



The Role of Innovation as Mediation from the Influences of Knowledge Sharing and Strategic Location towards Competitive Advantage in SMEs Southeast Sulawesi Province

La Hatani [✉]

Faculty of Economics and Business, Halu Oleo University, Kendari, Indonesia

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Abstract

The current research aims to examine the influence of knowledge sharing (KS) and strategic locations on the innovation and competitive advantage (CA) of small and medium-sized enterprises (SMEs). The present research aims to analyze and empirically examine the influence of KS and strategic location on CA through the mediating role of innovation. The sample size of this study was 99 managers of SMEs in Southeast Sulawesi Province. The analytical tool used in testing the research hypotheses is SEM-PLS. These findings indicate that KS and strategic locations have a significantly positive influence on innovation. Similarly, strategic locations and innovation have significantly positive effects on CA. However, KS does not have a significant influence on CA. The main findings in this research show that innovation has a role as a mediation in the relationship between KS and strategic locations to improve CA in SMEs. The findings of this research indicate SMEs must be able to take strategic decisions in determining locations and can share knowledge through innovation to improve CA.

Peran Inovasi Sebagai Mediasi Pengaruh Knowledge Sharing dan Strategis Lokasi Terhadap Keunggulan Bersaing Pada UKM Provinsi Sulawesi Tenggara

Abstrak

Penelitian saat ini bertujuan untuk menguji pengaruh knowledge sharing (KS) dan lokasi strategis terhadap inovasi dan keunggulan bersaing (CA) usaha kecil dan menengah (UKM). Studi ini juga bertujuan untuk menganalisis dan menguji secara empiris pengaruh KS dan lokasi strategis terhadap CA melalui peran mediasi inovasi. Besar sampel penelitian ini adalah 99 Manajer/pemilik UKM di Provinsi Sulawesi Tenggara. Peralatan analisis yang digunakan dalam pengujian hipotesis studi ini adalah SEM-PLS. Hasil studi ini menunjukkan KS dan lokasi strategis berpengaruh positif signifikan terhadap inovasi. Demikian pula lokasi strategis dan inovasi berpengaruh positif signifikan terhadap CA. Namun, KS tidak memiliki pengaruh yang signifikan terhadap CA. Temuan utama dalam penelitian ini menunjukkan bahwa inovasi berperan sebagai mediasi dalam hubungan antara KS dan lokasi strategis untuk meningkatkan CA pada UKM. Hasil penelitian ini menunjukkan bahwa UKM harus mampu mengambil keputusan strategis dalam menentukan lokasi dan memiliki kemampuan untuk berbagi pengetahuan melalui inovasi untuk meningkatkan CA.

JEL Classification: C12, M11, O30

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[✉]Correspondence Address

Institutional address : Jl. H.E.A. Mokodompit, Green Campus, Tridharama Anduonohu,
Kendari

Email: lahatani@uho.ac.id

INTRODUCTION

For successful SMEs in Southeast Sulawesi Province, their efforts to improve CA are highly dependent on their ability to innovate, share knowledge and determine strategic locations. In today's competitive business environments, innovation is generally considered SMEs core through the ability of human resources to do KS and supported by the strategic location. Innovations are a key factor for SMEs in achieving success and sustainable CA, many researchers and practitioners have sought to explore the impact of KS and strategic locations on innovation and CA in the past few decades. SMEs that can't compete will experience difficulties surviving. Therefore, the strategic development of SMEs in KS and determining strategic locations through innovation is expected to increase CA. This phenomenon is supported by the results of previous studies by Chatzoglou & Chatzoudes (2018); Wahyono (2020) found that innovation acts as a mediating influence between KS and CA. Then, is supported the results of studies by (Erskine et al., 2019) found that innovation acts as a mediating influence between strategic locations on CA.

Based a report from the Central Statistics Agency Southeast Sulawesi Province (BPS, 2020) shows that the development of SMEs in Southeast Sulawesi is the focus of the government's attention to attract private parties who want to invest. Refer to central statistics agency in 2020 is divided in to nine sectors of the economy, namely: (1) hotel, trade and restaurant industry = 1.717 units (51.30 percent); (2) forestry, agriculture, livestock and fishing effort = 600 units (17.91 percent); (3) building industry = 589 units (17.60 percent); (4) processing industry = 189 units (6.52 percent); (5) finance industry = 131 units (3.9 percent); (6) services industry = 78 units (2.30 percent); (7) transport industry = 46 units (1.4 percent); (8) mining and quarrying = 8 units (0.20 percent); and (9) electricity, gas and water = 4 units (0.10 percent). The facts that happened during the period, 2018-2020 show that the number of SMEs in Southeast Sulawesi

Province continues to increase. In 2018 the number of registered SMEs was 11.264 units, in 2019 it rose to 11.311 units, then in 2020 it also increased by 11.882 SME units.

The development of the number of SMEs in Southeast Sulawesi Province has implications for increasing the number of workers and the value of production. This phenomenon, if observed in terms of SME productivity for the 2018 to 2020 period, also increased in 2018 to 2019 by 1.35 percent, and from 2019 to 2020 it also increased by 0.50 percent (BPS, 2020). The production value, labor, number of business units, and productivity of SMEs in Southeast Sulawesi during the 2018-2020 period were not offset by increased CA. Therefore, this research is important to do to investigate whether the factors of KS, strategic locations, and innovation are the main factors towards increasing the CA of SMEs in Southeast Sulawesi Province (BPS, 2020).

The current research sought to investigate whether managers of SMEs in Southeast Sulawesi have the ability to KS to increase CA through the important role of innovation by business actors. Few researchers have analyzed and tested empirically the effect of KS activity towards innovation and CA, in SMEs and provided inconsistent empirical results. The results of previous studies found that there was a positive and significant effect between KS and innovation (Eidizadeh et al., 2017; Wang et al., 2017; Kim & Shim, 2018; Han & Chen, 2018; Keszey, 2018; Yang et al., 2018; Ganguly et al., 2019; Lei et al., 2019; Rahmi & Indarti, 2019; Ndubisi et al., 2020; Wahyono, 2020). Similarly, the findings research indicates that KS positively and significantly affect CA (Sáenz et al., 2012; Wu et al., 2012; Abdul-Jalal et al., 2013; Eidizadeh et al., 2017; Aureli et al., 2018; Ndubisi et al., 2020; Wahyono, 2020). However, there are differences in the results study find that KS insignificantly effect towards innovation (Taminiau et al., 2009) and CA in SMEs (Ghobadi & D'Ambra, 2012).

