Model Sinergilitas through Triple Helix Competitive Advantage Of SMEs In Samosir

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Abstract

This research aims to find out the effect of the synergy model of Triple Helix on Competitive Advantage. This research uses the SEM-Partial Least Square (PLS) approach, which is a component-based or variant-based structural equation model. Hypothesis testing is done using the Bootstrap method with a minimum number of bootstraps as much as 217. The results of this study prove that Academic Collaboration has a positive and significant effect on Competitive Advantage which proves the hypothesis is accepted. This means that the better academic collaboration that can be implemented, the higher the creation of Competitive Advantage. The test results provide empirical evidence that Industry Collaboration had a positive and insignificant effect on Competitive Advantage which proved the hypothesis was rejected. Surely these findings show how Industry Collaboration cannot affect Competitive Advantage so SMEs are expected to evaluate better Industry Collaboration. The test results provide empirical evidence that Government Collaboration has a positive and significant effect on Competitive Advantage which proves the hypothesis is accepted. Surely these findings show how Government Collaboration can affect Competitive Advantage so that SMEs are expected to be able to take advantage of support from the government so that Competitive Advantage can be improved.

Keywords: Sinergility, Triple Helix, Competitive Advantage and SMEs

Introduction

SMEs as entrepreneurs have now become a priority scale for economic growth that can reduce economic inequality in society. Small and Medium Enterprises abbreviated as UKM is a term that refers to the type of small business that has a net worth of at most IDR 200,000,000 excluding land and buildings where the business is located. And a stand-alone business. According to the Decree of the President of the Republic of Indonesia no. 99 of 1998 the definition of small business is a small-scale people's economic activity with business fields which are mostly small business activities and need to be protected to prevent unfair competition.

An entrepreneur must always think to look for opportunities, take advantage of opportunities, and create business opportunities that can provide benefits. In entrepreneurship, losses are common, because the loss factor is always there. In fact, for entrepreneurs, the greater the risk of loss that will be faced, the greater the opportunities that will be obtained. According to Lambing & Kuehl (2000), entrepreneurship is aendeavor creative that builds value from something that does not yet exist to exist and can be enjoyed by many people. An activity is considered creative if it involves a new or unique approach and the results are considered useful and acceptable.

Currently, the development of SMEs in Indonesia has slowed growth. This is due, in part, to the consequences of the Covid-19 pandemic, which has devastated the business sector. The concept of synergy contributed by the Government, Industry, and Akademic is known as the Triple Helix concept. The concept of Triple helix in Indonesia should unite one heart of the problem through the synergy of the three (Asmoro, 2012). Even the contribution to innovation lately, the government emphasizes tourism as the leading sector, where all ministries are obliged to support it (Laporan 3 Tahunan Kemenparekraf, 2017). The synergy involvement of collaboration from all concerned must

be united in one common thread. Innovation here should consider the various knowledge and technology transfer models as the basis for establishing a foothold for each role that will contribute. Each of the actors who contributed and experienced real development there are 5 actors. Roles with its functions from 5 actors represented by the Government, Industry (Tourism), Tiggi College, Civil Society, Media and Culture based Society, and Society of the Natural Environment (Praswati, 2017) as economic growth.

This research designed a statistical model in a synergy of competitive advantage development owned by SMEs in Samosir for local economic growth. One of the targets is the creation of tourism objects that become superior destinations in the area, either in the form of innovation and creativity or existing natural conditions. Role of Kementerian Pariwisata dan Ekonomi Kreatif (Kemenparekraf) has the task of organizing government affairs in the field of tourism to assist the President in organizing the state government. How kemenparekraf determines the rationale for improving the economy of the local community by making tourist attractions that are superior in the area, either in the form of innovation and creativity or existing natural conditions.

