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Knowledge sharing and sustainable competitive advantage: The role of higher education innovation capability

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ABSTRACT

In this dynamic environment, knowledge-sharing and innovation capabilities have become new sources of organizational competitive advantage. As an organization that builds and disseminates knowledge, the role of sharing knowledge in higher education institutions is very important in achieving its goals. In addition, innovation is very important because education plays an important role in creating a sustainable future. This study aims to analyze the role of knowledge sharing in sustainable competitive advantage mediated by the innovation capabilities of tertiary institutions in South Sumatra Province. Data were collected from 207 respondents representing 15 private higher education institutions in South Sumatra Province which were selected purposively. Data analysis used structural equation modeling with the LISREL 8.7 application. The results of the study concluded that knowledge-sharing and innovation capabilities had a positive and significant effect on the sustainable competitive advantage of higher education institutions. The research also proves that innovation capabilities partially mediate the relationship between knowledge sharing and sustainable competitive advantage of higher education institutions in South Sumatra Province.

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INTRODUCTION

Higher education plays an important role in producing superior human resources to increase the nation's competitiveness (Kireeva et al., 2018) and economic development (Stukalina, 2018). However, higher education institutions are also faced with challenges due to globalization and the Industrial Revolution 4.0 such as competition at the national and global levels (Shobaki & Naser, 2017; Sriwidadi et al., 2016), changes in the need for skilled workers (Bileviciute et al., 2019) , as well as financial challenges with the diminishing provision of public funds (Manzuma-Ndaaba et al., 2018). The demands from stakeholders are also increasing for better results in terms of research and teaching in the form of innovative teaching-learning methodologies supported by information technology (Khalid et al., 2018). For this reason, universities must build and develop sustainable competitive advantages in order to survive, develop, and improve services to the public in this dynamic era (Alfawaire & Atan, 2021; Stukalina, 2018).

Accreditation is a form of recognition of the implementation of quality assurance in a higher education through external examination (Stura et al., 2019). Thus, the accreditation of higher educations

is a reflection of the quality of these institutions, which is based on the performance achievements of the *Tri Dharma* of higher education (BAN-PT, 2019). Accreditation is also one of the factors that can improve the reputation of a university so that it can be more competitive (Kumar et al., 2020). Higher education quality will significantly affect sustainable competitive advantage (Hidayah et al., 2021). This is in accordance with the findings of research conducted by De Silva & Chitraranjan (2018), where accreditation from reputable institutions is one of the factors that influence the competitive advantage of universities in Sri Lanka. Through accreditation, higher education institutions can promote the research outputs and innovations they have produced to be utilized by society and the business world (Kumar et al., 2020).

In 2022, the number of private higher education institutions (HEIs) in South Sumatra Province which are under Region II Higher Education Service Institutions (LLDIKTI II) of the Ministry of Education, Culture, Research and Technology was 96 institutions, consisting of 68 academic and 28 vocational colleges. This number is reduced from 107 HEIs in 2020. In 2022, the number of accredited HEIs were 51 institutions (53.13%) (BAN-PT, 2022). However, only 7.84% of them were accredited Very Good, 25.49% were accredited B, and no private uni had been accredited A or Excellent. Most (66.67%) private HEIs are still accredited C and Good. This condition is better than in 2020, where only 40.19% of HEIs in South Sumatra were accredited. Thus, the accreditation rating of HEIs in the South Sumatra Province still needs to be improved in order to increase competitiveness.

In the current era of knowledge, knowledge is a strategic resource and must be managed properly to produce a competitive advantage for higher education institutions (Mahdi, 2019; Ngoc-Tan & Gregar, 2018). The most important part of knowledge is knowledge sharing (Al-Kurdi et al., 2018). As an organization that builds and disseminates knowledge, the role of sharing knowledge in HEI is very important in achieving its goals (Al-Kurdi et al., 2018) through research and teaching (Kim & Ju, 2008), and knowledge sharing among academics (Ramayah et al., 2013).

Meanwhile, innovation has become a major challenge for all types of organizations (Andreeva & Kianto, 2011), especially the education sector (Lašáková et al., 2017; Lee & Yuan, 2018). Education innovation is very important regardiing to education plays a role in creating a sustainable future (Koroleva & Kuratova, 2020; Serdyukov, 2017), as well as increasing economic growth (Bileviciute et al., 2019) and the quality of education (Koroleva & Kuratova, 2020). Innovation capability is a resource that is unique and difficult for competitors to imitate. Therefore innovation capability can be a source of competitive advantage (Chatzoglou & Chatzoudes, 2018; Eidizadeh et al., 2017; Lo & Tian, 2019) and organizational performance (Ferreira et al., 2020).