Several criteria or factors affect decision-making in determining strategic locations, including proximity to raw materials, markets and

labor, location uniqueness, and low transportation costs. According to (Krajewski et al., 2019) explain that strategic location selections are a fundamental factor for companies to increase CA. The results of previous studies find that strategic locations positively and significantly affect innovation (Piperopoulos et al., 2018; Tobing et al., 2018; Deakins & Bensemman, 2019; Pereira et al., 2020) and has a significant effect on increasing CA (Hatani et al., 2016; Sutapa et al., 2017; Jardon, 2018; He et al., 2019). Furthermore, the research findings show that strategic location positively and significantly affects innovation and CA (Beugelsdijk, 2011; Priyanka et al., 2017; Erskine et al., 2019). However, (Anning-Dorson, 2016) found an insignificant relationship between strategic locations on CA.

Some previous researchers focusing on SMEs have been used as references, who found that high innovation in SMEs can make a significant contribution towards improving CA. Additionally, the results of the research found that innovation positively and significantly affects CA (Asree et al., 2010; Hassan et al., 2014; Eizizadeh et al., 2017; Chatzoglou & Chatzoudes, 2018; Le & Lei, 2018; Anning-Dorson, 2018; Liu & Huang, 2018; Liu et al., 2020). However, Syapsan (2019) also identified an insignificant relationship between innovations and CA on SMEs in Sumatra and Java Islands in Indonesia. Similarly, Anning-Dorson (2018) found that improvement in innovations can insignificantly towards improving CA. Previous research has empirically proven and indicated inconsistent or mixed results the influence of KS and strategic location on innovation and CA.

The topic has raises warm debates among researchers because in literature review is inconclusive. Generally, perspective is significant, positive, negative, and statistically insignificant relationship between four constructs, both direct and indirect effect through innovation mediation. As a reference for testing the role of innovation mediation adopted from the results of the study (Eizizadeh et al., 2017; Chatzoglou & Chatzoudes, 2018; Wahyono, 2020) found that innovation has a role as a mediating relationship between KS

and CA. Similarly, Erskine et al. (2019) found that innovation has a role as mediating influence between strategic locations and CA. Previous researchers also suggested that further studies test the role of innovation as a mediating effect of KS and strategic location on CA. Based on the facts that happened and gaps in the results of previous studies, this study is important to do especially in SMEs in the processing industry, with a focus on this research on the influence of KS and strategic location towards innovation and CA.

The current research is also intended to empirically examine the mediating role of innovation, which is rarely done by researchers thus far, especially on processing industry SMEs. Therefore, the key questions of the current research are the following: RQ1. What are the influence of KS and strategic locations on innovation and CA? RQ2. Does innovation mediate the relationship between KS and strategic locations on CA? Still lack references from previous research results to examine the role of innovation as mediation from the influences of KS and strategic locations towards CA. Therefore, the purpose of the current research is to analyze and empirically examine the influence of KS and strategic locations towards innovation and CA. This research also proposes to analyze the role of innovation as mediation from the influences of KS and strategic locations towards the CA of SMEs in Southeast Sulawesi Province.

Hypothesis Development

Theoretical support for this research is adopted from the Resources Based View (RBV). defined RBV as all capabilities and resources owned by companies that are a source of CA. The RBV approach outlined by Grant (2005) explained that fundamentally every company is different because of the unique resources owned. Therefore, the outcomes of efforts to support company performance are largely determined by CA through creativity in creating value or innovation, and by accuracy in carrying out activities (Porter, 2011). Consistent with the arguments of Heizer et al. (2017) that RBV is the approach or perspective used by company

managers to manage and evaluate the resources at their disposal, and carry out transformations to achieve sustainable competitive advantage.

Knowledge sharing (KS)

KS is the exchange of experience, information sharing, transfer of skills with several business units, institutions, organizations, company to share knowledge with other members. According to Mansoori et al. (2011) argue that KS is a complex activity, however has created value-added in knowledge management and is the fundamental factor in the firm's strategy to achieve CA. In knowledge management, KS is an important factor. Similarly, Pasaribu (2017) stated that KS can be defined as organizational culture and social interaction, including the shared knowledge, experience, and skill the labors of throughout all the members of the organization. Further, Baharim (2008) defines KS as a behavior that involves exchanging information or helping other colleagues.

Several studies have proven that KS is a key factor for creating innovation and gaining a sustainable competitive advantage in SMEs. For example, the results of previous studies KS have a significant contribution towards the improvement of innovation (Kumar & Rose, 2012; Sáenz et al., 2012; Dickel & Moura, 2016; Eidizadeh et al., 2017; Podrug et al., 2017; Wang et al., 2017; Han & Chen, 2018; Keszey, 2018; Kim & Shim, 2018; Yang et al., 2018; Ganguly et al., 2019; Lei et al., 2019; Rahmi & Indarti, 2019; Ndubisi et al., 2020; Wahyono, 2020). Similarly, several empirical types of research indicate that KS has positive and significant influence (Wang & Noe, 2010; Wu et al., 2012; Abdul-Jalal et al., 2013; Eidizadeh et al., 2017; Aureli et al., 2018; Ndubisi et al., 2020; Wahyono, 2020). Nevertheless, there is a contradiction in the results of research which is a gap to a retest of Taminiau et al. (2009) find that KS does not significantly influence CA in SMEs (Ghobadi & D'Ambra, 2012). Whether KS affects positively and negatively or significantly and insignificantly innovation and CA continues to be a debatable issue. From the review of research articles, the majority of researchers have found a positive and significant influence between KS on

innovation and competitive advantage. Considering the debatable of previous researchers, with many researchers claiming positively and significantly effect. Therefore, the following hypothesis is proposed:

H1: KS has a positive and significant effect on innovation in SMEs.

H2: KS has a positive and significant effect on CA in SMEs.

Strategic location

Increased competitive advantage is significantly determined by the company's ability to choose strategic locations. explained that decisions on the determination of strategic locations are a fundamental factor because they can reduce transportation costs, marketing costs, labor costs, production costs and ultimately could increase the company's CA. This is consistent with which states that companies that have a strategic location for carrying out their activities can increase CA. Furthermore, Heizer et al. (2017) suggested that there are several factors and considerations that influence the decision to determine strategic locations, including: (1) country decisions which are the key success factors (i.e. politics, government policies and regulations; economic and cultural issues; market location; productivity and labor costs availability of raw materials, energy and information facilities, currency exchange risk); (2) community or region decisions (i.e. company desires; attractiveness of region, for example in the aspects of the business climate, culture and taxes; low labor availability; availability of facilities and infrastructure; environmental policies and regulations; transportation costs of raw materials to customers; construction costs; and government fiscal policy); (3) business location decisions (cost and area of business location; availability of transportation facilities such as roads, airports and ports; zoning restrictions; environmental impact issues; proximity of raw materials and services; customer availability and community purchasing power).

