

# S-commerce: competition drives action through small medium enterprise top management

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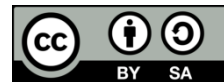
Social commerce

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## ABSTRACT

This study investigates the factors influencing the continued use of S-commerce in small and medium enterprises (SMEs), focusing on the roles of top management (TM) support, competitive pressure (CP), facilitating conditions, and service quality. Data were collected from 341 SME owners and analyzed using SEM. Data was analyzed with SmartPLS using a two-step approach. The findings indicate that TM support significantly impacts the continued use of S-commerce by influencing facilitating conditions and service quality while CP affects TM behavior and usage continuity. However, the findings reveal that operational factors, such as infrastructure and service quality, play a more critical role in sustaining S-commerce engagement than external pressures. Facilitating conditions, in particular, were found to have a strong influence on service quality and platform engagement, underscoring the importance of technical and organizational resources. The study extends prior research by highlighting the interplay between internal and external drivers in fostering the continuous use of S-commerce, offering practical insights for SMEs and future research directions.

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## 1. INTRODUCTION

Every week, as many as 57.6% of the world's population buys products or services online. The same thing also happens in Indonesia many as 62.6% of the Indonesian population buys products and services online. As many as 29.2% of the world's population does online shopping via mobile phone [1]–[3]. Social interaction in E-commerce is inevitable because social media support allows anyone to share, review, market, and sell products and services well. A combination of E-commerce and social media is known as social commerce (S-commerce) [4]–[8].

Small and medium enterprises (SMEs) are integral to economic growth and innovation worldwide [9], [10]. Constraints such as limited capital, underdeveloped human resources, and inadequate access to international markets are well-documented barriers that prevent SMEs from scaling their operations [6], [11], [12]. In response to these challenges, the continuous use of low-cost technology solutions, such as social commerce (S-commerce), has been identified as a potential game-changer for SMEs. S-commerce offers the possibility of expanding market reach, improving customer relationships, and reducing operational costs, but the rate of continuous use among SMEs remains low [11]–[14].

Despite the growing recognition of technology's transformative potential, most studies have explored S-commerce from the customer's perspective, focusing on consumer behavior, trust, and engagement [11], [12], [15]–[23]. However, there is a gap in understanding how SME owners or top management (TM)

approach the continuous use of S-commerce. For SMEs, decision-making is often highly centralized, with business owners or TM playing a pivotal role in determining which technologies to invest in [12]. This centralized control, combined with a lack of awareness or expertise in digital tools, has contributed to the slow uptake of S-commerce in SME [4], [12], [13].

Moreover, SMEs face increasing competitive pressure (CP) [13], [24]–[26]. The pressure especially expects seamless online experiences, personalized services, immediate responses, streamlined operations, reduced costs, or better integration into larger supply chains, all of which can be facilitated through S-commerce [6], [12], [27]. This CP, while daunting, also presents an opportunity for SMEs to innovate and enhance their operational strategies [28]–[30]. However, how this pressure translates into action within SME TM is still an under-researched area. This is particularly critical in understanding the factors that drive or hinder technology’s continuous use at the managerial level.

In light of these issues, this research seeks to fill the gap by focusing on the continuous use of S-commerce from the perspective of SME TM. This research is to investigate how CP influences decision-making processes regarding S-commerce’s continuous use. The study will explore the extent to which SME owners perceive this pressure and how it shapes their strategies for the continuous use of new technologies. The research aims to highlight the TM role in driving technological innovation and competitiveness.

**2. HYPOTHESES DEVELOPMENT**

Figure 1 displays the research model and its associated hypotheses. There are 5 variables and 8 hypotheses. The hypothesis is derived from the findings of previous studies. A detailed overview of these studies is presented in the following subsections.

