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The Discriminatory Impact of Social Media on Supplier and Customer Relationship Management in Manufacturing SMEs

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Abstract

Background: Social media has become an essential part of human life, not only for information sharing and communication but also for effective business strategies.

Objective: This study examines social media as a strategic tool for improving supplier relationship management (SRM) and customer relationship management (CRM) in manufacturing SMEs, focusing on how digital platforms foster trust, communication, and collaboration with business partners.

Methods: This study involved 124 manufacturing SMEs located in the former Surakarta Residency area. After data collection, the relationships among the investigated variables were analyzed using a quantitative approach with structural equation modeling–partial least squares (SEM-PLS).

Results: The results of this study show that social media does not necessarily contribute to improving supplier relationship management between small businesses and suppliers. The relationship between small businesses and customers is stronger than that between small businesses and suppliers, and no significant correlation was found between small businesses and suppliers in relation to customer satisfaction. These results are expected to make a positive contribution not only to small businesses, manufacturers, and manufacturing customers but also to local governments and academia.

Conclusion: Although social media significantly improves CRM, its impact on SRM is limited. Customer satisfaction is significantly influenced by CRM rather than SRM, which positively affects the market performance of small businesses in the manufacturing industry. These findings highlight the need for small businesses to strategically utilize social media to improve business performance, especially in customer-facing contexts.

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INTRODUCTION

Strong, reciprocal, and sustainable relationships between businesses and their suppliers, often referred to as supplier relationship management (SRM), offer many benefits to business performance. Maintaining seamless collaboration with suppliers improves overall business performance, reduces operational costs and inventory levels, and enhances product quality (Khan et al., 2015). In addition, close collaboration between companies and suppliers facilitates the flow

of information, which ultimately leads to faster and more efficient delivery to the final destination (Matsoso & Benedict, 2014). On the other hand, maintaining close relationships with customers through customer relationship management (CRM) is also important for business success. A strong relationship between a company and its customers can lead to increased sales and profits. It also helps companies reach wider markets and improve their reputation in the eyes of consumers. Supply chain management (SCM) refers to the process of sourcing raw materials to produce products at the price and quality demanded by buyers and customers, ensuring that all parties achieve maximum value (Chopra & Meindl, 2016).

For many SMEs, adopting SCM practices does not necessarily lead to significant operational performance improvements or increased operational efficiency as expected. While SCM is designed to help businesses manage products, information, and relationships with partners more effectively, many small businesses still face obstacles that make it difficult to realize these benefits in practice. Challenges such as financial mismanagement, limited business resources, unstructured planning, and lack of access to technology often create barriers. As a result, small businesses may struggle to build strong and stable relationships with their suppliers and customers. Several previous studies have highlighted similar challenges.

According to a study by Khan (2015), Malaysia and Pakistan have not developed mutually beneficial partnerships between suppliers and customers. This situation is influenced by factors such as low business incentives, limited access to financing, lack of educational opportunities, and limited women's participation in entrepreneurship. On the other hand, Pongwiritthong (2015) found that a lack of knowledge about accounting and cost management is a major barrier to collaboration with business partners among many SMEs in northern Thailand. In addition, a lack of understanding of project management practices and limited interaction with local and international business networks make these business challenges more complex for SMEs (Chin et al., 2012).

Digital transformation has shifted business competition from traditional offline channels to virtual online channels, making content management and logistics practices increasingly strategic (Gunasekaran et al., 2008). Coordination management must be implemented effectively and efficiently to maintain a competitive advantage (Jajja et al., 2017). However, the optimal use of social media to support the professional practices of SMEs has not yielded clear and consistent results (Dirgiatmo et al., 2019; Hassan et al., 2015).

Studies by leading companies, such as Cho (2020), show that social media has had a positive impact on SRM and CRM, but the evidence within the context of SMEs remains mixed. Some studies have shown a stronger effect on customer-facing relationships (CRM) than on supplier-facing relationships (SRM), while others have reported less significant effects. These differences suggest that company size, resource availability, and industry context may limit the effectiveness of social media in supply chain management, a gap that has not been adequately explored in previous research. This gap makes examining the role of social media at the SME level both timely and important.