Besides some of the factors above, other factors are considered important that affect the

decision of the location determination strategy, namely: labor productivity, culture, and local wisdom, exchange rates or foreign exchange; changes in community attitudes towards industry; proximity to raw material suppliers; easy access to markets or customers and competitors. Thus, the purpose of determining locations strategy is to optimize the value and benefits of the location to the company (Heizer et al., 2017). Therefore, the current research purpose is to examine the impact of determining strategic locations concerning the suggestions of previous researchers that the ability of SMEs to develop resources is largely determined by their ability to innovate and their CA. Many researchers have studied the relationship between strategic locations on innovation and CA. The results of previous studies (Beugelsdijk, 2011; Narula & Santangelo, 2012; Deakins & Bensemann, 2019; Erskine et al., 2019; Pereira et al., 2020) reveal that strategic location and innovation have a significant and positive impact. Furthermore, (Freeman et al., 2012; Feldmann & Olhager, 2013; Hatani et al., 2016; Jardon, 2018; He et al., 2019; Erskine et al., 2019) found that determining strategic locations have a significant contribution to increasing CA. Thus, the hypothesis proposed as follows:

H3: Strategic locations have a positive and significant effect on innovation in SMEs.

H4: Strategic locations have a positive and significant effect on CA in SMEs

The mediating role of innovation and competitive advantage

The high intensity of competitive moves requires managers and owners in SMEs to continue to innovate, to remain competitive, flexible, and adaptive in the environment uncertainty of the current business. In general, innovation has been recognized as a concept that has received much attention from academics as well as practitioners or business people, and governments throughout developed and developing countries. Innovation is the effort creation of unique value in business processes, the development of new products, and organic change that creates assets (Le & Lei, 2018; Wahyono, 2020). Furthermo-

re, competitive advantage is defined capabilities and resources owned by an organization that is superior to its competitors, to provide superior value to customers (Porter, 2011). Competitive advantage is an effort creation of a value system that has a unique advantage when compared with competitors (Heizer et al., 2017). In practice operations managers, the three strategies to achieve competitive advantage by Heizer et al. (2017) are (1) differentiation strategy through innovative design, broad product line, after-sales service, and experience; (2) cost leadership strategy through low cost, effective capacity use, and inventory management; and (3) response strategy through flexibility, reliability, and quickness.

Innovation can drive the development of production processes, quality, technology, new products, and services to meet customer needs. Previous studies have shown that innovation can significantly contribute to increasing competitive advantage (Chahal & Bakshi, 2015; Dereli, 2015; Łobacz & Głodek, 2015; Tsou et al., 2015; Brem et al., 2016). However, Anning-Dorson (2016) found that improvement in innovations can insignificantly towards improving CA. Similarly, Syapsan (2019) also identified an insignificant relationship between innovations and CA on SMEs in Sumatra and Java Islands in Indonesia. Furthermore, in the review of the literature (Johannessen & Olsen, 2009) conclude that organizations can develop innovations, which ultimately will lead to sustainable CA. Similarly, the results studies (Aziz & Samad, 2016; Eidizadeh et al., 2017; Anning-Dorson, 2018; Chatzoglou & Chatzoules, 2018; Le & Lei, 2018; Liu & Huang, 2018; Quaye & Mensah, 2019; Distanont & Khongmalai, 2020; Liu et al., 2020; Wahyono, 2020) and findings indicate that innovation has a positive and significant effect on CA. Therefore, in this study the following hypotheses are proposed:

H5: Innovation has a positive and significant effect on CA in SMEs.

Current studies also aim to investigate the effect of KS and strategic locations on CA through the mediating role of innovation. The approach used to test and explain the media-

ting role of innovation is the RBV model with the consideration that SMEs are as a bundle of recommendations the complementarity of knowledge and capabilities influence a SMEs innovation. According to Porter (2011), the RBV approach can indicate that the interaction between different resources leads to benefits and shapes and competitive advantages. Based on the literature study, the increase in CA is very much significantly determined by the ability of employees to innovate. The current study re-examines and analyzes the influence of KS and strategic location on CA, which through mediating innovation. Especially in SMEs which are focused on the ability of human resources in knowledge sharing and choosing strategic locations. argue that successful innovations can improve a firm’s competitive advantage. Consistent with Borghini (2005) which states that innovation is implementing ideas. Similarly, Porter (2011) argued that there are principles for organizations for obtaining CA in global competition.

The results of previous studies mostly indicate that KS and strategic location have a positive and significant effect on innovation and CA. Similarly, innovation has a positive and significant effect on CA. However, there is still little research

investigating the role of innovation as a mediating effect of KS and strategic locations on CA. As a reference for testing the role of innovation mediation adopted from the results of the study (Eidizadeh et al., 2017; Chatzoglou & Chatzoude, 2018; and Wahyono, 2020) found that innovation acts as a mediating influence between KS and CA. Furthermore, also Erskine et al. (2019) found that innovation acts as a mediating influence between strategic locations and CA. Previous researchers also suggested that further studies test the role of innovation as a mediating effect of KS and strategic location on CA. Therefore, to test the mediation effect, the hypotheses proposed in the current research are:

- H6: Innovation acts as a mediating relationship between KS and CA in SMEs.
- H7: Innovation acts as a mediating relationship between strategic locations and CA in SMEs.

Based on a literature review and previous research results, this study was designed using four variables: KS, strategic locations, innovation, and CA. Based on testing of the four constructs, the researcher tries to develop the research framework, as seen in Figure 1.

