributed 60.3% to the gross domestic product (GDP), and accounted for 14.4% of the country's total exports. Notably, Indonesia had the highest labor absorption

rate among ASEAN member countries, ranging from 35% to 85% in neighboring nations. However, in terms of performance, Indonesian MSMEs lag behind Myanmar, which contributed 69.3% to its local GDP. Indonesia's export contribution also falls behind Singapore, Thailand, Myanmar, and Vietnam, with Singapore's MSMEs contributing 38.3%, Thailand with 28.7%, Myanmar with 23.7%, and Vietnam with 18.7%. To enhance its national MSMEs, the Indonesian government is prioritizing digitalization policies as one approach.

As of February 4, 2021, according to a report by the Ministry of Industry (Rizaty, 2023), there were 2,951 companies engaged in batik in Indonesia. The Java region dominates the number of batik companies in the country, reaching 2,631 companies or around 89.15% of the total batik companies. Data from the Centre for Handicrafts and Batik (BBKB) of the Ministry of Industry shows that in 2021 there were 208 batik industry units on a large-medium scale, while in 2018 the number of batik businesses on a micro-small and medium scale reached 2,951 units. Central Java is the province with the largest number of batik companies across Indonesia, reaching a total of 2,191 companies. East Java province takes second place with 176 companies, while Bali has 183 batik companies (Rizaty, 2023). As the province with the largest number of batik companies, batik export entrepreneurs in Central Java and surrounding areas organized a knowledge-sharing session in the form of a focus group discussion (FGD). The purpose of this FGD is to increase the capacity and competence of SMEs to become experts in exports, coordinate all stakeholders in the Batik export ecosystem, and improve the quality of human resources that have high competitiveness, especially batik SMEs in Central Java.

According to Ahmad and Karim (2019), internal knowledge sharing allows employees to share expertise, which benefits the company. They also noted that four primary aspects affect an organization's internal knowledge-sharing process: 1) knowledge type, 2) incentive to share, 3) opportunity to share, and 4) work environment culture. Further, Alyafie and Al-Mubarak (2016) identified hurdles to internal knowledge exchange among Central Java batik SMEs' employees. Internal hurdles include: 1) limited market research and analysis, 2) human resource management, 3) financial constraints, and 4) pricing strategy issues (Chen et al., 2023). That is, knowledge-sharing restrictions hinder innovation. Thus, firms, particularly batik SMEs, profit by simultaneously participating in competitive and cooperative relationships and harnessing the synergies (Kossyva et al., 2014). SMEs need competitive human resources to boost productivity, performance, and adaptability (Ausat & Suherlan, 2021). The group's SMEs' competitive capacities affect worldwide business competition. However, SMEs without social capital are less competitive under rising competition. Many SMEs have high transaction costs, minimal industry collaboration, and low use of government assistance agencies and business groups (Ozigi, 2018).

SME owners, especially in the batik sector, rarely consider their target consumers, what products they like, and their business's future in their traditional business operations, which lack a strategic plan for learning and collaborating with other SMEs to improve performance. So, throughout

the COVID-19 economic crisis, they were mute and waited for what would happen without improving. SMEs must understand changes in the environment, customer tastes, and social capital networks during the COVID-19 pandemic (Yasa et al., 2020). Building strong intellectual and practical links with important partners would help batik SMEs in Central Java stretch and surf during disruption. This will give them commercial resiliency and allow them to compete with comparable or different items.

Thus, in addition to the above statement of research objectives, the research question can be formulated as follows:

*RQ1: Does knowledge donating and knowledge collecting influence competitive social capital and performance improvement in SMEs?*

In the present context, the term “competitive social capital” pertains to the reservoir of social resources that can be used to improve the competitiveness of SMEs in the market. Within a collaborative network, SMEs have the opportunity to engage in information sharing, exchange experiences, and develop skills collectively. This collaborative environment fosters the establishment of robust commercial partnerships and enhances the competitive standing of these SMEs within the market. Moreover, it is widely considered that the cultivation of competitive social capital might enhance the ability of SMEs to expand their reach into wider markets, secure financial resources, and obtain government assistance. SMEs have the potential to strengthen their position within the supply chain and improve their access to vital resources, including money, technology, and market experience, through the development of strong relationships with customers, suppliers, and other business partners. Hence, the notion of “competitive social capital” has surfaced as a prospective mechanism to facilitate cooperative learning inside SMEs, and to enhance the performance of batik SMEs.