Knowledge sharing can enhance an organization's innovation capability and competitive advantage (Lin & Chen, 2017). Research conducted by Lin & Chen (2017) and Zahedi et al. (2022) proved that knowledge sharing has a positive and significant effect on organizational innovation. However, the results of research conducted by Lo & Tian (2019) found that the relationship between knowledge sharing and innovation capability was not significant. Furthermore, Lin & Chen (2017) also proved that innovation capability mediates a positive relationship between knowledge sharing and organizational competitive advantage. The positive and significant relationship between knowledge dissemination and technical innovation in higher education is proven by Ngoc-Tan & Gregar (2018). However, Ngoc-Tan & Gregar found that knowledge dissemination had no effect on higher education administrative innovation.

Researchers argue that organizations with high levels of innovation can develop and maintain competitive advantage, but there is still little research that proves this empirically (Chatzoglou & Chatzoudes, 2018), especially in the higher education sector. In addition, research on the link between knowledge sharing and innovation capabilities in "knowledge-intensive" organizations such as universities is still limited (Al-Kurdi et al., 2018), especially in Indonesia. Therefore, it is important to conduct studies on the role of knowledge sharing and innovation capabilities in developing competitive advantages in higher education. This research intends to bridge the gap on the role of knowledge sharing and innovation capabilities in the sustainable competitive advantage of higher education. This research also intends to provide theoretical and practical contributions to existing literature by

empirically examining the relationship between knowledge sharing, innovation capabilities, and competitive advantage of higher education institutions in South Sumatra Province, Indonesia. Thus this study aims to analyze the role of knowledge sharing in sustainable competitive advantage mediated by the innovation capabilities of HEIs in South Sumatra Province.

LITERATURE REVIEW

Resource-based theory

This research is rooted in resource-based theory which believes that competitive advantage can be achieved through strategic resources owned by organizations (Kabue & Kilika, 2016). Resource-based theory also states that owned resources can determine organizational success (Haseeb et al., 2019). These resources can be assets or capabilities, both tangible and intangible. However, not all assets can be a source of competitive advantage. J. B. Barney (1995) conveys four indicators of resources to achieve sustainable competitive advantage, which are outlined in the VRIO framework, namely that these resources must be valuable, rare, difficult to imitate, and organized.

Sustainable competitive advantage

Alfawaire & Atan (2021) define sustainable competitive advantage as an organizational asset, feature, or capability that is difficult to imitate, and places the organization in a superior position over the long term compared to competitors. To achieve this competitive advantage requires strategic resources and the implementation of strategies that create or add value to the organization (Torres, 2018). These resources are used by organizations to develop, produce, and deliver products or services to their customers (Barney, 1995). Referring to resource-based theory, competitive advantage is achieved if an organization is able to manage its resources (Lionora & Kusumawardhani, 2021).

Various studies show various intangible resources as a source of competitive advantage in higher education. Some of them are brand image (Panda et al., 2019), reputation (Miotto et al., 2020), and human capital (Butt et al., 2020; Ie Lyn Chan & Muthuveloo, 2018). In addition, innovation (Alfawaire & Atan, 2021; Bileviciute et al., 2019; Pangarso et al., 2020), and knowledge sharing (Lo & Tian, 2019) are also very important sources of sustainable competitive advantage.

Knowledge sharing

Specific knowledge and competencies possessed by the organization play a very important role in offering products and providing unique services, which in turn will create customer value (North & Kumta, 2018). Knowledge is claimed to be a source of competitive advantage for tertiary institutions because the knowledge possessed by each tertiary institution is unique, difficult to imitate, and cannot be compared (Eidizadeh et al., 2017). Furthermore, North and Kumta (2018) state that the know-how process and knowledge transfer within the organization will increase productivity and quality. Therefore, knowledge transfer as part of knowledge management becomes very important. Transfer of knowledge can be carried out through sharing knowledge (knowledge sharing) both between individuals within the organization, as well as from and outside the organization. Van Den Hooff & Ridder (2004) and Kamaşak & Bulutlar (2010) classify knowledge sharing into two core processes, namely the process of donating knowledge (knowledge donating) and the process of gathering knowledge (knowledge collecting).

Universities are the main source of knowledge creation (Tseng et al., 2020). The university is a place where academics can share insights, ideas and knowledge, in line with the nature of higher education as a center of knowledge. Thus, sharing knowledge is very important in tertiary institutions, where knowledge is a core competency that can bring competitive advantage to tertiary institutions (Goh & Sandhu, 2014). Several studies also show that knowledge is a predictor of organizational innovation (Asiedu et al., 2020; Ngoc-Tan & Gregar, 2018; Veer Ramjeawon & Rowley, 2017).