Literature Review

Supply chain refers to the network of relationships among companies, suppliers, and customers involved in a company's operations. According to Jamal (2014) and Masdek (2014), the process starts with the sourcing of raw materials from suppliers and continues until the final product or service reaches the end user. Khalid (2009) emphasized that relationship management within this network is important because it helps integrate all activities throughout the supply chain. When these relationships are well managed and collaborative, they create value for all parties involved (Chopra & Meindl, 2016).

Theoretically, Social Exchange Theory Blau (2017) provides a fundamental perspective for understanding S-CRM, assuming that business relationships are maintained through the exchange of resources, trust, and information. In addition, the Resource-Based View (RBV) Theory Barney (1991) supports the claim that social media capabilities are strategic resources that enable companies to build a competitive advantage by improving Supplier Relationship Management (SRM) and Customer Relationship Management (CRM). This theoretical perspective

comprehensively justifies the relationships proposed within the conceptual framework of this study.

In fact, the introduction of continuous coordination management, especially SRM and CRM, often collectively referred to as S-CRM, has resulted in clear and positive outcomes in medium-sized and large industries (Harland, 1996; Tanskanen, 2015). This achievement is reflected in strengthened cooperation across various operational areas, such as product and service development, procurement activities, raw material quality control, and the provision of supporting facilities. However, although many studies show that social coordination management practices contribute positively to organizational performance, their adoption among SMEs remains limited. This limitation is mainly due to the challenges SMEs have faced over the years, such as financial management issues, production capacity constraints, marketing and sales challenges, and procurement and logistics management limitations (Rezaei et al., 2015).

According to a study by Matsoso (2014), adopting S-CRM practices in SMEs does not always yield positive results and may sometimes be unprofitable. One of the main reasons is that small businesses have less bargaining power when dealing with larger companies. Similarly, Quayle (2003) showed that SMEs have limited flexibility in adopting S-CRM practices because they do not always benefit significantly from supplier-customer partnerships. In addition, the findings of Pakir (2015) indicate that the level of close collaboration and strategic alliances among SMEs remains relatively low, making it difficult to achieve optimal performance in supply chain activities. Based on these circumstances, this study examines how SMEs can be strengthened.

Popovich (2003) describe an S-CRM system as an integrated system that combines people, processes, technology, and various organizational activities to improve relationships among companies, suppliers, and customers. However, from a strategic perspective, S-CRM can also be understood as a set of ongoing organizational routines and activities aimed at establishing and maintaining productive relationships with suppliers and customer (Forkmann et al., 2016). In the context of information systems, social media is a useful tool for organizations. According to several studies, incorporating social media platforms into organizational practices can provide significant benefits. One of the key findings from previous research is that social media adoption can significantly improve communication, marketing efforts, and stakeholder engagement, enhance employee performance Cetinkaya (2018), and promote innovation within companies (Dodokh & Al-Maaitah, 2019).

Lam (2016) also explained that by incorporating social media into their strategies, companies can streamline processes, improve communication, and create an environment that supports the development and implementation of new ideas. On the other hand, Monteiro (2019) argued that this effect manifests through psychological responses, such as anxiety, emotional reactions, and discomfort experienced by users when interacting with these platforms.

These actors interact and collaborate with one another as individuals, organizations, or communities to form networks and create broader connections (Kim et al., 2015; Nooy et al., 2011). When social media is integrated into this context, it creates a network that is not limited to direct interactions among businesses, suppliers, and customers. It can also facilitate relationships between suppliers and customers (Borgatti & Li, 2009). Social media platforms allow these parties to communicate more easily, share information, and exchange knowledge, which ultimately drives the development of social networks. In this sense, relationships formed without social media support are relatively rigid or "hard," whereas relationships supported by social media tend to be more flexible or "soft." As a result, the use of social media can expand and enhance social interaction within the business environment, thereby increasing the effectiveness of S-CRM practices.

Problem Statement

Based on the identified research gaps and theoretical frameworks, this study addresses the following research questions: (1) Does the use of social media (SMFU) significantly affect the quality of SRM and CRM in manufacturing SMEs. (2) Do Supplier Relationship Management (SRM) and Customer Relationship Management (CRM) mediate the relationship between social media use and customer satisfaction. (3) Does customer satisfaction significantly

affect the market performance of small and medium-sized manufacturing enterprises.