Hebert & Link (2018), describes the concept of "entrepreneurial action" by defining it as "the creation of opportunity as well as a response to existing circumstances". Meanwhile, research on entrepreneurship lately is more dominated by a desire to define self-employment through the identification of entrepreneurial traits. In this case, the most meaningful is the thought that these traits are permanent and consistently unaffected by time, situation or environment. Porter (1996) views competitive advantage as having three variables (types) that affect, namely cost advantage, differentiation advantage and focus on profit. Morgan, Kaleka &Katsikeas, (2004) measured product competence (differentiation excellence) by: higher product quality, packaging, design and style. In addition, Chenhall and Langfield-Smith (1998) measured product differentiation strategies using five variables: providing high-quality products, providing fast delivery, making design changes, introducing new products and providing unique product features. Abu-Aliqah (2012) in his study adopted the following variables to measure product differentiation strategies: high product quality, fast delivery, new designs and products, and unique product features. Similarly there are different measurement variables for organizational performance in Indonesia literature, ranging from financial to non-financial measurement items.

Literature Review
Competitive Advantage

Competitive advantage has been defined as the achievement of a business strategy that can generate value, which no other competitor uses and which has a potential strategy (Singh et al., 2018). Hili et al. (2017) define competitive advantage as the ability to be able to achieve a monetary advantage over a competing company on the same business scheme. Companies can gain a competitive advantage by using internal strength strategies, can capture profits against business opportunities, eliminate external threats and avoid internal weaknesses (Sigalas et al., 2013).

SMEs Collaboration with Academic to Competitive Advantage

The synergy of Akademic (Universities and other research organizations) provides technology transfer, R&D collaboration, training and mentoring in relation to skilled labor, and knowledge for business (Zeng et al., 2010). Etzkowitz and Leydesdorff (2000), concluded that academics would benefit from linking their research with governments and SMEs actors, thus promoting academic excellence as a source of competitive advantage. Belderbos, Carree, Diederen, Lokshin, and Veugelers (2004) found that collaboration with academic institutions in the Netherlands is the most effective way to achieve competitive advantage. In developing countries, academic collaboration and research institutes have been considered as important to SMEs (Liefner, Hennemann, &Xin, 2006). Liefner et al. (2006) suggested that Academics in China could have a direct impact on Competitive Advantage SMEs in other developing countries. Razak and Saad (2007) argue that Akademik Malaysia is responsible for the transfer of knowledge and skills leading to industry,

products, and competitive advantages. Fritsch and Franke (2004) concluded that having relationships with Akademic and research institutes in Germany allowed companies to achieve competitive advantages. Similarly, Nieto and Santamaria (2007) argue that business collaboration in Spain with research academics can increase competitive advantage. Dzisah and Etzkowitz (2008) show how many academics are involved in knowledge transfer with Brazilian incubators and development with the aim of encouraging competitive advantage.

H1: SMEs collaboration with academic produces a positive effect on competitive advantage.

SMEs Collaboration with Industry to Competitive Advantage

SMEs require collaboration within their business industry sectors to leverage human resources, new technologies, and/or new markets (Fischer &Varga, 2002). In many cases in developing countries, Crespi and Zúniga~ (2012) found that knowledge possessed through business industry collaboration in 6 Latin American countries had a positive effect on competitive advantage. Sammarra and Biggiero (2008) argue that the collaboration of SMEs in their business in Italy can increase competitive advantage. In addition, Chung and Kim (2003) argue that cooperation between SMEs and producers in Korea allows SMEs to increase competitive advantage. Nieto and Santamaria (2007) show how industry and SMEs can be an important source of information to improve product quality in Spain.

H2: SMEs collaboration with industry produces a positive effect on competitive advantage.

SMEs Collaboration with Government to Competitive Advantage

The role of government to support greater collaboration between SMEs and universities (Freel, 2000). Hewitt-Dundas (2006) explains that the Irish government has undertaken policy initiatives to promote smes products, marketing and innovation as a source of competitive advantage. Smallbone, North, Roper, and Vickers (2003) found that there were many policies launched by the government, encouraging SMEs in Ireland to be able to increase competitive advantage. Biggs and Shah (2006) found that there was a link between informal government support and competitive advantages for SMEs in Africa. Nakwa et al. (2012) revealed that government support can serve as regulators and promoters of knowledge networks for Thai SMEs-based industries. In addition, the government has promoted regulations, programs, resources, and actions for collaborative projects involving universities and companies in Belgium. This perspective allows the company to promote. The government supports the role of SMEs in creating an industrialization environment (Dzisah & Etzkowitz, 2008).