Innovation capability

In a highly competitive market, the ability to innovate is the main key to increase market share and survive in the long term (Gürlek & Tuna, 2018) so that it becomes a source of organizational competitive advantage (Ávila, 2022; Distanont & Khongmalai, 2020). Organizations that have a higher innovation capacity will be able to respond to the market and serve consumers better (Jiménez-Jimenez et al., 2008). Innovation can be defined as the application of new ideas and discoveries that result in new technologies, work methods, managerial strategies, product development, or organizational services (Viadiu et al., 2019). Innovation can come from within or outside the organization. Several studies have shown that innovation is a source of sustainable competitive advantage (Eidizadeh et al., 2017; Gürlek & Tuna, 2018) that determines the economic success of an organization (Ngoc-Tan & Gregar, 2018).
(Liao et al., 2008) classifies innovation capabilities into two forms, namely administrative innovation and technical innovation. Administrative innovation is the procedures, policies and new organizational forms, as well as the innovative operations of the organization in terms of planning, personnel, leadership, organization, management, and service. Meanwhile, technical innovation according to Liao (2008) is innovation related to products, facilities, and manufacturing.

Hypothesis development

Higher education is a "knowledge-intensive" organization, which creates and utilizes knowledge to carry out teaching-learning processes, research, and community service (Asiedu et al., 2020; Veer Ramjeawon & Rowley, 2017). Therefore, knowledge management becomes very important in higher education (Veer Ramjeawon & Rowley, 2017). Knowledge management is believed to be one of the important elements that influence an organization's sustainable competitive advantage (Namada, 2018; Veer Ramjeawon & Rowley, 2017). The most important part of knowledge management is knowledge sharing because it is at this stage that knowledge is disseminated and absorbed by stakeholders (North & Kumta, 2018). Research conducted by Eidizadeh et al., (2017), Azeem et al., (2021), and Arsawan et al., (2022) proved that knowledge sharing has a positive and significant effect on an organization's sustainable competitive advantage. Therefore, the first hypothesis is as follows:

H1: Knowledge sharing has a positive and significant effect on the sustainable competitive advantage of HEIs in South Sumatra Province

Knowledge sharing is an important factor in organizations because it plays a role in increasing innovation capabilities to create new products or services, or improve existing services (Azeem et al., 2021). In HEIs, knowledge management plays an important role in increasing the competence of human resources in the learning process, research and development, as well as the allocation of other resources (Asiedu et al., 2020). Research conducted by Veer Ramjeawon & Rowley, (2017), and Asiedu et al., (2020) found that knowledge management (covering knowledge creation, knowledge sharing, and knowledge transfer) has a positive and significant effect on organizational innovation. However, the results of a study conducted by (Lo & Tian, 2019) concluded that it had no significant effect on the innovation ability of higher education institutions in Hong Kong. Thus, the relationship between knowledge sharing and innovation ability is debatable. Accordingly, the following hypothesis is proposed:

H2: Knowledge sharing has a positive and significant effect on the innovation capability of HEIs in South Sumatra Province.

In today's dynamic environment, the ability to innovate is the main key for an organization's sustainable competitive advantage (Distanont & Khongmalai, 2020; Eidizadeh et al., 2017; Gürlek & Tuna, 2018; Jiménez-Jimenez et al., 2008), which in will determine the economic success of an organization (Ngoc-Tan & Gregar, 2018). In order to better respond to the market and serve consumers,

higher innovation capabilities are needed. Innovation is also needed to produce various types of new products and services, or improve existing services. In higher education, innovation is needed to develop better learning methods, as well as produce research products that are beneficial to society. Research conducted by Chatzoglou & Chatzoudes, (2018) and Cheng et al., (2019) confirmed that innovation has a positive and significant effect on creating competitive organizational advantage. In this regard, we propose the following hypothesis:

H3: Knowledge sharing has a positive effect on the sustainable competitive advantage of private HEIs in South Sumatra Province.

Innovation can come from within or outside the organization. Innovations, new thoughts and ideas that arise in internal organizations are usually due to the transfer of knowledge between employees, even though they come from the same workplace (Distanont & Khongmalai, 2020). Knowledge sharing among individuals who are in an organization will be able to increase creativity and innovation capabilities (Teixeira et al., 2020). Several studies have revealed that knowledge sharing has a positive effect on innovation ability and organizational performance (Viadiu et al., 2019; Wang & Noe, 2010) as well as competitive advantage (Bashir & Farooq, 2019). Research conducted by Arsawan et al. (2022), Alfawaire & Atan, (2021), Ávila, (2022), and Lin & Chen, (2017) proved that innovation capability mediates a positive relationship between knowledge sharing and sustainable organizational competitive advantage. Therefore, the hypothesis in this study is as follows:

H4: The innovation capability mediates the relationship between knowledge sharing and the sustainable competitive advantage of private HEIs in South Sumatra Province.