The remaining sections of the article are structured as follows. Section 2 provides a review of the relevant literature. Section 3 analyses the methodology used to conduct the empirical research on the topic of this study. Section 4 outlines the study results, followed by Section 5 with a discussion of the study results. Section 6 presents the conclusion of the study, some recommendations for future research and limitations of the study. This study is expected to be a scientific work with broad benefits.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. Theoretical foundation

#### 2.1.1. Social capital theory

The authors use the social capital theory to analyse the research topic, a widely supported framework in academic fields such as business administration, sociology, economics, and political science. This theory explains how interactions within social networks generate social capital, influencing outcomes like organizational performance. Initially developed by sociologists, including Bourdieu et al. (1992), it emphasizes the interconnectedness of relationships,

social norms, and trust in society. Social capital theory helps understand knowledge sharing, collection, competitive social capital, and SME success. It highlights that organizations, especially SMEs, benefit from access to resources, information, and opportunities through social interactions and networks. Active participation in knowledge exchange can enhance a form of competitive social capital, improving access to strategic opportunities and information, and thus, influencing organizational performance. Therefore, social capital theory is often used as a conceptual framework in empirical research to explore the impact of social relationships on competitive social capital and SME performance in a complex, globalized business environment.

#### 2.1.2. Knowledge donating

Knowledge donation involves sharing knowledge, information, skills, experience, or resources without expecting direct financial compensation (Bratianu, 2015). It promotes a collaborative mindset for personal improvement, community development, and healthy relationships (Obrenovic et al., 2020). Key indicators in this study for knowledge donation include:

1. Understanding of collaborative advantage: Recognizing that sharing knowledge fosters collaborative relationships and mutual growth.
2. Ability to network: Building valuable connections for broader perspectives and opportunities.
3. Willingness to share resources: A disposition to selflessly contribute knowledge, information, time, or skills.
4. Effective communication skills: The ability to communicate knowledge coherently and compellingly.
5. Understanding of community needs: comprehending community challenges and tailoring knowledge donation to provide valuable solutions.

Knowledge donation cultivates a positive reputation, strengthens social capital, and enhances performance across various domains. It's about more than sharing facts; it's about building relationships and fostering cooperation within a group or organization.

#### 2.1.3. Knowledge collecting

Knowledge collection involves acquiring and aggregating knowledge, information, data, or resources from diverse sources (Abubakar et al., 2019). The goal is to enhance understanding, proficiency, and adaptability by accessing knowledge beyond one's immediate environment. In business and personal growth, knowledge acquisition means continually seeking and retrieving relevant information from various outlets, such as publications, research, workshops, and interactions within the industry or community. Key indicators in this study for knowledge collection include:

1. Understanding the industry and market: Comprehending industry dynamics, market trends, and customer demands.
2. Ability to gather information: Proficiency in searching, organizing, and accessing data from various sources.
3. Understanding technology and innovation: Understanding technological advancements and innovations to stay connected and seize opportunities.

4. Ability to establish relationships: Establishing connections with knowledgeable individuals or institutions for expanded networks and specialized information.

5. Willingness to learn and evolve: A mindset focused on continuous learning and personal growth in a rapidly changing environment.

Knowledge collection is essential for identifying opportunities, overcoming challenges, making informed decisions, acquiring new skills, expanding social connections, and advancing in various domains, including business, academia, and personal growth.

#### 2.1.4. Competitive social capital

Competitive social capital refers to an individual or organization's network of social connections that can provide a competitive advantage in a business context (Liu, 2017). It focuses on the quality and depth of these connections, granting access to resources, information, and opportunities that may be otherwise inaccessible. Competitive social capital involves strategically using social networks to achieve corporate objectives, expand, and improve overall performance (Xie et al., 2021). This study employs several measures to explain competitive social capital, including:

1. Engagement in business networks: Building and maintaining strong relationships with industry stakeholders, facilitating learning, expanding customer bases, and forming partnerships.

2. Leadership skills: Effective leadership influences network members' decisions and outcomes, fostering a positive public image, committed team members, and successful collaborations.

3. Understanding of local culture: Awareness of cultural dynamics aids in building enduring and mutually beneficial connections, avoiding misinterpretations, and fostering stronger interpersonal relationships.

4. Community relations: A positive association with the local community can influence an individual or organization's reputation, achieved through knowledge sharing, social services, or philanthropic contributions.

5. Effective communication skills: Proficiency in conveying ideas, persuading others, and active listening enhances interpersonal connections and information flow.

In today's complex, globalized business landscape, competitive social capital is a valuable resource. Establishing strong, mutually beneficial connections within social networks provides improved access to opportunities, information, and resources, significantly impacting the performance and success of individuals and organizations in competitive economic environments (Ahlquist & Downey, 2023).