H3: SMEs collaboration with Government a positive effect on competitive advantage

Materials & Methods

This research was conducted in the SMEs in Samosir, Indonesia. This research was conducted from March 2021 to September 2021. The population in this study were SMEs, amounting to 217 respondence. Sampling was done by using quota sampling. Based on the results of the distribution of samples obtained a sample of 217 SMEs in Samosir. The data analysis technique used is Structural Equation Modeling-PLS (SEM-PLS) analysis. Overall tabulation and data management using SMART-PLS software.

Table 1. Indicators of SMEs collaboration with Triple Helix and competitive advantage

Variable	Construct	Indicator	Scale Measure
SMEs Collaboration with Universities	12pt bold	left	Likert's
SMEs collaboration with industry	10pt bold	left	Likert's
SMEs collaboration with Government	10pt	justified	Likert's
Competitive Advantage	10pt	justified	Likert's

Hypothesis testing *(γ and λ)* was carried out using theresampling method *Bootstrap* with a

minimum number ofmany *bootstrap* asas 217 and the number of cases must be the same as the number of observations in the original sample. The hypothesis used is as follows.

1. The statistical hypotheses for the *inner model* are:

    H0 :*i* = 0 (theth exogenous variable is*i*- not significant)

    H1 :*i* 0 (theth exogenous variable is*i*- significant)

2. While the hypotheses for the *outer model* are:

   H 0: λi = 0 (the indicator*to-i)* is not significant

    H 1: $\lambda i \neq 0$ (indicator*to-i* significantly) test with test statistic test.

    If the statistics obtained t is greater than the critical value at 2z*tailed* between another 1.65 (at the 10% significance level), 1.96 (at the 5% significance level), and 2.58 (at the 1% significance level) it can be concluded that the path coefficient is significant and vice versal.

Results and Discussion
Assessing outer models or measurement models

There are three criteria in the use of data analysis techniques with SmartPLS to assess outer models, namely Convergent Validity, Discriminant Validity and Composite Reliability. Convergent validity of the measurement model with reflexive indicators is assessed based on the correlation between the item score / component score estimated with Soflware PLS. The reflexive measure of an individual is said to be high if it correlates more than 0.70 with the construct measured. But according to Chin, 1998 for early-stage research of the development of the loading value measurement scale of 0.5 to 0.6 is considered sufficient. In this study will be used the loading factor limit of 0.60.
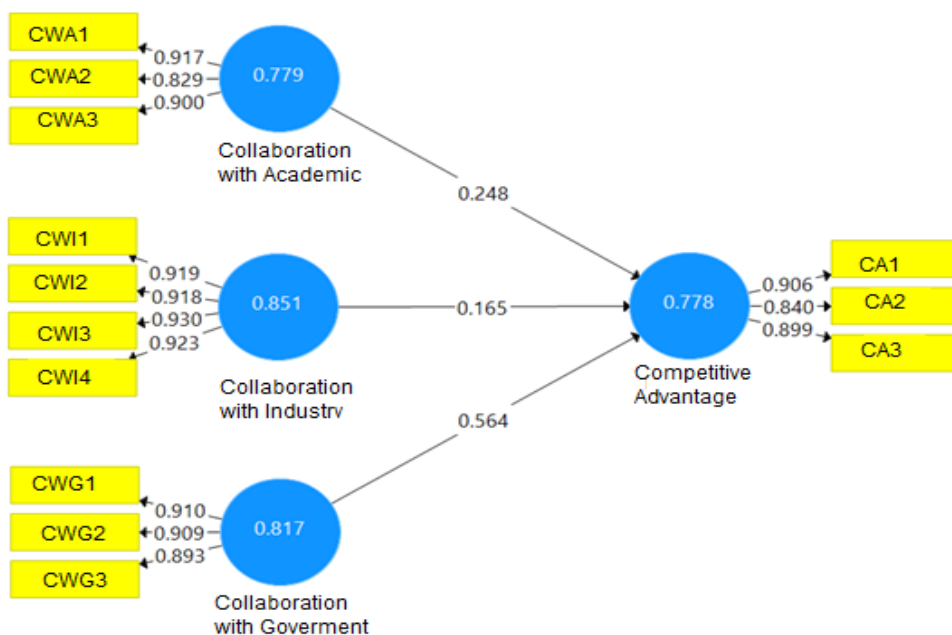
Source : Data Processed Results SMART-PLS, 2021