METHOD

This research is a quantitative research. The data used is in the form of primary data obtained by using questionnaires. The population is all academic private HEIs in South Sumatra Province which have institutional accreditation of at least Good, with the consideration that accredited universities have met the National Higher Education Standards and Law no. 12 of 2012. Most HEIs are small institutions (number of enrolled students <2000 students), only 9 HEIs have more than 2000 students.

The sample used is academic private HEIs with a minimum institutional accreditation rating of Good and a minimum number of registered students of 500 students (Even Semester 2021/2022 reporting period at PDDIKTI) a total of 19 private HEIs. Thus, the college sampling technique was carried out purposively. Respondents representing universities were university leaders, faculty leaders, and lecturers. The data used is primary data using an instrument in the form of a questionnaire. Of the 19 HEIs that were targeted, those who returned the questionnaire were respondents from 15 institutions. Of the 225 respondents who returned the questionnaires, 207 questionnaires were valid and could be continued for further processing.

The data used is second order data. The knowledge sharing variable questionnaire was adopted from Kamaşak & Bulutlar, (2010) which consists of 2 dimensions (knowledge collecting and knowledge donating) with 11 indicators. The innovation capability variable consists of 2 dimensions, namely administrative innovation and technical innovation with a total of 10 indicators, which were adapted from the Alfawaire & Atan questionnaire, (2021). Meanwhile, the variable sustainable competitive advantage of higher education institutions consists of 3 dimensions, namely the excellence of HEI, the effectiveness of HEI, and the overall responsiveness of the organization which consists of 23 indicators. The competitive advantage questionnaire was adapted from Alfawaire & Atan (2021), Higher Education National Accreditation Board (BAN-PT), and Pangarso et al. (2020).

All indicators are assessed using a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree". The research design is correlational, in the form of Structural Equation Modeling (SEM) where the relationship between variables is analyzed using a causal pattern, using LISREL 8.7

software. This application is used because it is more capable of solving more complex structural models, besides having better graphical capabilities (Gunarto, 2018) and is more informative in displaying statistical test results so that the causes of poor Goodness of Fit can be identified and resolved more quickly (Latan, 2013). The analysis begins with evaluating the measurement model to test the validity and reliability of latent constructs using construct reliability (CR) and average variance extract (AVE) values, assessing the feasibility of the model as a whole through the criterias of Goodness of Fit (the significance probability of X2 chi square (p), RMR, SRMR, RMSEA, GFI, AGFI, CFI, NFI, IFI, and AIC model), modifying the model, and testing hypotheses using t-Test (Gunarto, 2018).

RESULT AND DISCUSSION

Evaluation of measurement models

The SEM method was used in this study to analyze the relationship between knowledge sharing and sustainable competitive advantage mediated by innovation capability. Based on data analysis, the result is that the model in this study is over identified because the degree of freedom = 892. Because the degree of freedom > 0, the model is over identified so it can be estimated.
Estimation of the research model can be seen in Figure 1.