#### 2.1.5. SMEs performance

Small and medium-sized enterprise's performance assesses the achievements of SMEs across various dimensions (Rodrigues et al., 2021). It encompasses financial and operational indicators, as well as the business's impact on the environment and society (Ausat et al., 2022). Key performance indicators in this study include:

1. Sales turnover: Measures total revenue from product or service exchanges, reflecting market success.

2. Profit: Evaluates net revenue after expenses, indicating cost control and sales effectiveness.

3. Growth rate: Considers revenue, customer base expansion, and market penetration, showing business strategy effectiveness.

4. Market share: Quantifies market presence in a specific industry or segment, illustrating competitiveness.

5. Customer satisfaction: Gauges meeting customer needs, affecting retention and referrals.

6. Innovation: Reflects the capacity to introduce novel products, services, or approaches.

7. Cost efficiency: Assesses operational cost management without compromising quality.

8. Sustainability level: Measures environmental and social responsibility practices, indicating long-term sustainability.

SME performance is crucial for evaluating the success and impact of these enterprises, offering insights for business owners and stakeholders to identify strengths, opportunities, and areas for improvement.

## 2.2. The relationship between variables: Hypotheses development

Knowledge sharing involves transferring knowledge from one person to another (Dysvik et al., 2015). Knowledge donating is when SME owners actively communicate with colleagues, although resistance can occur due to factors like reluctance to change or not recognizing the benefits (Dube & Ngulube, 2012). Knowledge donating positively impacts SMEs' competitive social capital, which involves mobilizing resources through strong social relationships and networks (Kim et al., 2020). Actively participating in knowledge donation activities can help SMEs expand their social networks and access resources like capital, materials, and new markets. However, the impact of knowledge donating also depends on SMEs' ability to manage and utilize the knowledge effectively, requiring adequate managerial capabilities and resources. The study's hypothesis is as follows:

*H1: Knowledge donating has a significant effect on competitive social capital.*

SMEs often view their professional experience as personal wealth and competitive advantage (Akhavan et al., 2012). Knowledge sharing can be divided into knowledge donation and knowledge acquisition (van den Hooff & de Ridder, 2004). Knowledge collection involves encouraging fellow members to share their knowledge. However, tangible rewards may not be effective for SME owners driven by intrinsic motivation. Knowledge collection aids SMEs in decision-making and building wider networks with customers, suppliers, and partners. Strengthening relationships with these stakeholders enhances access to resources and information, improving business performance (Ausat & Peirisal, 2021). In summary, knowledge collection boosts SMEs' competitive social capital and overall performance. The study's hypothesis is as follows:

*H2: Knowledge collecting has a significant effect on competitive social capital.*

A performance measurement system is crucial for SMEs as it provides essential information to set, control, and achieve their goals (Mahmudova & Katonáné Kovács, 2018). Strong social relationships

with other businesses help SMEs stay informed about market trends and needs, enabling more informed decision-making (Dwivedi et al., 2021). Furthermore, these relationships grant access to diverse resources like raw materials, technology, and capital (Ridwan Maksum et al., 2020). Additionally, fostering good social relations among peers in the same sector can enhance brand reputation and market competitiveness (Marolt et al., 2022). In summary, competitive social capital positively impacts SME performance by expanding access to information and resources while enhancing brand reputation and market competitiveness. Therefore, SME owners should prioritize building strong and mutually beneficial social relationships with other business actors. The study's hypothesis is as follows:

*H3: Competitive social capital has a significant effect on the performance of small and medium-sized enterprises.*

Knowledge donation and innovation are vital for organizational success and competitiveness. Product and process innovation significantly impact business success. Knowledge donating enhances organizational performance (Mohsen Allameh et al., 2014). It also improves innovation and competitive advantage, especially for technology-driven companies (Lin & Chen, 2008). In this context, knowledge donating involves batik SMEs in Central Java sharing knowledge and experience with various stakeholders, including customers, suppliers, and the local business community. This practice enhances innovation and creativity, as feedback and suggestions from others help in developing new ideas and improving products or services. This, in turn, can boost batik SMEs' performance, including expansion, profitability, and customer satisfaction. It's crucial to note that the impact of knowledge donation depends on SMEs' ability to effectively manage and utilize the acquired knowledge. Therefore, batik SMEs in Central Java must possess adequate managerial skills and resources to make the most of their knowledge and experience. The study's hypothesis is as follows:

*H4: Knowledge donating has a significant effect on small and medium-sized enterprise performance.*

Knowledge collecting can help businesses gain new knowledge about batik products, the latest fashion trends, and more efficient production technologies and techniques (Raya et al., 2021). In addition, by understanding market trends and demands, businesses can produce products that are more relevant and attractive to their customers (Farida & Setiawan, 2022). Businesses should take appropriate actions based on the knowledge they acquire, such as improving labor skills or adopting new technologies. That is, knowledge collecting can help Batik businesses in Central Java to improve

their performance and competitiveness in the market. The last hypothesis proposed in this study is as follows:

*H5: Knowledge collecting has a significant effect on the performance of small and medium-sized enterprises.*

### 3. RESEARCH METHODOLOGY

This study employs quantitative methodology to gather numerical and statistical data based on empirical, objective, measurable, rational, and systematic approaches (Igwenagu, 2016). It focuses on knowledge donation, knowledge collection, competitive social capital, and SME performance. The study uses social capital theory to understand how knowledge sharing, gathering, and relationship building can influence competitive social capital and firm performance, especially for SMEs. These constructs can help SMEs in Central Java enhance consumer interest and adapt to evolving business concepts. This is achieved through active participation in business group discussions and the implementation of knowledge donation and collection.

The study focuses on SMEs in Central Java, particularly in districts/cities like Semarang, Pekalongan, Solo, Kudus, and Pati. The sample size of 176 respondents was determined to represent the batik SMEs in proportion to their presence in each region. The research examines the impact of knowledge donation and acquisition on competitive social capital and performance. To calculate the sample size, we used a formula suggested by Ferdinand (2005), which ranges from 5 to 10 times the number of indicators. With 23 indicators, the sample size could range from a minimum of 115 to a maximum of 230 respondents. After data validation and selection, 156 respondents were eligible for analysis, meeting the required range of sample size.

An online Likert-scale survey was conducted among batik SMEs in five districts from April to May 2023, resulting in 187 initial respondents. After excluding 31 respondents who did not meet the study's requirements, the final sample size was 156 SMEs. Table 1 provides an overview of the surveyed SMEs' characteristics. The study employed the partial least square structural equation model (PLS-SEM) as it can effectively handle complex models with multiple constructs and reflective indicators, known for its causal-predictive capabilities (Hair et al., 2019). The PLS-SEM analysis involved two stages: 1) confirmatory factor analysis (CFA) and 2) structural path analysis models, using Smart-PLS version-4 (Hair et al., 2021).

**Table 1.** SMEs criteria

| <i>Enterprises scale</i> | <i>Asset</i>                 | <i>Revenue</i>                | <i>Number of employees</i> |
|--------------------------|------------------------------|-------------------------------|----------------------------|
| Small enterprises        | > Rp50-Rp500 million         | > Rp300 million-Rp2.5 billion | 5-19 people                |
| Medium enterprises       | > Rp500 million-Rp10 billion | > Rp2.5 billion-50 billion    | 20-99 people               |

Note: Rp — Indonesian Rupiah (IDR) is the national currency of Indonesia.

## 4. RESULTS

### 4.1. Outer model evaluation

Confirmatory factor analysis in this study is used to evaluate the outer model with reflective indicators,

i.e., the indicators reflect the constructs they measure (Hair et al., 2011; Coltman et al., 2008). CFA testing includes three stages: 1) convergent validity, 2) construct reliability, and 3) discriminant validity. Convergent validity refers to the extent to which the reflective indicators tested correlate strongly and contribute

to the construct being measured. Convergent validity is tested through factor loading assessment. The calculation results in Table 2 show that the construct indicators have a loading factor value of at least 0.710 and meet the minimum limit of 0.7 (Chin, 2010). By the statement of Hair et al. (2021), the loading factor value above 0.7 indicates good convergent validity. Construct reliability testing is intended to see the internal consistency of

the measuring instrument. Construct reliability in this study was tested using Cronbach alpha above 0.7, composite reliability (CR) > 0.7, and average variance extracted (AVE) > 0.5 (Nunnally, 1994; Hair et al., 2019). The results of testing the reliability of the construct in Table 2 obtained Cronbach's alpha, construct reliability, and AVE have been above the cut-off value so that they have met the reliability criteria.

