

The Role Of The Triple Helix In The Sustainability Of Small And Medium Business (Study On Endek Weaving Smes In Bali)

I Wayan Gde Sarmawa¹, Ida Bagus Udayana Putra², Ni Wayan Sitiari³
^{1,2,3} *Lecture of Universitas Warmadewa Denpasar, Bali*

Abstract:

This study aims to determine the role of the triple helix consisting of government, universities and industry in the sustainability of small and medium enterprises (SMEs), especially in endek weaving SMEs in Bali. The research was conducted at 159 weaving companies in Bali. Research respondents are managers or companies. Research data collection was carried out by distributing questionnaires to UKM managers/managers. The research data was then processed using the SPSS and SmartPLS 3.2.9 application programs. The results of the study show that the government and universities partially have not played a maximum role in the sustainability of SMEs, especially endek weaving SMEs in Bali. Meanwhile, the industry shows a significant positive role in the sustainability of SMEs. Taken together, the government, universities and industry (triple helix) show a significant positive role in the sustainability of SMEs, although their role is still very weak. The results of this study are expected to provide information regarding the importance of strengthening the respective roles (government, universities, and industry) to better support the sustainability of SMEs in the future.

Keywords: triple helix, government, universities, industry, SMEs sustainability

Date of Submission: 08-06-2023

Date of Acceptance: 18-06-2023

I. INTRODUCTION

Small and medium enterprises (SMEs) play an important role in the economy in Indonesia, where 99.9% of existing companies are classified as small and medium enterprises. The absorption of labor in SMEs is also very high, so as to reduce the unemployment rate. However, many problems are faced by SMEs in Indonesia, such as problems with capital, technology, access, human resources, and various other problems. These problems greatly affect the sustainability of the SME business, especially those engaged in the endek weaving industry in Bali.

Endek weaving in Bali is one of the SME products that is very well known locally, nationally, and even internationally, and has not shown good development for many years. Endek weaving in Bali is a local SMEs product that has high quality and contains local cultural designs. These products have their own uniqueness and charm, but are unable to compete with similar products, making it difficult to develop properly.

Most of these local products are processed traditionally. The time needed to complete a sheet of endek cloth is quite long between 3-5 days, if you count it from preparing the materials to produce it. This is what causes the price of endek cloth to be high and unable to compete on price. The traditional processing process causes the production results to not be as good and as fast as working with machines. The production of endek fabrics using appropriate technology (non-machine looms) can simplify and speed up the production of woven fabrics. Even better innovations are needed so that endek weaving companies in Bali can develop in a sustainable manner. In this case, the role of universities is very important in generating ideas and innovations, as well as better appropriate technology to support the sustainability of endek weaving in Bali.

Apart from the role of universities, the role of government is also very important, especially in creating a business climate that ensures business continuity. One of the roles of the government is to make regulations/regulations that are in favor of business continuity. Apart from universities and the government, the industry must also show its own role in maintaining the sustainability of its business. So, the industry together with the government and universities (triple helix) must go hand in hand in order to realize a sustainable business.

A number of references support the important role of government, universities and industry (triple helix) in realizing a sustainable business. The results of research by Asyhari and Wasitowati (2015) in Central Java found that the three triple helix actors (intellectuals, government, business people) have a significant effect on the ability to innovate and competitiveness, as well as business performance. Companies that are more innovative,

have higher competitiveness and performance, are more likely to have greater sustainability power. Research by Fitriani, et al. (2019) on small and medium enterprises in the Banten and Bandung regions found that universities, government and industry made important contributions to the development and success of SMEs. Khourouh et al. (2021) in his research on 134 MSMEs found that the triple helix aspect (universities, companies, and government) showed a significant positive influence on MSME innovation and competitiveness. Likewise in Surjanti's research (2021), it was found that with the implementation of the triple helix, SMEs can return to their activities during the Covid-19 pandemic.

Valderrey et al., 2020 in their study also found that sustainability which consists of (economic sustainability, social sustainability, and environmental sustainability) is significantly influenced by the triple helix. The Triple Helix strategy is very useful for understanding how to minimize the impact of climate change on production and supply in a sustainable way that benefits in the long term. The results of research conducted by Lahi (2019) also found that the triple helix strategy (government, private sector, and academia) has a significant influence on sustainability efforts. It was also emphasized that universities have a major role in this matter.