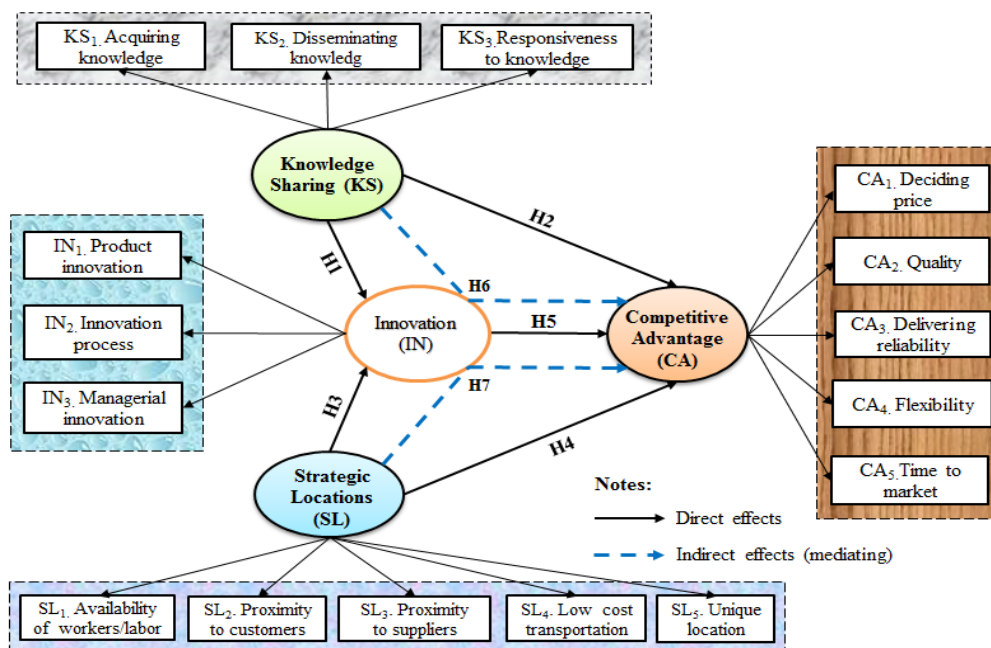


Figure 1. Research Conceptual Model

METHOD

The design of this study is a positivist paradigm with a quantitative approach. The current research data collection with a survey method through was carried out in a cross-sectional manner using a questionnaire. The purpose of this study was to examine the effect of KS and strategic location on innovation and CA either directly or indirectly, namely through the mediating role of innovation. The purpose of this study was to examine the effect of KS and strategic location on innovation and CA. Therefore, this type of research is also explanatory research that aims to examine and explain the effect of causality between constructs (Schindler, 2014). The population that becomes the unit of analysis in this research is the managers or owners of the processing industry in SMEs in Southeast Sulawesi Province. which amounted to 189 business units. The processing industry is classified as an SME with the criteria of having less than 100 employees, as defined in (BPS, 2020).

The method of determining the sample of this study uses stratified random sampling by selecting 120 SMEs from each type of processing industry in Southeast Sulawesi Province, which is represented by 24 SMEs in each type of business. Furthermore, in this research, out of 120 questionnaires distributed by top executives (directors and managers) in SMEs, only 117 questionnaires were returned, then 4 questionnaires were completed incomplete.

Therefore, the remaining 99 questionnaires are valid and complete for quantitative analysis. This condition methodologically can represent the response rate that can be used because of 82.50%. The item scales are five-point from Likert where: strongly disagree/good = 1; disagree/good = 2; neither agree = 3; agree/good = 4 and strongly agree/good = 5 adopted from (Sekaran & Bougie, 2016).

The data analysis used in the current study is Partial Least Square (PLS) to test the hypotheses proposed in this research, with the software Smart-PLS 2.0. PLS is a multivariate analysis-based structural equation modeling (SEM) technique, powerful for theory confirmation, including its analytic flexibility and generality (Henseler et al., 2016). Moreover, PLS has the advantage of integrating various statistical processes for parameter assessment and hypothesis testing (Hair et al., 2019). Therefore, the researcher believes that the PLS technique is very suitable to estimate of research model, with reason: (1) the current research focuses on empirically testing and predicting latent variables variance (i.e. KS, strategic locations, innovation, and CA); (2) this research conceptual model has a complex structure and the tiered relationship; (3) the effect KS, strategic locations, innovation, and CA can be measured directly and indirectly through innovation; (4) this research uses second-order reflective constructs and the sample (n = 99) is somewhat small. The summary of research flow chart methods can be seen at Figure 2.

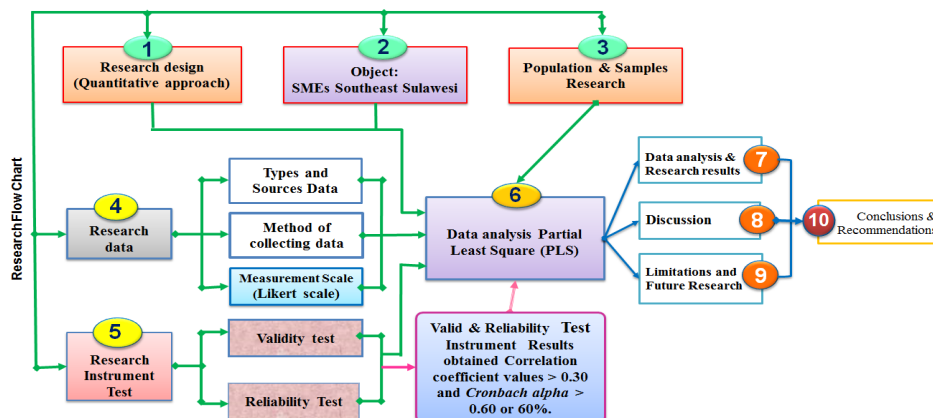


Figure 2. Research Flow Chart methods

RESULT AND DISCUSSION

Characteristics of respondents the sample is intended to explain the profile of managers of SMEs in Southeast Sulawesi Province based on the sex of the respondents the majority of men = 87.88 percent, age respondents mostly range from 36 to 45 years = 64.65 percent, work experience the majority range from 6 to 10 years = 72.72 percent, education level mostly is bachelor = 58.59 percent and several employees the majority range from 21 to 40 people = 63.63 percent, more details can be seen in Table 1.

Table 1. Profile of respondents

| Description | n | Percent (%) |
|---------------------------|----|-------------|
| Gender: | | |
| Male | 87 | 87.88 |
| Female | 12 | 12.12 |
| Age (years): | | |
| 19-25 | 12 | 12.12 |
| 26-35 | 16 | 16.16 |
| 36-45 | 64 | 64.65 |
| 46-57 | 7 | 7.07 |
| Work history: | | |
| 1-5 years | 33 | 43.43 |
| 6-10 years | 45 | 45.46 |
| 11-23 years | 11 | 11.11 |
| Education: | | |
| High School | 25 | 25.25 |
| Associate degree | 12 | 12.12 |
| Bachelor | 58 | 58.59 |
| Magister | 4 | 4.04 |
| Size by employees: | | |
| 1-10 | 9 | 9.09 |
| 11-20 | 14 | 14.14 |
| 21-30 | 22 | 22.22 |
| 31-40 | 41 | 41.41 |
| 41-52 | 13 | 13.13 |
| Note: n = 99 | | |

Measurement Model

In Table 2, which indicates that all indicators in their respective latent variables outer loadings from 0.64 to 0.81 the values are greater than 0.60 (Hair et al., 2017) and all indicators each latent variable have statistically significant at 0.05 level, the results which indicate that measurement model had adequate and good levels of convergent validity. Furthermore, the results of testing the value of composite reliability of KS, strategic location, innovation, and CA variables show that the four latent variables analyzed have good composite reliability because their values were above 0.70. This result shows that all instruments used in the current research have met the criteria for use in the measurement of the KS, strategic locations, innovation, and CA variable because all variables have high suitability and reliability.