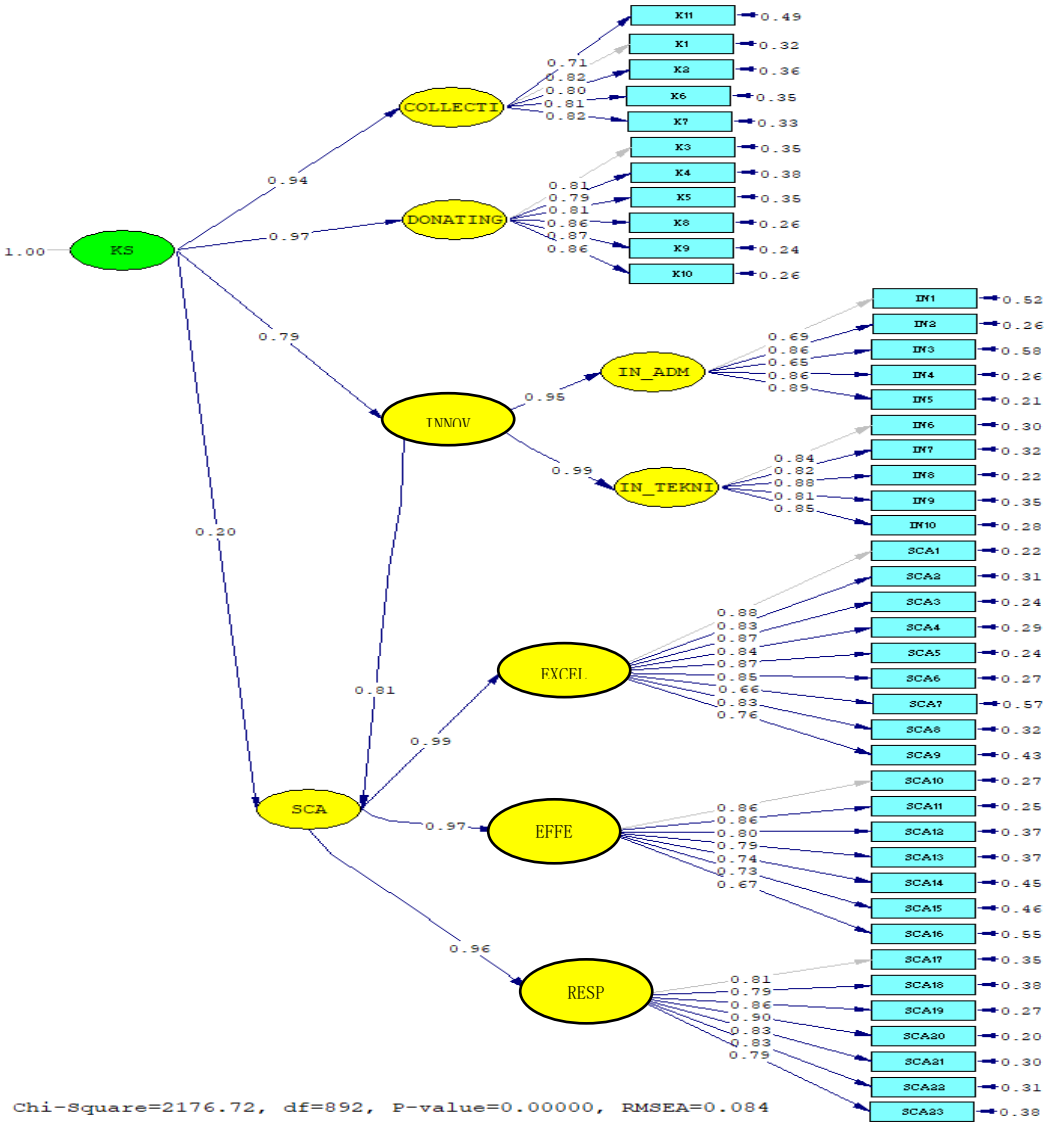

Figure 1. Model estimation

Conformity test for measurement of each latent variable construct is carried out through validity and reliability on second order factors (variable dimensions) and first order factors (variable indicators). The reliability and validity values of the variables can be seen in Table 1 which shows that the CR (construct reliability) value is > 0,7 and the AVE (average variance extract) value is > 0,5 for all variable dimensions. Factor loading values for all constructs > 0,5. This means that all the constructs formulated in the model are valid and reliable (Hair et al., 2018).

Table 1. CFA reliability and validity analysis

Variable/Dimenssion	Indicator	Factor Loading	FL²	Error	CR	EVA	
Knowledge Sharing (KS):					0,95	0,91	Valid and reliable
Knowledge Collecting (COLLECTING)		0,94	0,88	0,12	0,93	0,66	Valid and reliable
	K1	0,82	0,67	0,33			
	K2	0,80	0,64	0,36			
	K6	0,81	0,66	0,34			
	K7	0,82	0,67	0,33			
	K11	0,71	0,50	0,50			
Knowledge Collecting (DONATING)		0,97	0,94	0,06	0,93	0,70	Valid and reliable
	K3	0,81	0,66	0,34			
	K4	0,79	0,62	0,38			
	K5	0,81	0,66	0,34			
	K8	0,86	0,74	0,26			
	K9	0,87	0,76	0,24			
	K10	0,86	0,74	0,26			
Innovation Capability (INNOV):					0,97	0,94	Valid and reliable
administrative innovation (IN_ADM)		0,95	0,90	0,10	0,90	0,63	Valid and reliable
	IN1	0,69	0,48	0,52			
	IN2	0,86	0,74	0,26			
	IN3	0,65	0,42	0,58			
	IN4	0,86	0,74	0,26			
	IN5	0,89	0,79	0,21			
technical innovation (IN_TEKNI)		0,99	0,98	0,02	0,92	0,71	Valid and reliable
	IN6	0,84	0,71	0,29			
	IN7	0,82	0,67	0,33			
	IN8	0,88	0,77	0,23			
	IN9	0,81	0,66	0,34			
	IN10	0,85	0,72	0,28			
Sustainable Competitive Advantage (SCA):					0,98	0,95	Valid and reliable
Excellence (EXCEL)		0,99	0,98	0,02	0,95	0,68	Valid and reliable
	SCA1	0,88	0,77	0,23			
	SCA2	0,83	0,69	0,31			
	SCA3	0,87	0,76	0,24			
	SCA4	0,84	0,71	0,29			
	SCA5	0,87	0,76	0,24			