Table 2. *Outer Loadings (Measurement Model)*

Variabel	Indikator	AVE
Collaboration with Academic	CWA1	0.917
	CWA2	0.829
	CWA3	0.900
Collaboration with Industry	CWI1	0.919
	CWI2	0.918
	CWI3	0.930
	CWI4	0.923

Collaboration with Government	CWG1	0.910
	CWG2	0.909
	CWG3	0.893
Competitive Advantage	CA1	0.906
	CA2	0.840
	CA3	0.899

Source : Data Processed Results SMART-PLS, 2021

The results of processing using SmartPLS can be seen in Table 2. The outer model value or correlation between construct and variable has met convergen validity because the indicator that has a loading factor value above 0.60 so it is worth continuing in the analysis.

Discriminant Validity
Discriminant validity is done to ensure that each concept of each latent variable is different from the other variable. The model has a good discriminant validity if each loading value of each indicator of a latent variable has the greatest loading value with another loading value against another latent variable. The results of discriminant validity testing are obtained as follows:

Evaluate Reliability **and** *Average Variance Extracted (AVE)*
The criteria for validity and reliability can also be seen from the reliability value of a construct and the Average Variance Extracted (AVE) value of each construct. Constructs are said to have high reliability if the value is 0.70 and the AVE is above 0.50. In table 4.6 will be presented composite reliability and AVE values for all variables.

**Table 3.** *Composite Reliability* **and** *Average Variance Extracted*

	Cronbuch	rho_A	Composite	Average
Collaboration with Academic	**0.942**	**0.942**	**0.958**	**0.851**
Collaboration with Industry	**0.888**	**0.893**	**0.931**	**0.817**
Collaboration with Goverment	**0.857**	**0.866**	**0.913**	**0.778**
Commpetitive Advantage	**0.859**	**0.878**	**0.912**	**0.779**

Source : Data Processed Results SMART-PLS, 2021

Based on table 3 it can be concluded that all constructs meet the criteria of reliable. This is indicated by a composite reliability value above 0.70 and an AVE above 0.50 as recommended.

Hypothesis Testing
Internal model or structural model testing is performed to see the relationship between the construct, significance value and R-square of the research model. Structural models are evaluated using R-square for the t test dependent construct as well as the significance of the structural path parameter coefficient.
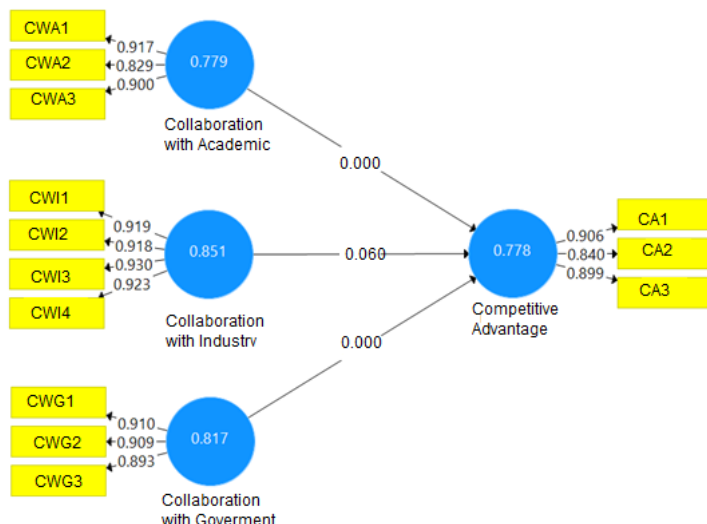
Source : Data Processed Results SMART-PLS, 2021