**Table 2.** Outer model evaluation

| Indicator variables and items              | Code | Factor loadings | Cronbach's alpha | CR    | AVE   |
|--|------|-----------------|------------------|-------|-------|
| <b>Knowledge donating</b>                  |      |                 |                  |       |       |
| Understanding of collaborative advantage   | KD1  | 0.761           | 0.819            | 0.873 | 0.579 |
| Ability to network                         | KD2  | 0.797           |                  |       |       |
| Willingness to share resources             | KD3  | 0.766           |                  |       |       |
| Effective communication skills             | KD4  | 0.736           |                  |       |       |
| Understanding of community needs           | KD5  | 0.745           |                  |       |       |
| <b>Knowledge collecting</b>                |      |                 |                  |       |       |
| Understanding of industry and market       | KC1  | 0.714           | 0.802            | 0.860 | 0.552 |
| Ability to gather information              | KC2  | 0.745           |                  |       |       |
| Understanding of technology and innovation | KC3  | 0.801           |                  |       |       |
| Ability to establish relationships         | KC4  | 0.722           |                  |       |       |
| Willingness to learn and grow              | KC5  | 0.729           |                  |       |       |
| <b>Competitive social capital</b>          |      |                 |                  |       |       |
| Engagement in business networking          | CSC1 | 0.864           | 0.895            | 0.922 | 0.705 |
| Leadership skills                          | CSC2 | 0.739           |                  |       |       |
| Understanding of local culture             | CSC3 | 0.860           |                  |       |       |
| Community relationships                    | CSC4 | 0.854           |                  |       |       |
| Effective communication skills             | CSC5 | 0.872           |                  |       |       |
| <b>SME performance</b>                     |      |                 |                  |       |       |
| Sales turnover                             | SP1  | 0.753           | 0.891            | 0.913 | 0.568 |
| Profit                                     | SP2  | 0.798           |                  |       |       |
| Growth rate                                | SP3  | 0.789           |                  |       |       |
| Market share                               | SP4  | 0.734           |                  |       |       |
| Customer satisfaction                      | SP5  | 0.796           |                  |       |       |
| Cost efficiency                            | SP6  | 0.709           |                  |       |       |
| Innovation                                 | SP7  | 0.714           |                  |       |       |
| Sustainability level                       | SP8  | 0.730           |                  |       |       |

Source: Authors' elaboration.

Discriminant validity testing is intended to validate that reflective indicators differ from each other and reflect the construct being measured (Ab Hamid et al., 2017). Discriminant validity is measured by applying two criteria: 1) the heterotrait-monotrait ratio of correlations (HTMT) (Henseler et al., 2015) and the Fornell-Larcker criterion (Hair et al., 2011). The square root of the AVE should be higher than the correlation between one construct and other construct items.

**Table 3.** Discriminant validity

| Constructs                       | KD           | KC           | CSC          | SP           |
|----------------------------------|--------------|--------------|--------------|--------------|
| Knowledge donating (KD)          | <b>0.761</b> | 0.754        | 0.531        | 0.558        |
| Knowledge collecting (KC)        | 0.629        | <b>0.743</b> | 0.476        | 0.565        |
| Competitive social capital (CSC) | 0.467        | 0.457        | <b>0.839</b> | 0.564        |
| SME performance (SP)             | 0.482        | 0.496        | 0.515        | <b>0.754</b> |

Based on Table 3 on discriminant validity, the HTMT value is smaller than 0.90, which means it meets the recommended requirements (Henseler et al., 2015). Further results explain the square root of the AVE on the diagonal line is greater than the correlation between the constructs, which means that this research model has fulfilled discriminant validity (Hair et al., 2019).