SMEs still face obstacles in building and maintaining mutually beneficial relationships with suppliers through SRM. Many SMEs are not fully leveraging the potential of digital technology, particularly social media, to strengthen relationships with suppliers and customers. As a result, opportunities to use these platforms to support and improve overall business performance remain underutilized.

Research Framework

The framework for this research can be described as follows:

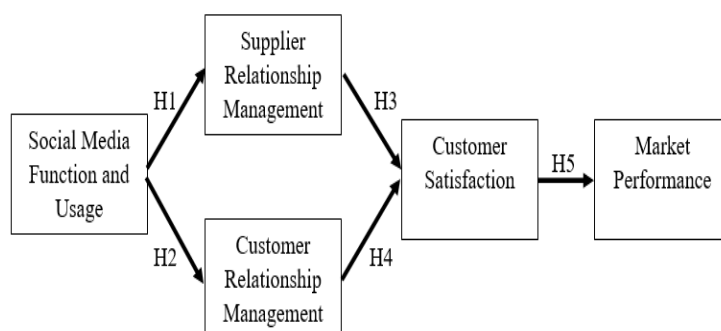


Figure 1: Research Framework

Hypothesis Development

Based on the literature review and the theoretical foundations of social exchange theory Blau (2017) and the resource-based view Barney (1991), the following hypotheses have been proposed:

H1: Social media function and use (SMFU) has a positive and significant impact on supplier relationship management (SRM).

H2: Social media use (SMFU) has a positive and significant impact on customer relationship management (CRM).

H3: Supplier relationship management (SRM) has a positive and significant impact on customer satisfaction (CS).

H4: Customer relationship management (CRM) has a positive and significant impact on customer satisfaction (CS).

H5: Customer satisfaction (CS) has a positive and significant impact on market performance (MP).

These hypotheses are presented in Figure 1 (Research Framework), where SMFU acts as the independent variable, SRM and CRM as mediating variables, and CS and MP as dependent variables. Each hypothesized relationship builds on previous empirical findings and is supported by a specific theoretical framework, ensuring a coherent and rigorous research model rather than merely a technical framework.

METHOD

This study used a quantitative research method, with SMEs serving as the unit of analysis. Participants were selected from SMEs operating in various manufacturing sectors, including clothing and apparel manufacturing, wood furniture and rattan manufacturing, bags and shoes, copper carving crafts, and other industries. These companies were in the former Surakarta residency area in Central Java.

The respondents were SME owners and managers who were specifically responsible for managing and overseeing IT-related resources. Purposive sampling techniques were used, and the selection criteria were determined based on company size (small or medium), business location, and industry type. The survey method employed a structured questionnaire distributed with the support of trained surveyors. Of the 127 questionnaires distributed, 124 were completed and considered valid for analysis.

Several modifications were made to the variables and indicators adopted from previous studies cited in this research to better suit the context and objectives of the study. All variables were measured using a 7-point Likert scale, with response categories ranging from 1 ("strongly disagree") to 7 ("strongly agree").

This study included five main variables: (1) social media function and use (SMFU) as the independent variable, consisting of two dimensions: social media function (SMF) and social media use (SMU); (2) supplier relationship management (SRM) as a mediating variable; (3) customer relationship management (CRM) as a mediating variable; (4) customer satisfaction (CS) as a mediating variable; and (5) market performance (MP) as the dependent variable. The variables and indicators adopted from previous studies cited in this research were modified and adjusted to fit the context of the Indonesian SME manufacturing industry.

Data analysis was conducted using partial least squares structural equation modeling (PLS-SEM) and SmartPLS version 3.2.7. The analysis was carried out in two stages: (1) assessment of reliability, convergent validity (AVE), and discriminant validity (HTMT) through confirmatory factor analysis (CFA) and evaluation of the measurement model (outer model); and (2) evaluation of the structural model (inner model) to assess path coefficients and statistical significance using bootstrapping. PLS-SEM was selected because it does not require multivariate normality and is suitable for exploratory studies involving complex models (Hair et al., 2017).

RESULTS AND DISCUSSION

Results

Participant demographics

Table 1 below shows the demographics of the sample selected for this study.