Variable/Dimenssion	Indicator	Factor Loading	FL²	Error	CR	EVA	
	SCA6	0,86	0,74	0,26			
	SCA7	0,66	0,44	0,56			
	SCA8	0,83	0,69	0,31			
	SCA9	0,76	0,58	0,42			
Effectivenes (EFFE)		0,97	0,94	0,06	0,92	0,66	Valid and reliable
	SCA10	0,86	0,74	0,26			
	SCA11	0,86	0,74	0,26			
	SCA12	0,80	0,64	0,36			
	SCA13	0,79	0,62	0,38			
	SCA14	0,74	0,55	0,45			
	SCA15	0,73	0,53	0,47			
	SCA16	0,67	0,45	0,55			
Responsiveness (RESP)		0,96	0,92	0,08	0,94	0,69	Valid and reliable
	SCA17	0,81	0,66	0,34			
	SCA18	0,79	0,62	0,38			
	SCA19	0,86	0,74	0,26			
	SCA20	0,90	0,81	0,19			
	SCA21	0,83	0,69	0,31			
	SCA22	0,83	0,69	0,31			
	SCA23	0,79	0,62	0,38			

Source: Primary data processed (2022)

A model fit test was carried out to evaluate the degree of compatibility (Goodness of Fit/GoF) between the data and the model. The results of the GoF analysis can be seen in Table 2.

Table 2. Results of the initial model goodness of fit analysis

Criteria	Limit Values	Result	Conclusion
X2 chi square, significance prob.	p-value ≥ 0,05	0	Not fit
RMR	≤ 0,10	0,036	Fit
SRMR	≤ 0,05	0,054	Not fit
RMSEA	≤ 0,08	0,084	Not fit
GFI	> 0,90	0,68	Not fit
AGFI	> 0,90	0,64	Not fit
CFI	> 0,95	0,98	Fit
TLI atau NFI	> 0,95	0,97	Fit
IFI	> 0,90	0,98	Fit
Model AIC	< saturated AIC (1980)	2372,72	Not fit

Source: Limit values summarized by Gunarto (2018); Result: Primary Data Processed (2022)

The results of the analysis show that the model is not fit enough, so if further analysis uses this estimate, the results will be biased. Therefore it is necessary to modify the model to get a better model. However, after carrying out the Goodness of Fit analysis on the modified model, it was found that it was still not fit. Therefore, a simplification of the latent variable was carried out from the 2nd order CFA form to the 1st order CFA form using the latent variable score (VLS) value (Nurbaiti, 2021). In addition, model simplification was also carried out because the number of samples was not sufficient to run the original model (Paludi, 2017), where the required number of samples was a minimum of 220 samples

(44 indicators x 5 respondents), while samples that could be used for analysis in this study were 207 samples. After simplifying the research model, the Goodness of Fit results are shown in Table 3.

Table 3. Simplified goodness of fit model results

Criteria	Limit Values	Result	Conclusion
X2 chi square, significance prob.	p-value ≥ 0,05	0,85	Fit
RMR	≤ 0,10	0,01	Fit
SRMR	≤ 0,05	0,01	Fit
RMSEA	≤ 0,08	0,00	Fit
GFI	> 0,90	0,99	Fit
AGFI	> 0,90	0,96	Fit
CFI	> 0,95	1,00	Fit
TLI atau NFI	> 0,95	1,00	Fit
IFI	> 0,90	1,00	Fit
Model AIC	< saturated AIC (56,00)	44,50	Fit

Source: Primary data processed (2022)

The results of the simplification of the research model as a whole goodness of fit model is good, with RMSEA = 0,00, GFI = 0,99, AGFI = 0,96, RMR = 0,01, NFI = 1,00. Thus, the measurement model for the dimensions of the research variables meets the criteria for a good measurement model.
Figure 2 shows the relationship between the latent variables studied from the simplified model results.