The results of data analysis shown reliability constructs and measurement scales using results of data analysis shown reliability constructs and measurement scales using composite reliability are summarized in Table 2, the composite reliability of all the latent variables (i.e. KS = 0.813, strategic locations = 0.827, innovation = 0.814 and CA = 0.834) range from 0.813 to 0.834 are greater than 0.70, which indicate of good and adequate composite reliability of the measurement scales (Solimun et al., 2019 and Hair et al., 2019). Similarly, \sqrt{AVE} values are KS = 0.769; strategic locations = 0.699; innovation = 0.771, and CA = 0.709 of all the latent variables is greater than the correlation between any pair of them, the results indicate adequate and satisfactory levels of discriminant validity. As presented in Table 3 which indicates the AVE values are: KS = 0.592; strategic locations = 0.589; innovation = 0.594 and CA = 0.503, since each latent variable the values are above the cut off of 0.5 or exceeds the recommended minimum value (Henseler et al., 2016), were all at acceptable levels for convergent validity. The results from Table 3 and Figure 3, which indicate correlations of the latent variables (i.e., KS, strategic locations, innovation, and CA) range from 0.385 to 0.597 with significances $p < 0.05$, showing acceptable criterion validity.

Table 2. Mean Scorer, Outer Loadings, AVE, and Composite Reliability

| Latent Variable/Indicators | Mean | Outer Loadings | | | | Composite Reliability |
|---|-------|----------------|------|-------------|---------|-----------------------|
| | | Loading | S.D. | T-Statistic | p-value | |
| Knowledge Sharing (KS): | 3.856 | | | | | |
| KS ₁ . Acquiring knowledge | 3.815 | .770 | .065 | 11.780 | .000* | .813 |
| KS ₂ . Disseminating knowledge | 3.882 | .803 | .059 | 13.580 | .000* | |
| KS ₃ . Responsiveness to knowledge | 3.872 | .732 | .076 | 9.575 | .000* | |
| Strategic Locations (SL): | 3.931 | | | | | |
| SL ₁ . Availability of workers/labor | 3.929 | .722 | .056 | 12.930 | .000* | .827 |
| SL ₂ . Proximity to customers | 3.939 | .697 | .065 | 10.793 | .000* | |
| SL ₃ . Proximity to suppliers | 3.909 | .703 | .065 | 10.844 | .000* | |
| SL ₄ . Low transportation cost | 3.980 | .638 | .055 | 11.694 | .000* | |
| SL ₅ . Unique location | 3.899 | .734 | .042 | 17.530 | .000* | |
| Innovation (IN): | 3.951 | | | | | |
| IN ₁ . Product innovation | 3.956 | .813 | .060 | 13.464 | .000* | .814 |
| IN ₂ . Innovation process | 3.970 | .779 | .069 | 11.238 | .000* | |
| IN ₃ . Managerial innovation | 3.926 | .718 | .064 | 11.258 | .000* | |
| Competitive Advantage (CA): | 4.020 | | | | | |
| CA ₁ . Deciding price | 4.081 | .787 | .032 | 24.284 | .000* | .834 |
| CA ₂ . Quality | 4.111 | .760 | .046 | 16.654 | .000* | |
| CA ₃ . Delivering reliability | 4.101 | .695 | .053 | 13.132 | .000* | |
| CA ₄ . Flexibility | 3.869 | .637 | .066 | 9.689 | .000* | |
| CA ₅ . Time to market | 3.939 | .655 | .076 | 8.679 | .000* | |

Notes: * significant at .05 level and Composite Reliability > .70

Structural Models and Hypothesis Testing

Results of data analysis and hypothesis testing based on the research framework proposed in this study used of PLS analysis are indicated in Figure 4 and summarized in Table 4. For the appropriate *goodness of fit* test, the PLS software. The calculations show the predictive value-relevance is: $Q^2 = 1 - \{(1 - 0.302) (1 - 0.490)\} = 1 - 0.359 = 0.644$ or **64.40%**.

Based on the calculation of predictive-relevance (Q^2) = 0.644 or 64.40 %, this means that the accuracy of this research model can explain the diversity of KS, strategic location on innovation, and CA of 64.40%. The remaining 35.60 percent is explained by other constructs outside of the current research conceptual model. Therefore, the structural model was evaluated based on the significance and coefficient path value of

influence among latent variables.

Test results indicates that KS has positive significant influence on innovation in SMEs, as evidenced by the value ($\beta = 0.337$ and ρ -value = $0.001 < \alpha = 0.05$). However, KS insignificantly influence toward CA in SMEs in Southeast Sulawesi as evidenced by the $\beta = 0.077$ and ρ -value = $0.297 > \alpha = 0.05$ (not significant). Thus, H1 is supported, but H2 is rejected. The test results with PLS show that strategic location has a positive and significant effect on innovation, the researcher followed the procedures recommended by Henseler et al. (2016) and Solimun et al. (2019). First, the total effect and significant value of the effects of each exogenous variable (KS and strategic locations) on endogenous variables (innovation and CA) was evaluated as presented in Table 4. If it was significant, the indirect effect (the ef-

Table 3. Correlations of Latent Variables

| Constructs | Mean | AVE | \sqrt{AVE} | KS | SL | IN | CA |
|-----------------------|------|------|--------------|--------|--------|--------|----|
| Knowledge sharing | 3.86 | .592 | .769 | 1 | | | |
| Strategic location | 3.93 | .489 | .699 | .385* | 1 | | |
| Innovation | 3.95 | .594 | .771 | .453** | .462** | 1 | |
| Competitive advantage | 4.02 | .503 | .709 | .591** | .404** | .597** | 1 |