Table 1. Participant demographics

No	Demographic Items	Categories	N	%
1	Company location (Name of residency)	Surakarta City	43	34,68%
		Boyolali	8	6,45%
		Sukoharjo	25	20,16%
		Karanganyar	18	14,52%
		Wonogiri	3	2,42%
		Sragen	5	4,03%
		Klaten	22	17,74%
2	Company age (Experience in business)	< = 5 years	50	40,32%
		6 - 10 years	25	20,16%
		11 - 15 years	22	17,74%
		16 - 20 years	6	4,85%
		21 - 25 years	11	8,87%
		> 25 years	10	8,06%
3	Company size (# full-time employees)	<= 5 employees	45	36,29%
		6-19 employees	72	58,06%
		20-99 employees	7	5,65%
4	Type of business	Rattan Furniture/Crafts	27	21,77%
		Fashion/Clothing/Fabrics	30	24,19%
		Food, Beverage & Catering	46	37,10%
		Metal & Copper Containers	6	4,84%
		Printing	6	4,84%

No	Demographic Items	Categories	N	%
		Bags & Shoes	4	3,23%
		Mattress & Pillow	2	1,61%
		Spare Parts	3	2,42%
5	Sex respondents	Male	55	44,35%
		Female	69	55,65%
6	Defendant's business status	Owner	95	76,61%
		Manager	20	16,13%
		Supervisor	3	2,42%
		Social Media Employees	6	4,84%
7	Defendant's career	< 5 years	55	44,35%
		5 and 10 years	26	20,97%
		11 - 20 years	29	23,39%
		21 - 30 years	11	8,87%
		> 30 years	3	2,42%
8	Years of social media use	< one year	1	0,81%
		1 - 2 years	16	12,90%
		2 - 3 Years	22	17,74%
		> 3 years	85	68,55%
9	Frequent use of social media	Every day	78	62,90%
		2-3 days a week	17	13,71%
		Once a week	10	8,06%
		Uncertain	19	15,33%

Source: Processed field data

Of the 124 participants, approximately 35% of the SMEs in the manufacturing sector were based in the city of Surakarta, followed by 20% in Sukoharjo residency. It is worth noting that 40% of the small businesses had been using social media for business purposes for more than five years, and 62.9% used it daily. These demographic characteristics had important analytical implications. The dominance of SMEs with fewer than 20 employees (58%) indicated that most respondents operated under significant resource constraints, which may have limited their ability to use social media strategically for supplier relationship management (SRM) and customer relationship management (CRM). The high percentage of female-led SMEs (55.65%) reflected the significant role of women in digital manufacturing adoption. Additionally, the relatively long history of social media use among participants suggested that familiarity with the platforms was not a major barrier. Instead, the challenges lay in connecting social media engagement to strategic relationship management outcomes.

More than 58% of the selected SMEs were classified as small manufacturing enterprises, 36% were medium-sized enterprises, and the remaining 6% were large enterprises. Most of the businesses operated in the food and beverage sector, including catering and snacks, accounting for 37% of the sample. Clothing, fashion, and apparel businesses accounted for 24%, while wooden and rattan furniture businesses represented 21%. More than 76% of the surveyed SMEs were represented by their owners, of whom more than 55% were women. In terms of social media expertise, most respondents (68%) had at least three years of experience, and 62% reported using social media regularly for business activities.

Data Analysis

The first step in analyzing the data using the SEM-PLS approach was to construct the measurement model. This step focused on evaluating the outer model to ensure that the indicators

for each construct were adequately represented. After three rounds of testing to obtain constructs that met the validity and reliability requirements, several indicators were found to be below the recommended threshold of 0.70. Six indicators did not meet this criterion. Specifically, indicators f1, f2, f3, f4, and f5 belonged to the SMFU construct, while indicator s5 belonged to the SRM construct.

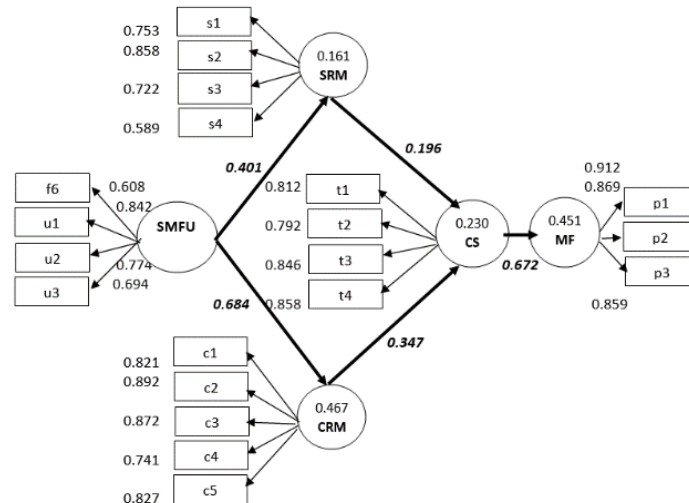


Figure 2. Final Measurement Model

Indicator Reliability/Factor Loadings

To evaluate the external model, several evaluation criteria were applied. One of the key metrics used in this study was composite reliability, which measured the internal consistency of the components included in the model.