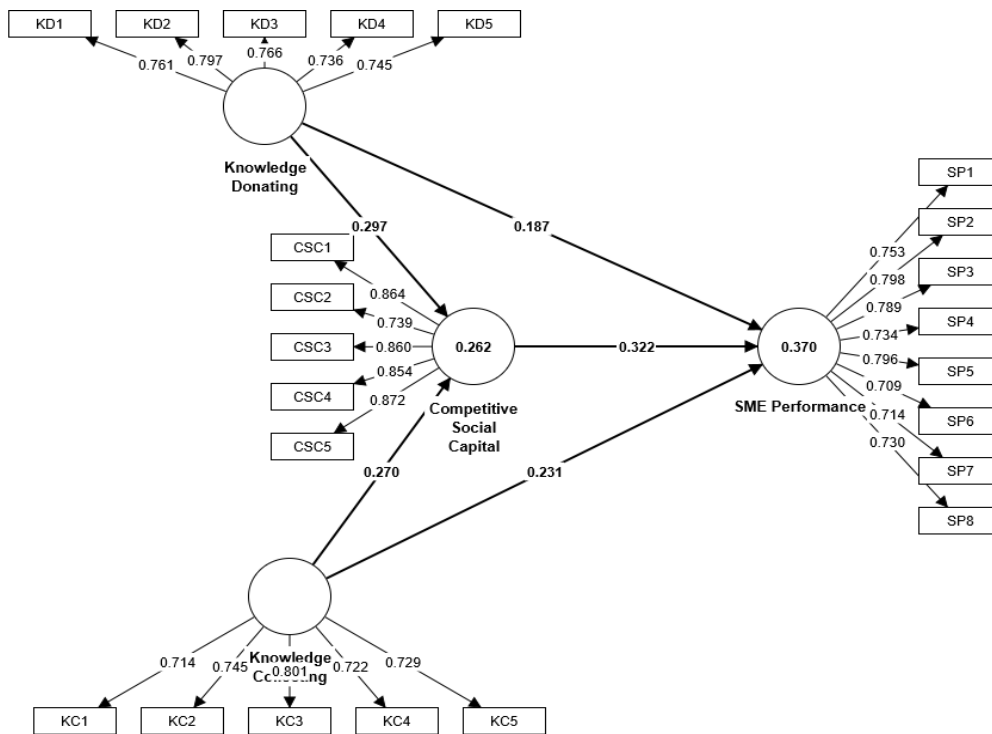
## 4.2. Inner model evaluation

Confirmatory factor analysis results confirmed that construct validity and reliability had been met. Therefore, the analysis continued with the structural model to analyse the causal relationship. The calculation results are graphically described in Figure 1.

This study first looked at whether there was collinearity between variables as one of the requirements of variance-based SEM. The VIF < 3 approach is used for vertical and lateral collinearity assessment in PLS-SEM. The test results in Table 4 obtained the largest VIF value is 2.729 still below 3, so there is no evidence of collinearity (Hair et al., 2021). Furthermore, the causal relationship between the model construction in the study is explained by the coefficient of determination ( $R^2$ ) shown in Table 5.

Based on Table 5, it is known that the  $R^2$  value is 0.278, which means that the variance explained in the competitive social capital construct is 27.8%. The next  $R^2$  value is 0.370, indicating the ability of knowledge donating, knowledge collecting, and competitive social capital to explain the performance of SMEs by 37.0%, including medium criteria (Chin, 1998). Similarly, the results of the f-square ( $f^2$ ) calculation in Table 6 show a medium effect size with a value of  $f^2 < 0.15$  (Cohen, 2013).

Figure 1. Causality relationship of PLS-SEM research



Source: Authors' elaboration.

Table 4. Collinearity testing

| Variables                  | Indicators    | VIF             |
|----------------------------|---------------|-----------------|
| Knowledge donating         | KD1 ... KD5   | 1.550 ... 2.617 |
| Knowledge collecting       | KC1 ... KC5   | 1.269 ... 2.379 |
| Competitive social capital | CSC1 ... CSC5 | 1.774 ... 2.729 |
| SMEs performance           | SP1 ... SP8   | 1.655 ... 2.252 |

Table 5. Coefficient of determination (R<sup>2</sup>)

| Variable                   | R-squared | Adj. R-square |
|----------------------------|-----------|---------------|
| Competitive social capital | 0.278     | 0.253         |
| SMEs performance           | 0.370     | 0.358         |

Table 6. F-square (f<sup>2</sup>)

| Factor                     | Competitive social capital | SMEs performance |
|----------------------------|----------------------------|------------------|
| Knowledge donating         | 0.072                      | 0.031            |
| Knowledge collecting       | 0.060                      | 0.048            |
| Competitive social capital |                            | 0.121            |

PLS-SEM analysis uses various measures of model fit for PLS-SEM including standardised root mean square residual (SRMR), and normed fit index (NFI). The cut-off value of these criteria is with a threshold of SRMR < 0.08 and NFI > 0.90 (Schuberth et al., 2018). However, the NFI measure is not absolute so the value below is still acceptable (Dash & Paul, 2021). The calculation results as shown

in Table 7 show that the SRMR value of 0.078 < 0.08 and NFI of 0.776 is close to 0.9, indicating that the structural model fits the empirical data (Dash & Paul, 2021).

Table 7. Model fit

| No. | Criteria | Saturated model |
|-----|----------|-----------------|
| 1   | SRMR     | 0.078           |
| 2   | NFI      | 0.776           |

This study uses the bootstrapping method, which is a nonparametric procedure for path coefficients and tests the statistical significance of various path analyses (Hair et al., 2021). In the calculation, the initial sample before strict screening according to research criteria in this study was repeated to a large number of 5,000 to ensure the stability of the results. The calculation results are shown in Table 8. Based on the calculation results, it is known that the effect of knowledge donating on competitive social capital has a positive estimate of 0.297, a statistical t-value of 3.565 > 1.96, and a p-value of 0.000 < 0.05. Based on this value, H1 is accepted. Similarly, the results of testing H2, H3, H4, and H5 in Table 8 also show a positive relationship with a t-value/statistic above 1.96, or p-values below 0.05 so that it can be declared accepted.