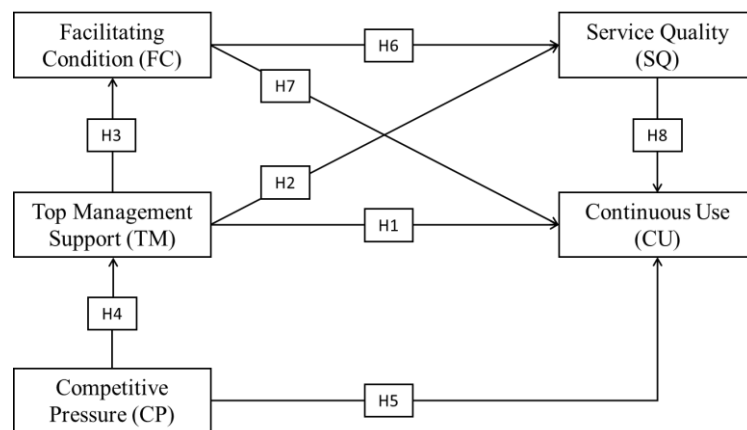


Figure 1. Research model

**2.1. Top management support**

TM support refers to the extent to which senior executives within an organization are committed to and actively involved in the adoption and implementation of innovative technologies to achieve business objectives [12], [31]. Prior studies showed that TM positively affects the intention to use [12], [30]. In addition, TM can enhance customer satisfaction by improving facilitating conditions (FC) and service quality (SQ) to foster a supportive and innovative environment, ensuring that the S-commerce platform meets user expectations and encourages continued engagement [21], [32]. SQ represents the degree of service provided by service providers to business customers in terms of dependability, responsiveness, assurance, and empathy [3], [21]. FC indicates the extent to which a user perceives that the existing technical and organizational framework is capable of facilitating enhanced utilization of a service [21], [33]. Based on this understanding, the authors hypothesized the following:

**Hypothesis 1 (H1):** *TM has a positive and significant impact on CU*; **Hypothesis 2 (H2):** *TM has a positive and significant impact on SQ*; **Hypothesis 3 (H3):** *TM has a positive and significant impact on FC*.

**2.2. Competitive pressure**

In this context, CP refers to the intensity of competition an organization faces within its industry, which can significantly influence the continuous use of new technology [6], [12], [27]. Prior research showed that CP has a positive effect on technology adoption [27], [30]. This study will measure

the effect of CP on the continuous use of S-commerce. In addition, it also looks at the impact of CP on TM, about how TM responds to CP in their business. Based on this understanding, the hypothesis made by the author is:

**Hypothesis 4 (H4):** *CP has a positive and significant impact on TM; Hypothesis 5 (H5):* *CP has a positive and significant effect on CU.*

### 2.3. Facilitating condition

FC comprises effective and helpful situations and infrastructure that are significant in the SMEs' adoption of technology, such as S-commerce, for business advantages [21], [32]. Prior research showed that FC has a positive effect on behavioral intention [32], [33]. In this study, the hypothesized the following:

**Hypothesis 6 (H6):** *FC has a positive and significant impact on SQ; Hypothesis 7 (H2):* *FC has positive and significant effects on CU.*

### 2.4. Service quality

The relationship between service quality and customer satisfaction is well-established, with service quality being defined as the gap between customer expectations and perceptions [3], [34]. Based on previous studies in the context of social commerce, service quality encompasses the efficiency and effectiveness of the platform in facilitating the shopping process and delivering products. This creates a desire to utilize social commerce [3], [21], [34]. Building upon this understanding, the following hypotheses are formulated.

**Hypothesis 8 (H8):** *SQ has a positive and significant impact on CU.*

### 2.5. Continuous use

Behavioral intentions motivate people and organizations to adopt and implement new technology. In the context of SMEs, the desire to utilize social commerce refers to the continuous use (CU) of social media or social commerce platforms for online purchasing and selling [27]. Previous research has explored that facilitation, TM support, service quality, and CP are determinants that support the desire to use S-commerce [12], [21], [30], [33]. In this study, CU acts as a dependent variable that measures the continuous use of S-commerce.