Table 2. Construct Reliability and Validity

Construct	Cronbach Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
CRM	0.889	0.901	0.918	0.693
CS	0.846	0.848	0.897	0.684
MP	0.856	0.869	0.912	0.776
SMFU	0.711	0.739	0.822	0.540
SRM	0.719	0.735	0.823	0.543

The reliability test showed values ranging from 0.711 to 0.889, indicating that all components met the recommended reliability threshold of 0.70 (Hair et al., 2017). Therefore, the instruments used in this study were considered reliable. Similarly, the results of the composite reliability test confirmed that all measurements exceeded the 0.70 threshold, indicating that the variables included in the research model had satisfactory internal consistency. Construct validity, particularly convergent validity, was evaluated using the average variance extracted (AVE) criteria (Hair et al., 2017; Henseler et al., 2015).

Discriminant Validity

Table 3. Discriminant Validity

	CRM	CS	MP	SMFU	SRM
CRM	0.832				
CS	0.449	0.827			
MP	0.390	0.672	0.881		

SMFU	0.684	0.301	0.250	0.735	
SRM	0.519	0.376	0.371	0.401	0.737

In fact, the square root of the AVE value appearing on the diagonal of the correlation matrix had to be greater than the correlation coefficient shown in the off-diagonal positions (Ramayah et al., 2018). As shown in Table 3, the square root of the AVE for the SMFU construct was 0.735. Specifically, the correlations between SMFU and CRM, CS, and MP were 0.684, 0.301, and 0.250 respectively.

Table 4. Heterotrait Monotrait ratio of correlation (HTMT)

	CRM	CS	MP	SMFU
CRM				
CS	0.513			
MP	0.443	0.782		
SMFU	0.827	0.386	0.373	
SRM	0.639	0.447	0.436	0.562

According to Ramayah (2018), this comparison helped assess whether the components in the model differed significantly empirically. If the ratio value was below the 0.85 threshold, the model was considered to have met the HTMT requirements (Clark & Watson, 1995; Kline, 2023). As shown in Table 4, the HTMT values of all components included in the study model were less than 0.85.

Path coefficient

The next step in the analysis was to evaluate the internal model. This stage aimed to validate the relationships between the components included in the research model. The evaluation was conducted by applying the primary procedures to all metrics that met the eligibility and reliability requirements for the evaluation of external models. Bootstrapping was used because SEM-PLS is a non-parametric statistical approach and does not require rigid assumptions regarding the normal distribution of data.

Table 5. Path coefficient

Constructs	Origin	Samp.	Std. Dev.	T Stat.	P-Values
Correlations	Samp.	Mean			
CRM - > CS	0.347	0.364	0.138	2.511	0.012*
CS - > MP	0.672	0.663	0.080	3.357	0.000*
SMFU - > CRM	0.684	0.700	0.067	10.205	0.000*
SMFU - > SRM	0.401	0.428	0.090	4.436	0.000*
SRM - > CS	0.196	0.193	0.114	1.717	0.087**

* Sig. level 0.05

** Sig. level 0.10

The next step in the analysis focused on the evaluation of the structural model (inner model), which was used to assess the relationships between the proposed constructs in the research framework. At this stage, the study determined whether the hypothesized relationships between variables were statistically supported. The evaluation was carried out using bootstrapping, which was applied to all indicators that met the validity and reliability criteria in the evaluation of the outer model.

Coefficient of Determination (R^2)

This metric reflected the extent to which variations in the dependent constructs could be explained by the predictors in the model. As shown in Figure 1 and Table 6, the results

demonstrated a moderate level of explanatory power among the constructs. The R^2 value for the relationship between SMFU and CRM was 0.467, indicating that social media features and usage accounted for 46.7% of the variance in CRM. The effect of SMFU on SRM produced an R^2 value of 0.161. In addition, the combined effects of CRM and SRM on CS resulted in an R^2 value of 0.230. Lastly, the relationship between CS and MP produced an R^2 value of 0.451, indicating that customer satisfaction accounted for 45.1% of the variance in market performance.