Notes: *significant at .05 level and **significant at .01 level

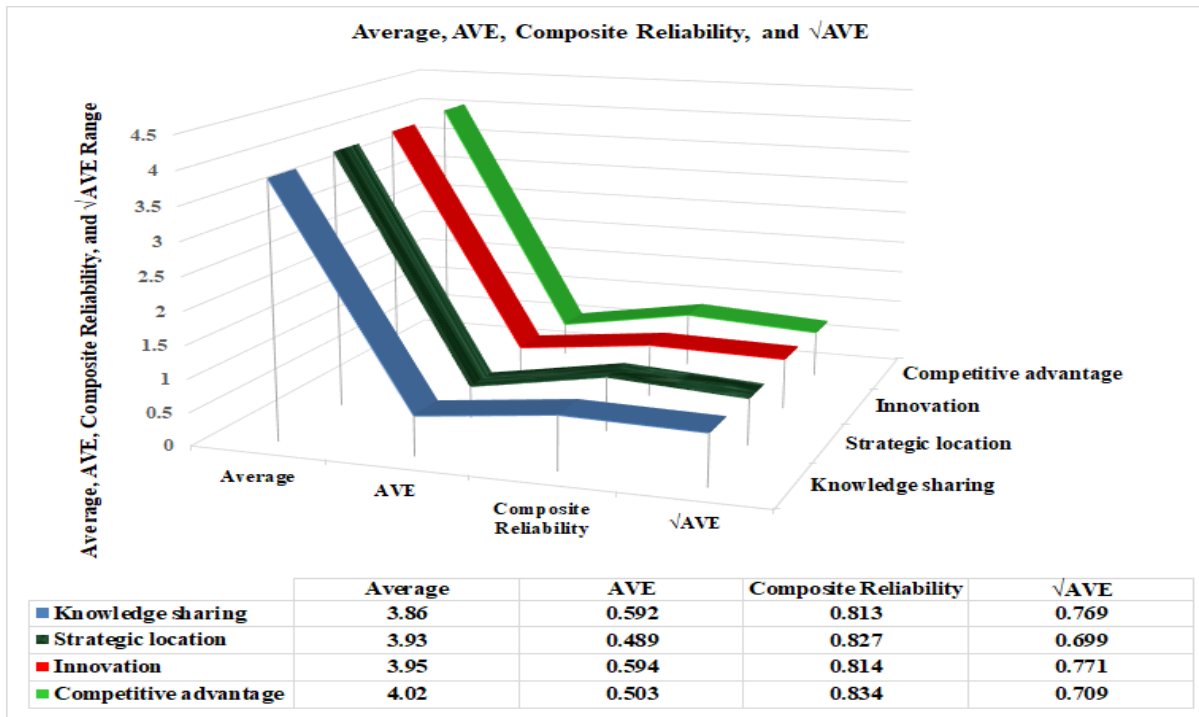


Figure 3. Graphical presentation of Measurement Model

fects of each exogenous variable on CA through innovation) was evaluated. Further, the direct effect of each exogenous variable on CA was evaluated to see if the mediation effect was complete or partial and not mediation.

Based on the result obtained from the PLS output in Table 4 the mediating effect of innovation on the relationship between KS and CA (H6), the total effect of KS on innovation was positive and significant ($\beta = 0.337$, and ρ -value = $0.000 < 0.05$). The indirect effect of KS on CA through innovation was also positive and significant ($\beta = 0.130$, and ρ -value $0.010 < 0.05$) (see in Table 4). Therefore, there was the role of mediation, either complete or partial, the direct effect between KS and CA was evaluated.

The path coefficient for the direct effect of KS on CA after the inclusion of the mediating variable was not found to be significant ($\beta = 0.077$, and ρ -value $0.297 > 0.05$) (see in Figure 4).

These results show the role of complete mediation, thus supporting H6 is accepted. Thus, the mediating effect of innovation on the relationship between strategic locations and CA (H7), the total effect of strategic locations on innovation was positive and significant ($\beta = 0.323$, and ρ -value = $0.000 < 0.05$). The indirect effect of strategic locations on CA through innovation was also positive and significant ($\beta = 0.125$, and ρ -value $0.015 < 0.05$) (see in Table 4 and Figure 5).

The path coefficient for the direct effect of strategic locations on CA after the inclusion

Table 4. Parameter estimates for the path direct effects and indirect effects

| Hypo-thesis | Direct effects | Path coefficient (β) | Standard deviation | T-Statistic | ρ -value | Hypothesis Decision |
|-------------|---------------------|------------------------------|--------------------|-------------|---------------|---------------------|
| H1. | KS \rightarrow IN | .337 | .066 | 5.106 | .001* | Supported |
| H2. | KS \rightarrow CA | .077 | .073 | 1.049 | .297 | Rejected |
| H3. | SL \rightarrow IN | .323 | .076 | 4.275 | .000* | Supported |
| H4. | SL \rightarrow CA | .386 | .123 | 3.150 | .002* | Supported |
| H5. | IN \rightarrow CA | .387 | .111 | 3.474 | .001* | Supported |

Parameter estimates for the path indirect effects (mediation)

| Hypo-thesis | Indirect effects (mediation) | Path coefficient (β) | Standard deviation | T-Statistic | ρ -value | Hypothesis Decision |
|-------------|--------------------------------------|------------------------------|--------------------|-------------|---------------|---------------------|
| H6. | KS \rightarrow IN \rightarrow CA | .130 | .048 | 2.689 | .010* | Supported |
| H7. | SL \rightarrow IN \rightarrow CA | .125 | .049 | 3.526 | .015* | Supported |

Notes: * significant at .05 level; KS= Knowledge Sharing; SL= Strategic Locations; IN = Innovation; and CA = Competitive Advantage