In contrast to the results of Sato's research (2017), which was conducted in Japan and the Middle East, where creating an attractive environment through collaboration between industry, universities and the government (triple helix) is able to foster better innovation behavior, so that it can develop sustainably. A good environment is able to foster a good partnership climate as well. In the research of Dudin et al (2015), it was stated that the triple helix is important in relation to building innovation, wherein innovation is able to realize positive ideas to become real. Through innovation, various advantages that have high competitiveness will be created, so that the company's performance will be high as a support for business sustainability.

Based on empirical studies, many studies have found the effect of the triple helix on business sustainability, but none of the research results explain in detail which factors among the government, universities and industry have a dominant role. This is important in order to build a sustainable business strategy, especially in setting priorities. This study will analyze in more detail these factors, so that it can be seen which factors have a dominant role.

II. Literature review and Research Hypothesis

Sustainability of Small and Medium Enterprises (SMEs)

Business continuity is the company's main priority scale (Valderrey et al., 2020). Business continuity is a necessity for both large, medium and small companies (Prabawani, 2016: 1). The concept of business continuity is based on the concept of sustainable development put forward in the Report of the Brundtland Commission, a commission established by the World Commission on Economic Development (WCED) in the Tokyo Declaration in 1987. Sustainable development is defined as fulfilling the present which does not undermine the ability of future generations to meet his needs. This concept originates from two basic conditions, namely human needs and limited resources. This concept is used as the basis for designing the concept of business continuity.

Companies that are declared as sustainable companies are companies that are able to create profits but still protect the environment and improve the lives of the parties where the company is located. Business sustainability is a business practice that is carried out with a small negative impact, even able to improve the quality of life of the surrounding environment. One of the important resources needed for sustainability is knowledge, where with high knowledge, companies are able to innovate appropriately (Valderrey et al., 2020). Many countries have initiated businesses by implementing the concept of sustainability including Norway, Finland and Sweden (Prabawani, 2016:4).

In Indonesia, the concept of business continuity has also begun to be applied to micro, small and medium enterprises (MSMEs). The sustainability of SMEs is very important in their contribution to overcoming unemployment and reducing poverty. The number/unit of SMEs in Indonesia is 99.99% of all business actors (Septiani et al., 2020), only 0.01% are large companies. Taking this into account, it can be stated how big the role of SMEs in Indonesia is.

Indicators for measuring business continuity are seen to be based on three things, namely economic sustainability, social sustainability, and environmental sustainability.

More and more companies today are considering business continuity in developing their business. This is intended to maintain business continuity in the long term. Several factors can affect business continuity, namely environmental factors, behavior, human relations, and business activities (Tur-Porcar et al., 2018). While the results of Mochammad et al. (2020) found that managerial, product, and service factors were factors that significantly positively affected business continuity, but company size and environmental factors had no effect on business continuity.

In several collaborative studies of government, universities and industry, the so-called triple helix significantly influences business sustainability (Asyhari and Wasitowati, 2015; Dudin et al., 2015; Sato, 2017; Fitriani, et al., 2019; Lahi, 2019; Valderrey et al., 2020; Surjanti, 2021; and (Khourouh et al., 2021).

Triple Helix

The concept of the triple helix was first issued by Etzkowitz and Leydesdorff (Prabawani, 2016: 33) as an interaction (reciprocal relationship) between universities, industry, and government that has the potential for economic development. The concept of the triple helix in a number of studies has a relationship and influence on business sustainability. Asyhari and Wasitowati (2015) in their research in Central Java on the craft and fashion sector found that the three triple helix actors (intellectuals, government, businessmen) have a significant effect on the ability to innovate and competitiveness, as well as business performance. The more innovative the company, the higher the power competitiveness and performance, it is likely to have greater sustainability power. The same research results were also found in Fitriani et al.'s research. (2019) conducted on small and medium enterprises in the Banten and Bandung regions found that these critical success factors made an important contribution to the development and success of SMEs. Khourouh et al. (2021) in his research on 134 MSMEs found that the triple helix aspect (universities, companies, and government) showed a significant positive influence on MSME innovation and competitiveness. Likewise in Surjanti's research (2021), it was found that with the implementation of the triple helix, SMEs can return to their activities.

Valderrey et al., 2020 in their study also found that sustainability which consists of (economic sustainability, social sustainability, and environmental sustainability) is significantly influenced by the triple helix. The Triple Helix strategy is very useful for understanding how to minimize the impact of climate change on production and supply in a sustainable way that benefits in the long term. The results of research conducted by Lahi (2019) also found that the triple helix strategy (government, private sector, and academia) has a significant influence on sustainability efforts. It was also emphasized that universities have a major role in this matter.