The figure above shows the R-square value obtained by 0.914 or 91.4%. These results show that 91.4% of tourism Competitive Advantage variables can be affected by Collaboration with Academic variables, Collaboration with Industry Evidence and CRM strategies. Here are the results of hypothesis testing with bootstrapping testing.

Tabel 4. *Result of Bootstrapping Test*

	Original	Sample	Standard	T Statistic	P Values
Collaboration with Academic -> Commpetitive Advantage	0.165	0.168	0.088	1.882	**0.060**
Collaboration with Industry -> Commpetitive Advantage	0.564	0.566	0.084	6.682	**0.000**
Collaboration with Goverment -> Commpetitive Advantage	0.248	0.245	0.042	5.977	**0.000**

Source : Data Processed Results SMART-PLS, 2021

Conclusions
Effect of Collaboration with Academic on Competitive Advantage of Samosir Tourist Village SMEs products
The results of this study prove that the Collaboration with Academic (X1) variable has a significant effect on the Competitive Advantage of Samosir tourist village SME products. Thus the Collaboration with Academic factor of consumers has contributed to the Competitive Advantage of Samosir Tourist Village SME products. Ranga et al. (2008) found that Academic is important not only in relation to R&D, as universities are also important for the generation of new ideas, both of which can lead to the development of competitive advantages for small companies in the Netherlands. Yuwawutto et al. (2010) reported that the Academic sector supports Thai SMEs in increasing competitive advantage. Zeng et al. (2010) showed that collaboration with universities leads to increased competitive advantage of SMEs. Klomklieng, Ratanapanee, Tanchareon, and Meesap (2012) explain the role of Thai Academics as intermediaries for product commercialization, consultation, assistance over equipment sharing, and HRM exchange. Audretsch (2014) revealed that a company is more likely to choose an academic partner when it needs a new source of technological knowledge to achieve competitive advantage. Wonglimpiyarat (2016) shows that academic mentoring programs are one of the main policy mechanisms to support competitive advantage.

Effect of Collaboration with Industry on Competitive Advantage of Samosir Tourist Village SMEs products

The results of this study prove that the Collaboration with Industry variable does not have a significant influence on the Competitive Advantage of Samosir (Y) tourist village SME products. Thus the Collaboration with Industry factor has no contribution to the Competitive Advantage of Samosir tourist village SME products. Klom klieng et al. (2012) found that the relationship between industry and SMEs can increase competitive advantage through the identification of prototype testing through product/process development, use of equipment, information exchange and HRM, and mentoring. Nakwa et al. (2012) found that stronger inter-SMEs relationships in Thai industry led to information exchange and competitive advantages. Landstrom, strom, and Harirchi (2015) claim that SMEs collaborating with other innovative industries have a positive impact on competitive advantage.

Effect of Collaboration with Goverment on Competitive Advantage of Samosir Tourist Village SMEs products

The results of this study prove that the Collaboration with Government variable has a significant influence on the Competitive Advantage of Samosir tourist village SME products (Y). Thus the Collaboration with Government factor has contributed to the Competitive Advantage of Samosir Tourist Village SME products. Ranga et al. (2008) revealed that the government plays a key role in supporting competitive advantage in the Netherlands, thus contributing to innovation. In addition, it has been argued that support from the government can effectively support Academics in China to improve HRM, thus making them a valuable contributor to competitive advantage in SMEs (Zeng et al., 2010). Yuwawutto et al. (2010) suggested that government support has helped Thai businesses in utilizing technology through R&D, expertise and equipment. Yokakul and Zawdie (2011) argue that government support is positively related to the competitive advantage capabilities of Thai SMEs and their business development.

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