Table 8. Direct effect

| Relationship                                      | Path coefficient | t-statistics | p-value | Decision    |
|---|------------------|--------------|---------|-------------|
| Knowledge donating → Competitive social capital   | 0.297            | 3.565        | 0.000   | H1 accepted |
| Knowledge collecting → competitive social capital | 0.270            | 2.888        | 0.004   | H2 accepted |
| Knowledge donating → SME performance              | 0.187            | 2.491        | 0.013   | H3 accepted |
| Knowledge collecting → SME performance            | 0.231            | 2.806        | 0.005   | H4 accepted |
| Competitive social capital → SME performance      | 0.322            | 3.965        | 0.000   | H5 accepted |

Source: Authors' elaboration.



The results of the PLS-SEM algorithm and the bootstrap procedure also obtained the indirect effect value as a test of the mediation role.

Smart-PLS results on the indirect effect in Table 9 obtained a p-value below the cut-off of 0.05.

**Table 9.** Indirect effect

| <i>Indirect Relationship</i>   | <i>Path coefficient</i> | <i>t-statistics</i> | <i>p-value</i> |
|--|-------------------------|---------------------|----------------|
| <i>Knowledge donating → Competitive social capital → SME performance</i>   | 0.096                   | 2.606               | 0.009          |
| <i>Knowledge collecting → Competitive social capital → SME performance</i> | 0.087                   | 2.338               | 0.019          |

Source: Authors' elaboration.

## 5. DISCUSSION

The findings in Tables 8 and 9 are crucial to this study's generalisation and authenticity. *H1* suggests that knowledge donation boosts competitive social capital significantly. This supports prior findings that these two factors are closely related (Tran Pham, 2022). This boosts Central Java batik SMEs' social network value. SMEs build beneficial social networks by sharing knowledge and skills with other entrepreneurs. SMEs' contributions to accurate and relevant information make them a trusted source for network members. It boosts the SME's network value, influence, and access to possibilities that might not have emerged otherwise. Knowledge donation also helps SMEs establish expertise. Community members recognise SMEs who continuously give important and in-depth information. This expert status allows for collaboration, idea-sharing, and field-related activities. Knowledge donation significantly boosts SMEs' competitive social capital (Setini et al., 2021). Knowledge donation is linked to competitive social capital, according to social capital theory. Social capital theory emphasises the value of interpersonal connections and social networks for support, knowledge, and opportunity (Bhandari & Yasunobu, 2009). Strong social connections, trust, reputation, and access to information or opportunities are linked. Knowledge donation is crucial to building, improving, and optimising competitive social capital in this cycle. Knowledge sharing strengthens social networks and provides personal rewards. Thus, knowledge donation is linked to competitive social capital in social capital theory.

Knowledge collecting increases competitive social capital. The use of social networks to attain competitive aims is competitive social capital. This study supports the prior findings by Mayasari and Chandra (2020). By actively seeking information, Central Java SMEs may develop their skills. This atmosphere allows learning through reading, researching, conferences, and expert interviews. The subject's breadth and depth allow for useful contributions in various competitive contexts. SMEs also appreciate knowledge acquisition for analytical and problem-solving skills. In competitive settings requiring quick decisions, this competency is crucial. Knowledge acquisition increases competitive social capital (Hilmawati et al., 2023). This technique increases SMEs' analytical and knowledge skills. It also builds beneficial networks, boosts social worth, and builds credibility to promote competitiveness. Knowledge and competitive social capital are related, according to social capital theory. Social capital highlights how social interactions and networks help organisations gain resources, information, and opportunities (Seibert et al., 2001). This theory states that knowledge collection promotes social networks,

information, support, and collaboration. Competitive social capital increases access to firm-supporting resources and opportunities.

*H3* posits that there exists a statistically significant and positive correlation between knowledge donation and the performance of SMEs. This discovery aligns with previous research that presents analogous findings (Wuryaningrat, 2013). One plausible rationale for this observation is that SMEs have recognized the potential benefits of knowledge and experience sharing, as it can catalyze fostering innovation and creativity inside their organizations. The act of knowledge donation can result in the acquisition of novel information and perspectives, which in turn can foster innovative thinking, uncover untapped possibilities, and facilitate the generation of inventive resolutions to business-related obstacles. These technological advancements possess the capacity to enhance competitiveness and confer a competitive edge. Furthermore, the dissemination of knowledge through knowledge donation can contribute to the enhancement of the quality of products and services offered by SMEs. Access to knowledge regarding best practices, cutting-edge technology, and impactful marketing tactics can significantly enhance the ability of SMEs to enhance the value proposition they offer to their clients. Better quality can strengthen a business's reputation and expand market share. Knowledge donation has a positive and significant influence on the performance of SMEs (Samir, 2020). From the perspective of social capital theory, there is a significant correlation between knowledge donation and SME performance. The social capital theory highlights how social relationships and networks influence business performance. In the findings of this hypothesis, knowledge donating serves as a mechanism to build strong social networks, enhance reputation, gain access to information and opportunities, and increase collaboration in the business environment. All of these have an impact on improving SMEs' performance. Therefore, there is a strong correlation between knowledge donation and SME performance from the perspective of social capital theory.