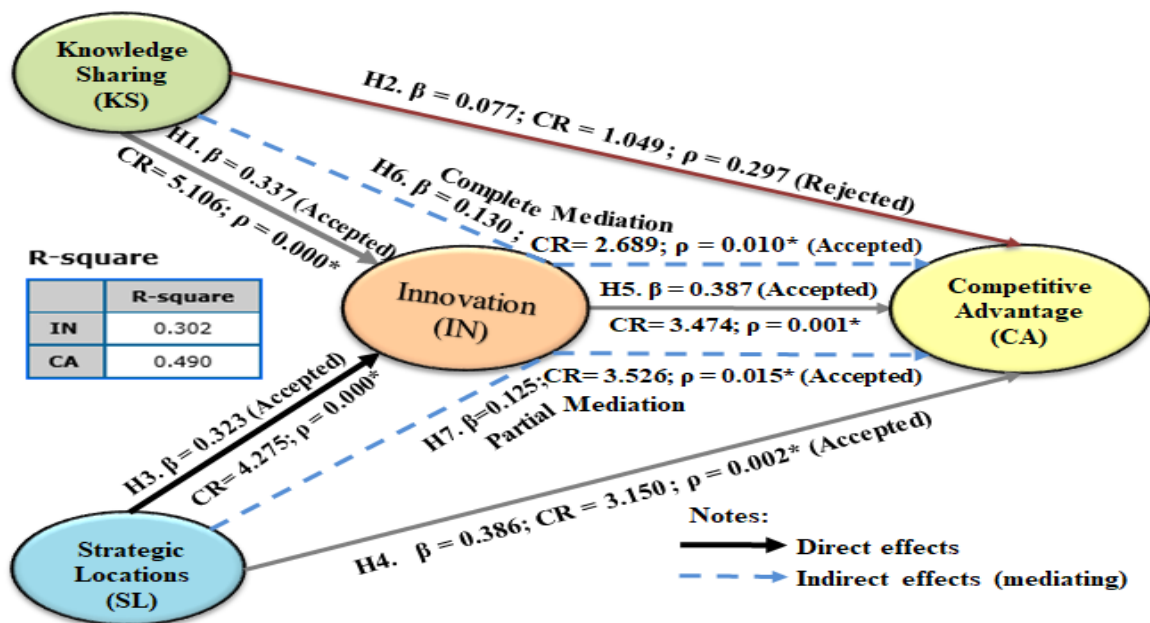


Figure 4. Result of Structural model and Hypothesis Testing

of the mediating variable was found positive and significant ($\beta = 0.386$, and ρ -value $0.002 < 0.05$). Therefore, can be concluded that there was the role of partial mediation so that H7 is accepted. The results also indicate that KS and strategic location influence toward increases CA directly and indirectly through innovation of SMEs in Southeast Sulawesi Province.

Discussion

Given the importance of CA in SMEs, we examine locations choices to understand differences in SME strategies. The research at this time purpose to empirically examine and investigate the influence of KS and strategic location toward innovation, the direct effect of innovation towards CA, and the mediating effect of



Figure 5. Graphical presentation of PLS Output the Structural Models.

innovation on the influence of KS and strategic locations to improve CA of SMEs in Southeast Sulawesi Province. The results of the current studies can have a contribution to the literature and business actors or managers of SMEs in strategic decision-making towards improving innovation and CA. Specifically, the innovation capability of the manager SMEs is a fundamental factor in SMEs' survival and achieving CA.

Results of the research indicate that KS has a positive significant influence on improving innovation in SMEs, but the influence of KS and CA was not significant. These results show that the increase of KS as reflected through indicators (acquiring knowledge, spreading knowledge, and response to knowledge) has a significant contribution to the improvement of innovation as reflected through indicators (product innovation, process innovation, and managerial innovation). Therefore, the findings of this research indicate that high KS significantly contributes to increasing innovation, but CA cannot make

a significant contribution. The findings of this study can confirm the key proposition of KBV by Barney (2015). Moreover, this study supports the argument by Pasaribu (2017) that KS is a behavior that involves exchanging information, work culture, social interaction, including the shared knowledge between employees, experience, and skills the entire members of the organization toward increasing innovation and sustainable CA.

KS based on statements from SME managers in Southeast Sulawesi Province is the ability of managers and owners business to obtain and share knowledge, respond to changes in supplier and customer demand, share business information, build commitment to use knowledge together, and synchronize business decisions together. Therefore, KS has an important role in creating value for innovation and CA in SMEs. Managers of SMEs who have extensive knowledge and insight will be better at anticipating environmental chan-

ges through innovation which can ultimately increase CA. However, the success of KS in SMEs is highly dependent on the ability of managers to obtain, disseminate and respond to the knowledge they receive through business networks by utilizing all optimal resources. These results are strengthened and supported by (Kumar & Rose, 2012; Sáenz et al., 2012; Dickel & Moura, 2016; Eidizadeh et al., 2017; Podrug et al., 2017; Wang et al., 2017; Yang et al., 2018; Han & Chen, 2018; Keszey, 2018; Kim & Shim, 2018; Ganguly et al., 2019; Lei et al., 2019; Rahmi & Indarti, 2019; Ndubisi et al., 2020; Wahyono, 2020) found that KS has a significant effect on innovation, but the results contradicted with Taminiau et al. (2009), which found that KS insignificant influence on innovation.

Findings of the research show that KS insignificantly affects improving CA. This means that the better KS in SMEs, the CA will increase, but does not have a significant contribution. This research has an impact on the behavior of SME managers in Southeast Sulawesi of cannot explain the real effect of KS activities with CA. Interestingly, most of the research shows there is a strong influence of KS and CA (Wang & Noe, 2010; Wu et al., 2012; Abdul-Jalal et al., 2013; Eidizadeh et al., 2017; Aureli et al., 2018; Ndubisi et al., 2020; Wahyono, 2020). However, these results are supported by (Ghobadi & D'Ambra, 2012) found that KS insignificantly affects CA in SMEs. KS is a structured and systematic effort to develop the knowledge SMEs have to help the decision-making process for increasing innovation and CA in SMEs. Activities in KS are efforts that must be carried out by SMEs through the acquisition, storage, dissemination, spreading of knowledge, the response to knowledge, the evaluation, and refinement of knowledge.

The results of the data analysis indicate that strategic location has a positive and significant effect on the innovation and CA of SMEs in Southeast Sulawesi. This means that accuracy in decision-making for the selection of strategic locations had a significant contribution to the

improvement of innovation and CA (reflected through deciding price indicators, quality, delivering reliability, flexibility, and time to market). Thus, the findings indicate that a good strategic location significantly contributes to increasing innovation and CA.

This result supports and confirms the argument by Heizer et al. (2017) who stated that the decision on the determination of strategic locations is very important to increase CA. Therefore, this finding can support and strengthen previous research by (Beugelsdijk, 2011; Narula & Santangelo, 2012; Piperopoulos et al., 2018; Erskine et al., 2019; Pereira et al., 2020) who found that strategic locations are positive and statistically significant effect on innovation. Implying that the SMEs can determine strategic locations make additional contributions to increased innovation and CA. Additionally, these findings are consistent and corroborate findings (Feldmann & Olhager, 2013; Hatani et al., 2016; Jardon, 2018; Erskine et al., 2019; He et al., 2019) which indicated that strategic locations positively and significantly affect improve innovation and CA. Also, this finding of current research indicated that innovation has a significantly positive influence on improving CA in SMEs.