In contrast to the results of Sato's research (2017), which was conducted in Japan and the Middle East, where creating an attractive environment through collaboration between industry, universities and the government (triple helix) is able to foster better innovation behavior, so that it can develop sustainably. A good environment is able to foster a good partnership climate as well. In the research of Dudin et al (2015), it was stated that the triple helix is important in relation to building innovation, wherein innovation is able to realize positive ideas to become real. Through innovation, various advantages that have high competitiveness will be created, so that the company's performance will be high as a support for business sustainability.

As previously explained, the triple helix is an interaction between three components, namely the government, companies, and universities. In some literature the triple helix consists of government, universities and industry (Prabawani, 2016; Sato, 2017). Konig et al. (2021) mentions that the triple helix consists of an education sub-system (academicians, universities, research), an economic sub-system (industry, business, and markets), a state sub-system (government and the public sector). In research conducted by Surjanti (2021) the triple helix is translated by the term SGB, namely Science (S), Governance (G), and Business (B). In a number of research results as described, the triple helix plays an important role in the sustainability of a business.

Government

Government is one aspect of the triple helix. The government plays a very important role in the sustainability of a business. There are various roles that can be played by the government in an effort to maintain and even increase the competitiveness and sustainability of a business. One of them is the making of regulations/policies that can directly or indirectly cover the existence of the business. Petschow et al (2017) and Neubauer & Lank (2016) state that the government has strong authority in maintaining the sustainability of a business. Aras & Crowther (2008), Kocmanová, et al. (2011), Benn & Dunphy (2013), and Hashim et al. (2015) stated that good governance guarantees business continuity in a country.

Several research results have proven the role/involvement of the government in maintaining business continuity. The results of research conducted by Songling et al. (2018) on 326 SMEs found that the government's role has a significant influence on the sustainability of the competitiveness and performance of SMEs in Rawalpindi, Islamabad, Lahore and Karachi. Pu et al. (2021) in their research on SMEs in Bangladesh found that the role of government also has a significant influence on the sustainability of SME businesses in that country. Koontz (2006) also suggests the importance of collaboration or government involvement in maintaining business continuity, especially in small and medium enterprises (SMEs).

Based on a number of previous research results, the government's role is very important in maintaining the continuity of the SME business, especially SMEs with local products. Local products of an area are generally difficult to compete with national and international products. One example of a local Balinese product is endek woven fabric. Locally, nationally, even internationally these products are widely known, but it is difficult to compete, moreover there are products with similar ornaments but much cheaper prices. Under these conditions, government involvement is urgently needed so that local products can survive through regulations that favor small and medium enterprises. The role of government regulation is very important in maintaining business continuity (Chatterjee & Chaudhuri. 2021). Based on the review of a number of references as described, the following research hypotheses can be developed:

Hypothesis-1. The government has a significant positive effect on the sustainability of small and medium enterprises

University

Higher education is an institution that produces scientists or researchers in their fields. In addition, tertiary institutions are required to carry out the Tri Dharma of Higher Education, namely conducting learning, service, and research. Through this tri dharma, especially in higher education research and service, it is expected to be able to produce research results that can support business sustainability. Through community service, it is hoped that tertiary institutions will be able to produce innovations both in the form of new designs or new appropriate technologies that can increase competitiveness and business sustainability. Ralph & Stubbs (2014) stated that universities play a fundamental role in addressing global environmental challenges because their education, research, and community engagement can produce long-lasting environmental effects and social change. Universities are also seen as centers of sustainability, given their central role as nodes of sustainability research, education and co-creation in sustainability transformation (Soini et al., 2018). Results of research in China by Benn & Martin (2010) and Peer & Stoeglehner (2013). find out where universities are agents of change, which bring long-term sustainability.

The results of other studies that explain the relationship between higher education (university) and business continuity, namely Leal Filho et al. (2018). It is stated that higher education institutions with a curriculum that is implemented according to the needs of business development, will be able to determine business continuity. Universities must transform to become a model that encourages the creation of sustainability. Sukoco et al. (2020) found that there is an important role for higher education institutions in producing novice entrepreneurs in a sustainable manner.