## 3. METHOD

### 3.1. Instruments development

The questionnaire in this research was adapted from previous research. FC measurement items are adopted based on research [35], [36]. TM measurement items are adopted based on research [12]. CP is adopted based on research [12]. Measurement items SQ are adopted based on research [34], [37], [38]. Meanwhile, CU measurement items were adopted from the research [12], [20], [38]. The questionnaire consisted of 25 items to measure five research constructs. The five-point Likert scale is used, ranging from 1 (disagree) to 5 (strongly agree).

### 3.2. Data collection

This study employed a quantitative approach to determine the hypothesized relationships. This study used a non-probability sampling technique. The sample of the studies includes SMEs located in Surabaya, Indonesia. The questionnaire is distributed to SME owners through Google Forms. The data analyzed in this study came from 341 respondents. The results of the incoming questionnaire are processed with SmartPLS.

### 3.3. Data analysis

To test the reliability and validity of measurement models, the PLS-SEM is used for data analysis because it is a widely used approach, given its high predictive validity [39]. Also, test the mediation effects and evaluate hypothesized causal relationships. Measurements are carried out using a two-step approach: measurement and structural models, according to [40]. A detailed discussion presenting in section 4.

## 4. RESULTS AND DISCUSSION

### 4.1. Respondents information

The respondent's information analysis appears in Table 1. The majority of the respondents are female at 64.8%, while male as much as 35.2%. The age of respondents was dominated by the age of >40 years at 52.5%. The education level of respondents was dominated by Bachelor as much as 76.8%. While viewed from business type, is dominated by Fashion and lifestyle as much as 35.2%, and then culinary as much as 32.3%.

Table 1. Sample’s demographic characteristics

| Variables     | Type  | Frequency | Percentage (%) |      |
|---------------|---|-----------|----------------|------|
| Gender        | Male  | 120       | 35.2           |      |
|               | Female  | 221       | 64.8           |      |
| Age           | < 21  | 4         | 1.2            |      |
|               | 21 – 25   | 4         | 1.2            |      |
|               | 26 – 30   | 28        | 8.2            |      |
|               | 31 – 35   | 47        | 13.8           |      |
|               | 36 – 40   | 77        | 22.6           |      |
|               | > 40  | 179       | 52.5           |      |
| Education     | Junior High School                              | 3         | 9              |      |
|               | High School                                     | 52        | 15.2           |      |
|               | Diploma   | 17        | 5.0            |      |
|               | Bachelor  | 262       | 76.8           |      |
|               | Master  | 6         | 1.8            |      |
| Business type | Ph.D  | 1         | 0.3            |      |
|               | Fashion and lifestyle                           | 120       | 35.2           |      |
|               | Kuliner   | 110       | 32.3           |      |
|               | Otomotif  | 19        | 5.6            |      |
|               | Education                                       | 9         | 2.6            |      |
|               | Agriculture, Livestock, Forestry, and Fisheries | 33        | 9.7            |      |
|               | ICT   | 25        | 7.3            |      |
|               | Others  | 25        | 7.3            |      |
|               | Business mode                                   | Online    | 62             | 18.2 |
|               |   | Offline   | 1              | 0.3  |
| Both          |   | 278       | 81.5           |      |
| Income/Omzet  | < 2 billion per year                            | 326       | 95.6           |      |
|               | 2 - 15 billion per year                         | 15        | 4.4            |      |

4.2. Measurement model results

Table 2 show the loading factor values are all above 0.7, these show valid measurement items reflect variable measurements, CA is in 0.800 – 0.911, and CR is in 0.900 – 0.964 [39], which means good reliability. AVE is in 0.600 – 0.807 [39], these showed good convergent validity. The result of discriminant validity are shown in Table 3. A good HTMT value is > 0.90 [41]. HTMT below 0.90 indicates good discriminant validity.