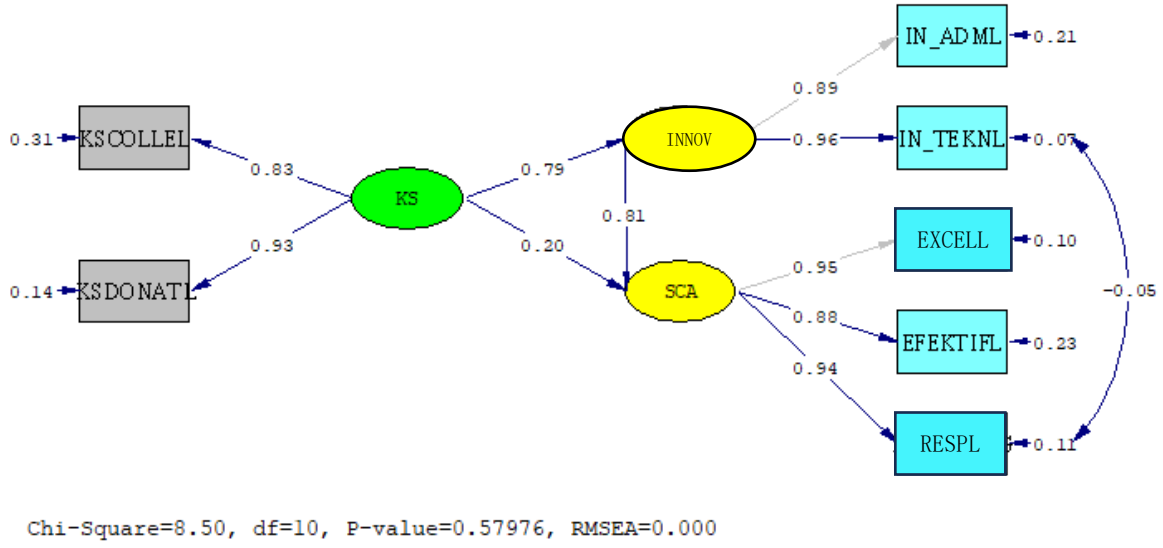

Figure 2. Structural model of latent variables after simplification

Hypothesis test results

The following presents the results of the structural equation:

INNOV = 0,79*KS, Errorvar.= 0,37 , R^2 = 0,63
(0,13) (0,085)
5,89 4,40

SCA = 0,81*INNOV + 0,20*KS, Errorvar.= 0,044 , R^2 = 0,96

(0,087)	(0,085)	(0,026)
9,28	2,34	1,73

The results of testing the relationship between latent variables are shown in Table 4.

Table 4. Hypothesis test results

Hypothesis	Relationship	Estimation	S.E	t-Value	Decision	R^2
H1	SCA ← KS	0,20	0,085	2,34	Supported	0,96
H2	INNOV ← KS	0,79	0,130	5,89	Supported	0,63
H3	SCA ← INNOV	0,81	0,087	9,28	Supported	

Source: Primary data processed (2022)

Based on Table 4, each hypothesis can be explained as follows:

1. Hypothesis 1: knowledge sharing has a positive effect on the sustainable competitive advantage of higher education institutions. From the table it can be seen that there is a positive relationship between knowledge sharing and HEI competitive advantage of 0,20 with a t-value of 2,34, > 1,96, which means the relationship is significant. Thus hypothesis 1 is accepted.
2. Hypothesis 2: knowledge sharing has a positive and significant effect on innovation ability. The calculation results show that there is a positive relationship between knowledge sharing and innovation of 0,79 with a t-value of 5,89 (greater than 1,96). Thus the relationship between knowledge sharing and innovation is positive and significant. This means that hypothesis 2 is accepted.
3. Hypothesis 3: the ability of innovation has a positive effect on the sustainable competitive advantage of higher education institutions. The calculation results show that innovation has a positive effect on the competitive advantage of HEI by 0,81 with a t-value of 9,28 > 1,96. This means that there is a positive and significant relationship between innovation and sustainable competitive advantage. This finding supports hypothesis 3.

Table 5. Direct and indirect effects of relations between variables

No	Relationship	Direct Effect	Indirect Effect Through INNOV	Total Effect
1	KS → INNOV	0,79	-	0,79
2	INNOV → SCA	0,81	-	0,81
3	KS → SCA	0,20	0,64	0,84

Source: Primary data processed (2022)

4. Hypothesis 4: innovation ability mediates the relationship between knowledge sharing variable and HEI's sustainable competitive advantage. Table 5 shows that the direct effect of the knowledge sharing variable on the sustainable competitive advantage of higher education institutions is 0,20. The indirect effect of knowledge sharing on competitive advantage through innovation capability is 0,79 x 0,81 = 0,64. Thus the total effect of knowledge sharing on the sustainable competitive advantage of HEI is 0,20 + 0,64 = 0,84. The indirect influence is greater than the direct influence. It can be concluded that the innovation capability variable partially mediates the relationship between knowledge sharing and HEI's sustainable competitive advantage. This means that hypothesis 4 is accepted.