These results indicate that the higher the innovation reflected through product innovation, the innovation process, and managerial innovation indicators, the higher the CA for SMEs in Southeast Sulawesi. This is consistent with Kim & Pennings (2009) state that successful innovations are a fundamental factor in the business strategies to achieve CA. The findings of this study are consistent with the statement that the purpose of determining locations strategy is to optimize the value and benefits of the locations to the company, to increase CA. Furthermore, the findings of this study are consistent with the statement that the purpose of determining locations strategy is to optimize the value and benefits of the location to the company, to can be increased CA. This finding is supported to the study of (Chahal & Bakshi, 2015; Derehli, 2015; Tsou et al., 2015; Łobacz & Głodek, 2015; Aziz & Samad, 2016; Brem et al., 2016;

Eidizadeh et al., 2017; Anning-Dorson, 2018; Lei et al., 2019; Quaye & Mensah, 2019; Distanont & Khongmalai, 2020; Liu et al., 2020). However, the results contradicted Anning-Dorson (2016) and Syapsan (2019) identified an insignificant relationship between innovations and CA on SMEs.

The results of testing the effect of mediation obtained that KS directly has no significant effect on CA, but mediating innovation significantly can improve CA. This means that innovation is significantly influenced by KS and innovation to improve CA. The findings in this research show that innovation has a role as complete mediation in the relationship between KS to improve CA in SMEs. Therefore, the findings of this research indicated that high KS has a significantly positive effect on increasing innovation and high innovation significantly positive influences to increasing CA, but KS directly does not have a significant influence on improving CA. The findings obtained in this research are supported by theoretical the RBV states that the value of employees in an organization because every employee has the knowledge, skills, and experience that are unique to the organization by Barney (2015) and Grant (2005). Porter (2011) the RBV the RBV approach can indicate that the interaction between different resources leads to benefits value and competitive advantages. Consistent with argued Heizer et al. (2017) that RBV is the approach or perspective used by company leaders to manage and evaluate the resources at their disposal, and carry out transformations to achieve sustainable competitive advantage.

The results of the evaluation of the significance and path coefficient value of mediation show that the strategic locations have a significant effect on CA, which is mediated by innovation. This means that innovation is significantly influenced by strategic locations and innovation significantly influences CA, then strategic locations significantly influence CA. Thus, the innovation has a role as partial mediation in the relationship between strategic locations to improve CA. Findings of research mean that the influence of strategic locations can directly affect

increasing CA through innovation. This finding is consistent with the results of the study Erskine et al. (2019) found that innovation has a role as a mediating relationship between strategic locations and CA. This finding indicated that the strategic location is the most important factor that leads to improved CA the reflected through deciding price, quality, delivering reliability, flexibility, and time to market has a significant contribution to improvement innovation the reflected through product innovation, innovation process, and managerial innovation.

The results of this research provide important insight in building and empirically testing a theoretical model of the indirect influence of KS and strategic locations toward increased CA through the mediation of innovation. The findings indicate that KS and strategic locations significantly affect innovation that in turn enhance the CA in SMEs. Further, the results of this research showed that has a significant indirect influence of the KS and strategic locations on CA through innovation thus can confirm the KBV theory. Result of previous studies, the KS has been indirectly affecting CA through innovation (Wang & Wang, 2012; Eidizadeh et al., 2017; Wang et al., 2017; Chatzoglou & Chatzoudes, 2018; Wahyono, 2020). Generally, these findings imply that KS reflected through of acquiring knowledge, spreading knowledge and response to knowledge and strategic locations have contributed to increasing innovation reflected through of product innovation, the innovation process, and managerial innovation ultimately has an important role in increasing CA reflected through of deciding price indicators, quality, delivering reliability, flexibility, and time to market of SMEs in Southeast Sulawesi.

Research implications and limitations

The findings of this research indicate SMEs must be able to take strategic decisions in determining locations and can share knowledge through innovation to improve CA. The findings of this research provide understandings in building and empirically testing a theoretical model of the indirect influence of KS and strate-

gic locations toward increased CA through the mediation of innovation. The results can help SMEs better understand to improve their current innovations through KS and the selection of the strategic location, in turn, can enhance their CA. Moreover, SMEs practitioners must be encouraged to actively participate in increasing KS, innovations, and CA. This research is also expected to have implications on the proposed theoretical model and testing of the empirical model through alternative as well as the development of models so that it can help managers and owners of SMEs in diagnosing and anticipating changes in the environment and market demand through KS capabilities, location strategies, and innovation. Further, the results of current research can help owners and managers in SMEs better understand to improve their current competitive advantage through of ability to KS, location strategies, and innovations.

The results of this study are limited to survey methods that present data analysis of causal influences in cross-sectional studies because it limits the success to generalize the results of this study, especially SMEs in Southeast Sulawesi Province and other regions in Indonesia. The research is limited to SMEs, although the sample in the study represents several industries, the research only focuses on Small and medium scale, so it is difficult to generalize the results to other industries. Another difficulty arises that all respondents of this study come from managers or owners of SMEs; it would be better to measure the KS, location strategies, innovation, and competitive advantage by also involving respondents from suppliers, customers, and competitors. Next, the current research used a self-reported questionnaire completed by managers or owners in SMEs in Southeast Sulawesi Province.

CONCLUSION AND RECOMMENDATION

Based on the results of data analysis, discussion, and findings of current research, some conclusions can be drawn as follows: KS has a significantly positive influence on innovation,

but KS insignificantly on CA. However, the influence of KS on CA was found to be insignificant. This means that improvement in KS can significantly improve innovation in SMEs, but the KS insignificantly affects improving CA. Strategic locations positively and significantly affect improving innovation and CA. These results prove that the better the determination of strategic location, the more significantly improved is innovation and CA.

Results show that innovation has a significantly positive influence on improving CA in SMEs. This means that the high innovation of SMEs has a significant contribution towards increasing CA. The role of innovation has been proven to mediate the effect between KS and strategic location on CA. This means that good KS and strategic locations can increase innovation, and increased innovation can increase CA. The findings in this research show that innovation has a role as complete mediation in the relationship between KS to improve CA in SMEs. Similarly, the strategic locations significantly influence innovation and CA, then and innovation significantly influences CA. Therefore, innovation has a role as partial mediation in the relationship between strategic locations to improve CA

Recommendations from the results in this study can be stated as follows: 1) responsiveness to knowledge are indicators that have the smallest outer loading estimation value in reflecting the KS variable. Thus, the policymakers, namely the managers of SMEs in Southeast Sulawesi, strive to be responsive to knowledge, namely the ability of SMEs to acquire or develop intellectual assets, including personal understanding, expertise, experience, and social processes in organizational cultures that value KS activities; and 2) the findings of measurement results of the outer loading estimation, indicate that the low transportation cost indicator least reflects strategic locations variables. Operationally, it can be achieved by SMEs managers, focusing on the efficiency of transportation costs to our business locations costs lower because of choosing strategic business locations.

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