Table 2. Measurement model results

| Construct | Items  | Loading | CA    | CR    | AVE   |
|-----------|--|---------|-------|-------|-------|
| FC        | FC1: My business has the infrastructure to provide S-commerce          | 0.839   | 0.878 | 0.911 | 0.673 |
|           | FC2: Staff of my company can operate S-commerce                        | 0.834   |       |       |       |
|           | FC3: Staff will be very helpful in supporting the use of S-commerce    | 0.787   |       |       |       |
|           | FC4: The use of S-commerce requires simple technology.                 | 0.828   |       |       |       |
|           | FC5: The use of S-commerce compatible technologies in the company      | 0.811   |       |       |       |
| TM        | TM1: Top management supports S-commerce                                | 0.884   | 0.940 | 0.964 | 0.807 |
|           | TM2: Top management takes risks in implementing S-commerce             | 0.894   |       |       |       |
|           | TM3: S-commerce is a way to gain a competitive advantage               | 0.910   |       |       |       |
|           | TM4: Top management encourages staff to help customers                 | 0.900   |       |       |       |
|           | TM5: S-commerce is strategic for the company                           | 0.904   |       |       |       |
| CP        | CP1: Customers demand to provide S-commerce services                   | 0.890   | 0.897 | 0.929 | 0.765 |
|           | CP2: Trading partner influence implementation of S-commerce            | 0.911   |       |       |       |
|           | CP3: Supplier influence implementation of S-commerce                   | 0.846   |       |       |       |
|           | CP4: Customers think companies outdated if don’t use S-commerce        | 0.849   |       |       |       |
| SQ        | SQ1: Service Provider helps customers use S-commerce.                  | 0.860   | 0.914 | 0.935 | 0.743 |
|           | SQ2: Service Provider provides features that customers need.           | 0.840   |       |       |       |
|           | SQ3: Service Provider immediately respond to customers                 | 0.896   |       |       |       |
|           | SQ4: Customers must be safe when using S-commerce)                     | 0.837   |       |       |       |
|           | SQ5: Service providers understand the specific needs of customers      | 0.877   |       |       |       |
| CU        | CU1: Ease of use technology makes customers continue to use S-commerce | 0.904   | 0.933 | 0.949 | 0.790 |
|           | CU2: Social interaction makes customers continue to use S-Commerce     | 0.890   |       |       |       |
|           | CU3: Customers are interested using S-commerce if safe and reliable    | 0.919   |       |       |       |
|           | CU4: Service provider provide S-commerce for customers                 | 0.837   |       |       |       |
|           | CU5: S-Commerce is a service that should be provided for customers     | 0.891   |       |       |       |

Table 3. Discriminant validity based on heterotrait-monotrait ratio (HTMT)

| Construct | CP    | CU    | FC    | SQ    | TM |
|-----------|-------|-------|-------|-------|----|
| CP        |       |       |       |       |    |
| CU        | 0.794 |       |       |       |    |
| FC        | 0.831 | 0.867 |       |       |    |
| SQ        | 0.784 | 0.860 | 0.887 |       |    |
| TM        | 0.798 | 0.832 | 0.889 | 0.881 |    |

**4.3. Measurement of the structural model and testing the research hypotheses**

The structural model assessment results of this research appear in Figure 2. Based on the calculation results in Table 4, the inner VIF values are all below 0.5, indicating low collinearity [42]. Besides that, all hypotheses are supported.