*H4* calculation shows that knowledge collecting improves SMEs' performance. Previous studies found comparable results (Setiyono et al., 2022). This may be because batik SMEs in Central Java realised that actively acquiring knowledge from numerous sources helps increase and enrich their knowledge base. SME owners and managers may make better decisions with more detailed and diverse knowledge. Information on industry trends, best practices, and market shifts can improve corporate plans. Knowledge collection also promotes analytical skills. SMEs can learn business analysis by reviewing and synthesising information from diverse sources. This helps identify opportunities and obstacles and

create successful company action plans. Knowledge acquisition boosts SME performance (Sijabat, 2022). According to social capital theory, knowledge collection improves decision-making, innovation, social networks, and information gathering. All of these help SMEs overcome business obstacles and seize opportunities. Social capital theory shows a strong link between knowledge gathering and SME performance.

H5 suggests that competitive social capital improves SMEs' performance significantly. This reflects recent findings that these two variables are closely related (Ozigi, 2018). This may be because batik SMEs in Central Java have realized that a robust and diverse social network may provide resources and information they cannot get along. Access to industry expertise, market trends, business possibilities, and growth tools is also available through extensive networks. Strong social networks enable industry collaboration and partnerships. Business partners may help SMEs extend their reach, develop collaborative products, and enter new markets by sharing ideas, knowledge, and resources. Competitive social capital can also assist SMEs gain a good reputation in business. Good relationships with company partners, consumers, and other stakeholders boost business image and trust. Having a good reputation can attract and retain customers (Subagja et al., 2023). Competitive social capital improves SME performance significantly (Rahmawati et al., 2021).

The indirect impact calculation in Table 9 shows that competitive social capital can mediate the causal association between knowledge-donating and knowledge-collecting and SME performance. Competitive social capital links knowledge donation and collection to SME performance. Strong competitive social capital allows SMEs to use their social networks to get the resources, information, and support they need to succeed (Ausat et al., 2023). Therefore, this study shows how these factors combine to influence Indonesian batik SMEs.

## 6. CONCLUSION

Knowledge donating and knowledge collecting have a positive and significant influence on competitive social capital and the performance of batik SMEs in Central Java. Both knowledge donating and knowledge collecting play an important role in building and utilizing a strong social network, which in turn has a positive impact on SMEs' performance. In a competitive and dynamic business era, the ability to share knowledge and gather information from various sources becomes a key factor in achieving success in SMEs. Knowledge donating and knowledge collecting have an integral role in forming strong competitive social capital and improving SME

performance. This condition has been realized by 156 batik SMEs in Central Java. In addition, competitive social capital can mediate the causal relationship between the constructs of knowledge donating and knowledge collecting with the construct of SME performance. This means that competitive social capital acts as a connecting mechanism between increasing knowledge donating and knowledge collecting and improving SME performance. The correlation between knowledge donating, knowledge collecting, competitive social capital, and SME performance in the perspective of social capital theory shows how interaction and utilization of strong social networks can influence business success. The development of positive relationships, the enhancement of knowledge through interaction, and the utilization of networks for competitive purposes, all form an ecosystem that influences how SMEs achieve their business goals in a complex environment.

The limitation of this study is that respondents only came from the districts/cities of Semarang, Pekalongan, Solo, Kudus, and Pati using purposive sampling. Central Java Province consists of 29 regencies and 6 cities. Therefore, future researchers who have an interest in knowledge donating and knowledge collecting and the importance of discussing aspects of competitive social capital are advised to enlarge the sample area so that these findings can be more generalized. Future research also needs to involve factors such as knowledge management so that entrepreneurs can map the knowledge gained from social interactions carefully and ideally for the survival of their business, especially during a crisis.

The results of this study are important. Batik SMEs in Central Java need to improve knowledge exchange and social networks to enhance performance. Entrepreneurs and business owners should realise the importance of information exchange and social networks in business success, encouraging investment in knowledge management. The government needs to support the SME environment with knowledge exchange, networking, and capacity building. Further research is needed to understand the relationship between information exchange, social capital and SME success. Industry and support organisations can assist SMEs in knowledge sharing and collaboration. Investors and financial institutions should consider competitive social capital in the assessment of investments or loans for SMEs. In conclusion, stakeholders can use knowledge exchange, social capital, and SME performance to support batik SMEs' success in Central Java and other regions. Extending research and initiatives to new locations and aspects may improve the understanding of these processes.

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