Based on this study, universities (universities) play an important role in producing startup entrepreneurs in a sustainable manner. Apart from playing a role in producing new businessmen, universities also play an important role in providing thought ideas through research results for business sustainability. Based on the review of a number of references as described, the following research hypotheses can be developed:

Hypothesis-2: Higher education has a significant positive effect on the sustainability of small and medium enterprises

Industry

The government and universities do indeed play an important role for business continuity, but in a secondary role, while the main role lies with entrepreneurs. Entrepreneurs play a central role in business continuity efforts through business management, starting from planning, organizing, implementing, and supervising business processes. Good management is likely to be able to lead the company to live and develop in a sustainable manner.

Applying business practices that are not excessive, considering the negative impacts of business, and trying to minimize these negative impacts, while also working to improve environmental quality, is a strategy in maintaining business continuity (Prabawani, 2016:4). In addition, companies are responsive/care about the social conditions of the people in the environment where the company is located. Through corporate social responsibility (CSR) activities, companies help create a better social and environmental situation. Based on the review of a number of references as described, the following research hypotheses can be developed:

Hypothesis-3: Industry has a significant positive effect on the sustainability of small and medium enterprises

Referring to a number of arguments in the formation of the hypothesis, it is explained that the government, universities and industry are partially hypothesized to have a significant positive effect on the sustainability of small and medium enterprises. In this case, we will look at the role of the government, universities and industry (triple helix) in the sustainability of endek weaving SMEs in Bali.

In a number of research results as described, the triple helix plays an important role in the sustainability of a business. Kalenov & Shavina (2018), in their research results, states that triple helix collaboration has a very high role in building the sustainability of a business. Luengo et al. (2020) also found the same thing, where the triple helix shows a strong influence on the sustainability of technology companies in Spain. The results of Lahi's research (2021) also state that the triple helix is able to accelerate the sustainability of an economic actor.

Based on the review of a number of references as described, the following research hypotheses can be developed:

Hypothesis-4: The triple helix (government, universities, industry) has a significant positive effect on the sustainability of small and medium enterprises.

Research Concept Framework

As has been described in detail in Chapter II where the triple helix consisting of government, universities and industry has an important role in relation to business sustainability. The results of previous studies have proven that the triple helix has a significant effect on business capability and sustainability (Asyhari and Wasitowati, 2015); (Dudin et al., 2015), (Sato, 2017), (Fitriani, et al., 2019), (Lahi, 2019), (Valderrey et al., 2020), (Surjanti, 2021), (Khrouh et al. 2021), (Widyani et al. 2022). Based on the results of this study, a research concept framework was built as shown in Figure 1.

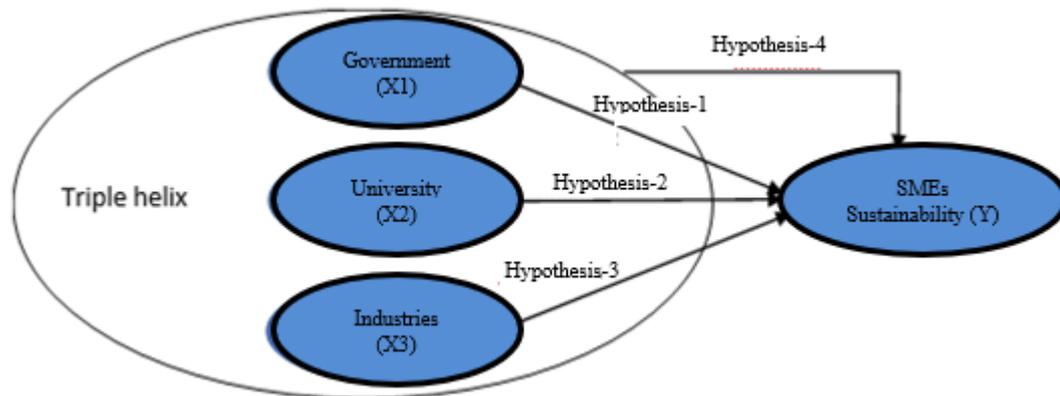


Figure 1: Conceptual Framework for Research on the Role of the Triple Helix (Government, Universities and Industry) on Business Sustainability.

III. Research Method

This research was designed in the form of correlational research that links the aspects of the triple helix with aspects of business sustainability in small and medium enterprises, especially Endek Weaving SMEs in Bali. Based on data from the Bali Provincial Office of Industry and Trade for 2020, the number of endek weaving entrepreneurs is 159 units spread across 9 regencies/cities. Because the number of population is not too much, the researchers decided to make the entire population as a research sample (saturated sample).