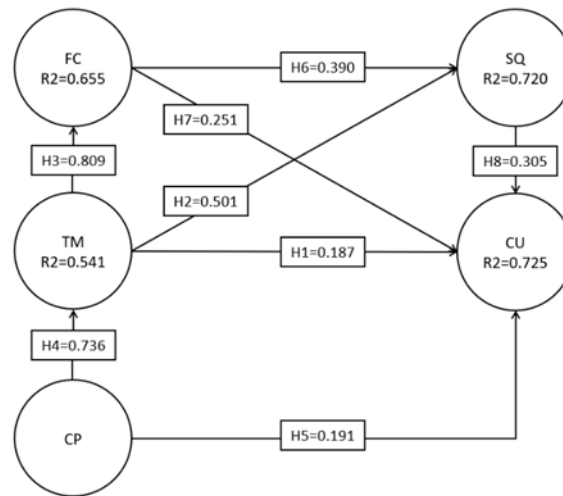


Figure 2. Structural model assessment results

Table 4. The results of examining research hypotheses

| Hypothesis | Relationship | Path coefficient | Mean  | SD    | t-value | p-value | Decision  | f <sup>2</sup> | Inner VIF |
|------------|--------------|------------------|-------|-------|---------|---------|-----------|----------------|-----------|
| H1         | TM → CU      | 0.187            | 0.185 | 0.073 | 2.551   | 0.011   | Supported | 0.032          | 4.013     |
| H2         | TM → SQ      | 0.501            | 0.498 | 0.079 | 6.332   | 0.000   | Supported | 0.309          | 2.898     |
| H3         | TM → FC      | 0.809            | 0.810 | 0.026 | 30.625  | 0.000   | Supported | 1.898          | 1.000     |
| H4         | CP → TM      | 0.736            | 0.735 | 0.032 | 23.204  | 0.000   | Supported | 1.180          | 1.000     |
| H5         | CP → CU      | 0.191            | 0.191 | 0.058 | 3.292   | 0.001   | Supported | 0.051          | 2.601     |
| H6         | FC → SQ      | 0.390            | 0.393 | 0.077 | 5.080   | 0.000   | Supported | 0.188          | 2.898     |
| H7         | FC → CU      | 0.251            | 0.252 | 0.061 | 4.093   | 0.000   | Supported | 0.061          | 3.762     |
| H8         | SQ → CU      | 0.305            | 0.305 | 0.066 | 4.639   | 0.000   | Supported | 0.092          | 3.671     |

TM has a big influence on FC at 80.9%, CP has a big influence on TM at 73.6%. The interesting thing is that it turns out that the influence of TM to CU of 18.7% is not as big as the influence of TM to FC. The significance of TM’s effect on CU is in line with studies [13], [30], although it differs slightly in percentage significance. Similarly, the influence of CP to CU 19.1% is not as large as the influence of CP to TM. The calculation results in visual form can be seen in Figure .

Referring to Table 4, every change in the CP variable will significantly increase the CU by 19.1%. These results are in line with studies [13], [30], although slightly different in percentage significance. TM and CP that affect the use of S-commerce, however the magnitude of the influence was only 18.7% and 19.1%. These results are no different from the study [13] and the impact of both factors is less than 25%. FC affects 25.1% of CU and 39.0% of SQ. This result contrasts with the study of [43], which states FC does not affect CU.

The results of the mediation test in this study are shown in Table 4. The interpretation of the mediation effect size (f<sup>2</sup>) according to [29], [42]. Based on the results of these calculations, TM→FC had a big value, which is 1.889. Table 5 shown the variance of variables (R<sup>2</sup>) CU, FC, SQ, and TM is 72.5%, 65.5%, 72.0%, and 54.1%. The results show satisfactory predictive power.

**4.4. Assess the model’s explanatory power**

The quality model results delivered are Q<sup>2</sup>, GoF, and SRMR. The interpretation of the value according to [28], [40], [42], [44], [45]. Q<sup>2</sup> variable values > 0, these indicated the model has predictive relevance. The result Q<sup>2</sup> and R<sup>2</sup> are shown in Table 5. Table 6 shown that the GoF value of this research model is 0.706 which is included in the high GoF. The rule of thumb SRMR value below 0.08 indicates model fit [29], [42]. The SRMR measurement result of this study is 0.053 which shows that the model built matches the empirical data.