For example, the R^2 value for the relationship between SMFU and CRM was 0.467, indicating that social media benefits and frequency of use explained 46.7% of the variance in customer relationship management, while the remaining 53.3% was influenced by other constructs and variables that were not observed in this study.

Table 6. Coefficient of Determination

	R^2	R^2 Adj.
CRM	0.467	0.462
CS	0.230	0.213
MP	0.451	0.446
SRM	0.161	0.152

Discussion

H1: Social Media Use (SMFU) and Supplier Relationship Management (SRM)

The relationship between SMFU and SRM was shown to have a regression coefficient of 0.401. This indicates that when SME awareness increases by one unit, the quality of the relationship between SMEs and suppliers increases by 0.401 units through the use of social media to support business activities. This relationship is statistically significant at the 1% significance level (see Table 5).

However, the results presented in Table 6 show that the impact of SMFU on the relationship between SMEs and their suppliers (SRM) is still relatively weak. This can be seen in the R^2 value of 0.161, indicating that SMFU accounts for only 16.1% of the variation in SRM. The remaining 83.9% is influenced by other variables not included in the current study model, assuming other conditions remain constant. Social media use has a positive and statistically significant effect on SRM practices. Several factors contribute to the difficulty small businesses face in building strong business relationships with suppliers. These challenges include limited labor and negotiation skills, financial constraints, inadequate business planning, and a lack of understanding of the strategic benefits of social media for supporting business operations. These limitations represent long-standing challenges commonly faced by small businesses.

H2: Social Media Use (SMFU) and Customer Relationship Management (CRM)

The analysis showed that the relationship between SMFU and CRM had a regression coefficient of 0.684. The findings indicate that small businesses can improve their relationships with customers by 0.684 units by increasing the use of social media by one unit to support business activities. In other words, the use of social media has a positive and statistically significant effect on strengthening the relationship between SMEs and their customers in the manufacturing industry (see Table 5).

The results presented in Table 6 show that the use of social media has a relatively strong impact on the relationship between small businesses and their customers. This is reflected in the R^2 value of 0.467, which indicates moderate explanatory power. Specifically, 46.7% of the variation in CRM can be explained by SMFU, while the remaining 53.3% is attributed to other variables not included in the research model, assuming other factors remain constant. The R^2 value may also reflect growing awareness and understanding among small business owners regarding the strategic role of social media as a tool and platform to support business activities.

In general, companies tend to prioritize customer relationships over supplier relationships. This is because customers are the primary source of revenue through product purchases. As a result, companies typically make substantial efforts to maintain strong relationships with customers and expand their market reach. From a strategic perspective, companies are often

more capable of managing supplier-related issues than recovering from customer losses, as alternative suppliers are generally easier to find than new customers.

H3: Supplier Relationship Management (SRM) and Customer Satisfaction (CS)

The results also show that the relationship between SRM and CS has a regression coefficient of 0.196. These findings indicate that improving the relationship between small businesses and suppliers increases customer satisfaction by 0.196 units. Therefore, the results support hypothesis 3 (H3), indicating that strengthening the relationship between SMEs and suppliers contributes positively to customer satisfaction, although the magnitude of the effect is limited (see Table 5).

This is reflected in the R^2 value of 0.230, indicating that approximately 23% of the variation in customer satisfaction can be explained by SRM. The remaining 77% is influenced by other factors not included in the research model, assuming other conditions remain constant. Suppliers are primarily external partners that provide the raw materials and supporting materials required for the production process. Therefore, although the survival of a small business may depend heavily on suppliers, these relationships do not have a direct or tangible impact on how customers evaluate the final product or service. Consequently, customer satisfaction is more closely related to the interaction and relationship between small businesses and their customers than to supplier relationships. SRM practices did not show a significant correlation with customer satisfaction.

H4: Customer Relationship Management and Customer Satisfaction (CS).