Data collection was carried out by distributing questionnaires to all owners of weaving business actors who were the research population/sample. The questionnaire given to the respondents was arranged in the form of statement sentences with a Likert scale answer of 5 (1=strongly disagree with the statement; 2=disagree with the statement; 3=disagree with the statement; 4=agree with the statement; and 5= totally agree with the statement). All of the respondents' answers were then carried out by data tabulation and analysis.

Data analysis was carried out descriptively and inferentially. Descriptive analysis is intended to show the respondent's response to each statement item in the questionnaire. Including displaying the gender, age group, education level, and length of work of the respondent. While the inferential analysis is intended to determine whether there is a relationship/influence of the independent variable with the dependent variable. Data analysis begins with testing the validity and reliability of the research instrument, the validity and reliability of the research data, testing the research model, and finally testing the significance of the influence between the independent variables and the dependent variable.

Testing the validity and reliability of research instruments was carried out with the Predictive Analytics Software (PASW) program. An instrument can be said to be valid if the bivariate correlation coefficient ≥ 0.30 and is said to be reliable if the Cronbach's Alpha coefficient ≥ 0.60 (Nunnaly, 1967). While testing the validity and reliability of the data is done through the SmartPLS program. The data is declared valid if the outer loading coefficient is > 0.50 and is declared reliable if the Cronbach's Alpha coefficient is > 0.60 (Hair, 2010). After testing the validity and reliability for both the instrument and for the research data, and declared valid and reliable, the research model was tested.

The next test is to test whether there is a statistical relationship between the independent variables and the dependent variable at a significance level of 95% (5% error). The significance test is based on the p-value that emerges from the results of data processing with SmartPLS. If a relationship/influence (path) between the independent variable and the dependent variable has a p-value < 0.05 then the effect that occurs is significant, conversely if the p-value that appears is > 0.05 then the effect is not significant.

IV. Results and Discussion

Characteristics of Research Respondents

The characteristics of the research respondents as shown in Table 1, suggest gender, age, education, and years of service. Based on Table 1, the majority of research respondents (managers of small and medium enterprises) were women, namely 85 people (53.46%), the rest were men, 74 people (46.54%). When viewed from the age group, the majority of endek weaving small and medium business managers in Bali are in the age range above 53 years as many as 73 people (45.91%). The remaining 67 people (42.14%) were in the 36-53 year age group, and 19 people (11.95%) were in the 20-36 year age group.

In terms of education, the majority of small and medium business managers have high school education as many as 71 people (44.65%). The rest consisted of 11 elementary school students (6.92), 47 junior high school students (29.56%), and 30 undergraduate students (18%). Furthermore, if observed from the point of view of the tenure of the respondents, the majority of respondents had a tenure of between 5 years and 15 years, namely 67 people (42.14%), a working period of 15 years to 25 years, as many as 54 people (33.96%), and in over 25 years as many as 38 people (23.90%). More details are shown in Table 1 below.

Table 1. Characteristics of Research Respondents including Gender, Age, Education, and Years of Service.

Classification		Amount	Percentage (%)
Gender	Man	74	46,54
	Female	85	53,46
	Amount	159	100,00
Age group	20 - 36	19	11,95
	> 36 - 53	67	42,14
	>53	73	45,91
	Amount	159	100,00
Education	Elementary school	11	6,92
	Junior high school	47	29,56
	Senior High School	71	44,65
	Bachelor	30	18,87
	Amount	159	100,00
Years of service	5 - 15	67	42,14
	>15 -25	54	33,96
	>25	38	23,90
	Amount	159	100,00

Source: Processed data, 2023

Research Data Validity and Reliability

The results of the validity and reliability test of the research data in detail are shown in Table 2 below.

Table 2. Results of Validity and Reliability Tests of Research Data

Variables	Items	Koef. Product Moment	Cronbach Alpha
Government (X1)	Role in solving production problems (X1.1)	0,664	0,800
	Role in solving promotion problems (X1.2)	0,900	
	Role in solving financial problems (X1.3)	0,683	
	Role in solving resource problems (X1.4)	0,632	
	Role in solving legality problems (X1.5)	0,815	
University (X2)	Role in assisting business development (X2.1)	0,928	0,963
	Role in assisting business knowledge (X2.2)	0,951	
	Role in technology development (X2.3)	0,950	
	Role in mentoring (X2.4)	0,965	
Industries (X3)	Role of informing (X3.1)	0,814	0,857
	Willingness to become an object of research (X3.2)	0,814	
	Establish cooperation with the government (X3.3)	0,916	
	Establish cooperation with universities (X3.4)	0,704	
	Carry out government directives (X3.5)	0,728	
SMEs Sustainability (Y)	Revenue increase (Y1.1)	0,856	0,957
	Profit increase (Y1.2)	0,943	
	Increase in company size (Y1.3)	0,694	