Table 5. Strength of the model

| Construct              | Cross redundancy measure (Q2) |          |                             | Coefficient of determination (R <sup>2</sup> ) |                     |
|------------------------|-------------------------------|----------|-----------------------------|--|---------------------|
|                        | SSO                           | SSE      | Q <sup>2</sup> (=1-SSE/SSO) | R <sup>2</sup>                                 | Adj. R <sup>2</sup> |
| Competitive pressure   | 1356.000                      | 1356.000 |                             |  |                     |
| Continuous use         | 1695.000                      | 735.877  | 0.566                       | 0.725  | 0.722               |
| Facilitating condition | 1695.000                      | 957.639  | 0.435                       | 0.655  | 0.654               |
| Service quality        | 1695.000                      | 794.462  | 0.531                       | 0.720  | 0.718               |
| Top management support | 1695.000                      | 959.957  | 0.434                       | 0.541  | 0.540               |

Table 6. Goodness of fit index

| Communality average | R square average | GoF index |
|---------------------|------------------|-----------|
| 0.755               | 0.660            | 0.706     |

**4.5. Discussion**

This study explored the roles of top TM and CP in promoting continuous S-commerce use among SMEs, with additional focus on FC and SQ as key enablers. Previous research has focused heavily on customer perspectives in S-commerce adoption [11], [12], [15]–[23], leaving gaps in understanding how leadership and competitive forces impact ongoing S-commerce use in SMEs. Addressing these gaps, this study examined how TM, CP, FC, and SQ influence the adoption environment necessary for sustained S-commerce engagement.

These results indicate that TM commitment and external constraints driving decision-making are important in creating a favorable environment for S-commerce continuous use. TM and FC have the strongest association ( $\beta = 0.809$ ), highlighting the importance of management in providing resources and infrastructure. Compared to prior research, these findings are consistent with [12], which emphasized the role of leadership and internal support in technology adoption. The lower path coefficient of TM on CU ( $\beta = 0.187$ ) compared to TM on FC ( $\beta = 0.809$ ) suggests that while leadership is important, the actual adoption of S-commerce may depend more on operational variables such as infrastructure and service quality. The influence of CP on CU (H5) is smaller than expected ( $\beta = 0.191$ ), indicating that while competition begins adoption, its effect on sustained use may be indirect, presumably mediated by other factors such as organizational preparedness or customer satisfaction.

The findings also highlight the importance of enabling conditions and service quality in fostering ongoing platform engagement, underscoring the need for proper technical and organizational support. The study reveals that FC has a favourable influence on both SQ ( $\beta = 0.390$ ) (H6) and CU ( $\beta = 0.251$ ) (H7). This result is better than previous research [32] which showed that FC had a low influence on CU ( $\beta = 0.023$ ). Also, this result contrasts with the study of [43], which states FC does not affect CU. This suggests that proper technical and organizational support increases service quality and platform engagement. On the other hand, SQ strongly impacts CU ( $\beta = 0.305$ ), emphasizing the significance of service quality in retaining user engagement in S-commerce. This finding is consistent with earlier research, which indicates that if service quality is high, users will continue to utilize S-commerce [3], [21], [34].

This study improves our understanding of the internal and external drivers driving the continuous use of S-commerce but also recognizes the limitations of focusing on a specific SME sector. Additionally, exploring user-specific factors, like customer engagement and satisfaction, may also reveal how SMEs can leverage S-commerce to enhance customer loyalty and retention. This multi-dimensional approach promises to reveal more about the conditions fostering long-term S-commerce success for SMEs.

**5. CONCLUSION**

Based on the results of measurement and structural models, it show that CP affects continuous use. However, CP has a greater effect on TM support. This can mean that CP must be responded to by TM. In conclusion, TM support is indirectly very influential in determining SMEs to use S-commerce. TM is proven to affect facilitating conditions. Proper FC and enabling customers to collaborate in S-commerce are very influential. The availability of good infrastructure and service quality affects the use of S-commerce in SMEs.

Further research is needed to analyze of additional external factors, such as regulatory influences or technological disruptions, that may further shape the adoption and continuous use of S-commerce. In addition, future in-depth research could explore the moderating effects of firm-specific characteristics, such as size, age, and level of digitalization, on the relationships examined in this study. This would allow for a better understanding of the conditions under which TM support, CP, and FC influence the continued use of S-commerce.

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