The relationship between CRM and CS has a regression coefficient of 0.347. The results showed that increasing the strength of the relationship between small businesses and their customers by one unit increased customer satisfaction by 0.347 units. In other words, stronger CRM contributes to higher customer satisfaction. This relationship is statistically significant at the 5% significance level, supporting hypothesis 4 (H4), which states that stronger relationships between SMEs and their customers have a positive impact on customer satisfaction.

However, the results presented in Table 6 show that the overall impact of CRM on customer satisfaction is still relatively limited. An R^2 value of 0.230 indicates that only 23% of the variation in customer satisfaction can be explained by CRM, while the remaining 77% is influenced by other variables not included in the study model, assuming other conditions remain constant. These findings indicate that although the relationship between small businesses and their customers, which can be strengthened through social media, has a significant impact, it is not the sole determinant of customer satisfaction.

The results show that although small businesses tend to interact more frequently with customers than with suppliers, limitations in human resources, financial capacity, management capability, and technical support can still lead to customer dissatisfaction with the products and services offered. Therefore, SMEs must pay greater attention to strengthening customer relationships. By improving these relationships, small businesses can enhance customer satisfaction and increase market acceptance of their products and services.

H5: Customer Satisfaction (CS) and Market Performance (MP)

The analysis showed that the relationship between CS and MP had a regression coefficient of 0.672. These results indicate that a one-unit increase in SME customer satisfaction leads to a 0.672-unit increase in the market performance of SME products. This relationship is statistically significant at the 1% significance level, supporting hypothesis 5 (H5), which states that customer satisfaction has a positive and significant impact on market performance (see Table 5).

In addition, the results presented in Table 6 show that the coefficient of determination (R^2) for the relationship between these two variables is 0.451. In other words, 45.1% of the variation in market performance can be explained by changes in customer satisfaction, particularly those related to the quality of products and the service experience provided to consumers. On the other hand, the remaining 54.9% may be influenced by other factors not included in the current research model, assuming other conditions remain constant.

It is reasonable to expect that customer satisfaction with the products and services offered

by small businesses will lead to positive outcomes. Satisfied customers can improve a company's reputation, increase customer loyalty, and enhance brand awareness through word-of-mouth communication and viral exposure on social media. Consequently, these benefits can contribute to increased sales, expanded market share, and improved profitability for SMEs.

CONCLUSION

Based on the SEM-PLS analysis, several important conclusions were drawn. Social media adoption does not necessarily guarantee strong and mutually beneficial relationships among manufacturing SMEs and their business partners. Small businesses typically maintain stronger customer relationships than supplier relationships, and supplier relationships rarely have a direct impact on customer satisfaction. These results demonstrate the asymmetrical impact of social media, with its influence on CRM being significantly greater than on SRM. Small businesses continue to face ongoing challenges, such as limitations in human resources, financial capacity, managerial capability, and technical readiness.

To address these challenges, SMEs in Surakarta, Central Java, Indonesia, are encouraged to strengthen their workforce by improving technical, interpersonal, communication, and negotiation skills, which are essential for effective supplier relationship management (SRM), coordination, and customer relationship management (CRM). Small business owners and managers also need to develop a better understanding of digital technologies and the strategic use of social media in their operations. Active participation in training sessions, workshops, and professional development programs conducted in collaboration with local governments, government agencies, and private-sector entities is strongly encouraged. Future research should expand the scope of manufacturing SMEs in Surakarta, explore broader geographical areas that include the service, trade, and agricultural sectors, apply alternative analytical techniques, and adopt longitudinal methodologies to more accurately capture the evolving dynamics of SRM and CRM within the context of SMEs.

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AUTHOR CONTRIBUTION STATEMENT

As the principal investigator and lead author, Yong Dirgiatmo is responsible for the conceptualization of the research framework, theoretical foundations, and overall research development, including the integration of social exchange theory and resource-based views into the S-CRM model. Dwi Hascarya KB contributed to the design of research methodologies, including the development of measurement instruments, coordination of data collection between manufacturing SMEs in the former Surakarta Residency area, and supervision of the survey process. Reza Rahardian contributed to the data analysis, performed the CFA and SEM-PLS methods using SmartPLS version 3.2.7, interpreted the path coefficient, and interpreted the results of the discriminant validity (HTMT) and the determination coefficient (R^2). Miftathur Maarif contributed to the synthesis of literature reviews, critical comparisons of existing research on social media and S-CRM, as well as the writing and revision of manuscripts in response to reviewer comments.

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