Knowledge sharing and sustainable competitive advantage

The results of the first hypothesis test are in line with research conducted by Eidizadeh et al., (2017), Azeem et al., (2021), and Arsawan et al., (2022). This means that if HEIs increase efforts where lecturers can share knowledge through various media, then the institutions will have a higher competitive position. However, the role of human resources in higher education is very important, because they own and share knowledge. Therefore, it is necessary to cultivate the behavior and culture of sharing

knowledge among human resources in HEIs to improve their abilities so they can perform better. In this case the role of higher education management needs to make efforts to improve a conducive academic climate.

Knowledge sharing and innovation

The results of this study confirm research conducted by Veer Ramjeawon & Rowley (2017) and Asiedu et al. (2020) which states that knowledge sharing has a positive and significant effect on organizational innovation capabilities. However, the results of this study are not in line with the results of Lo & Tian's research (2019) which concluded that knowledge sharing does not have a significant effect on higher education's innovation capability.

In higher education, innovation capability to innovate is very important both to support the teaching and learning process, as well as to produce innovative research outputs that can be applied to improve people's welfare or to be utilized by the industrial world and the business world (Bileviciute et al., 2019; Koroleva & Kuratova, 2020). If HEI increases efforts where lecturers can better share knowledge, the innovation capabilities of the institutions will be even better. For this reason, universities need to continue to improve the competence of human resources, which among other things can be done by sharing knowledge between them.

Innovation capability and sustainable competitive advantage

The results of the third hypothesis test concluded that the ability to innovate has a positive and significant effect on the competitive advantage of HEIs in South Sumatra Province. For this reason, motivational drives and systematic efforts are needed to increase innovation capabilities in HEIs, for example creating a collaborative work environment and implementing effective human resource management practices in HEIs (Lašáková et al., 2017), to increase their competitiveness. The results of this study are in line with the results of research conducted by (Chatzoglou & Chatzoudes, 2018) and (Cheng et al., 2019) which concluded that innovation has a positive and significant effect on creating organizational competitive advantage.

Knowledge sharing, innovation capability and sustainable competitive advantage

The results of the fourth hypothesis test prove that the ability to innovate mediates the relationship between knowledge sharing and the sustainable competitive advantage of HEIs in South Sumatra Province. Knowledge sharing is the most important component of knowledge management (Ramayah et al., 2013). Through knowledge sharing, information and knowledge flow from individuals to organizational knowledge, supporting collaboration and creativity which in turn will improve problem-solving and decision-making abilities (Azeem et al., 2021). By increasing the competence of higher education human resources, especially lecturers, it will increase the innovation capability both in organizing the teaching and learning process, conducting research, and in the context of downstreaming research results so that they can be utilized by society, the business world, and the industry. In turn, this will increase the university's accreditation rating.

The results of this study support research that has been carried out by Lin & Chen, (2017), Lo & Tian (2019), Azeem et al. (2021), and Arsawan, (2022) who concluded that knowledge sharing and innovation capabilities have a positive and significant effect on sustainable competitive advantage. The results of this study also support research conducted by Alfawaire & Atan (2021) and Ávila (2022), which found that innovation capability partially mediates knowledge sharing towards an organization's sustainable competitive advantage.

CONCLUSION

The results of this study support the Resource-based Theory which believes that sustainable competitive advantage is influenced by superior, valuable, rare, difficult to imitate, and well-organized

internal resources. This study aims to determine the role of knowledge sharing on sustainable competitive advantage mediated by the innovation capabilities of HEIs in South Sumatra Province. The results of the analysis show that knowledge sharing and innovation capabilities are sources of sustainable competitive advantage for HEIs in South Sumatra Province. This study also proves that the ability to innovate partially mediates the relationship between knowledge sharing and the sustainable competitive advantage of higher education institutions in South Sumatra Province. For this reason, universities should better manage their knowledge and facilitate knowledge-sharing activities among their human resources. Knowledge flowing among higher education human resources will increase organizational innovation capabilities, which in turn will increase competitiveness through increased accreditation of tertiary institutions.

This research has several limitations. First, the sample of this study is limited to private HEIs in South Sumatra which are accredited as Good, B, and Very Good institutions with a minimum number of registered students of 500 students. More comprehensive information about the condition of private HEIs in South Sumatra may not be included in this study. Second, this study only discusses one component of knowledge management, namely knowledge sharing as a factor that plays a role in achieving sustainable competitive advantage in higher education. In order to get an overview of the overall implementation of knowledge management, future research may include the other two components of knowledge management, namely knowledge creation and knowledge transfer.

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