	Increased employee welfare (Y2.1)	0,927	
	Improvement of community welfare (Y2.2)	0,853	
	Education Improvement (Y2.3)	0,955	
	Road access is getting better (Y3.1)	0,928	
	The environment is more comfortable and safe (Y3.2)	0,899	
	Improved waste management (Y3.3)	0,703	

Source: Processed data, 2023

Based on the results of testing the validity and reliability of the research data as shown in Table 2, where all indicators for each variable have a product moment value greater than 0.30, all data can be declared valid. Likewise the reliability of the research data as measured through the Cronbach alpha coefficient shows a value greater than 0.60 so that all data is declared reliable. Because all data is stated to be valid and reliable, it can be continued to test the research hypothesis.

Research Hypothesis Testing

Testing the research hypotheses in this study consisted of 1) the role of government in SMEs sustainability, 2) the role of universities in SME sustainability, 3) the role of industry in SMEs sustainability, and 4) the role of the triple helix in SME sustainability, especially in the weaving industry in Bali. The test results are shown in Figure 1 and Table 3.

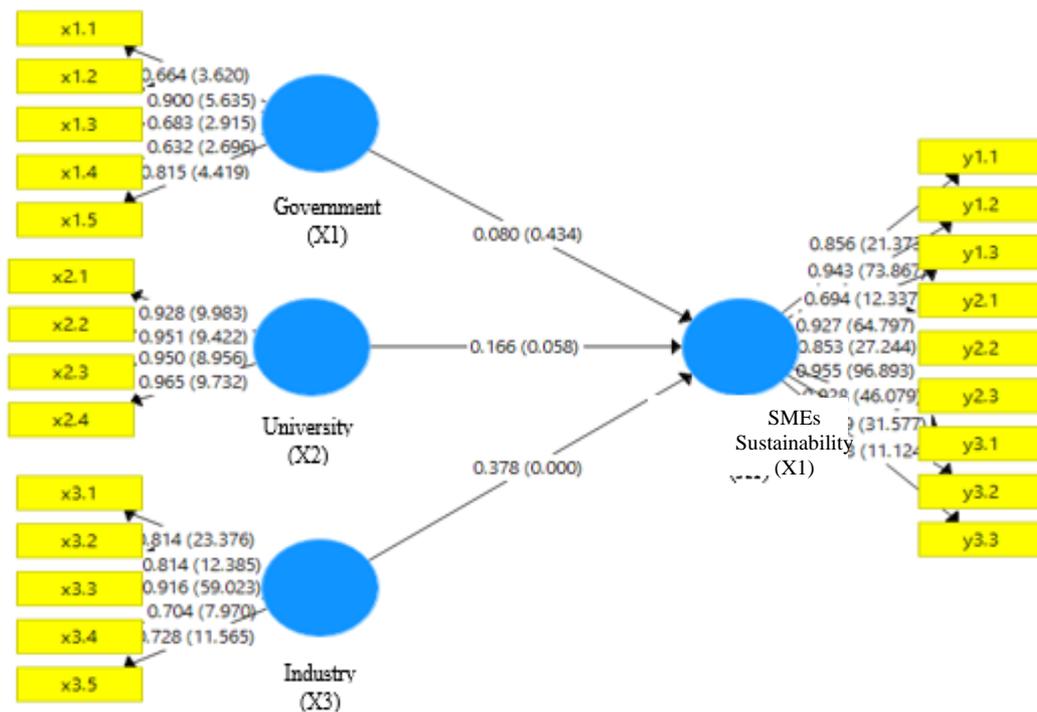


Figure 1. Results of the SmartPLS Analysis of the Influence of Government, Universities, Industry on the Sustainability of SMEs

Table 3. Path Coefficient of Influence of Independent Variables (Government, Universities, Industry) on Dependent Variable (SME Sustainability)

Independent Variables	Dependent Variable	Path Coeff.	P-value	Information
Government	SMEs Sustainability	0,080	0,434	The government has no significant positive effect on the sustainability of SMEs (H1 is rejected)
University		0,166	0,058	Universities have no significant positive effect on the sustainability of SMEs (H2 is rejected)
Industries		0,378	0,000	Industry has a significant positive effect on SME sustainability (H3 accepted)
Triple Helix		0,294	0,001	The triple helix has a significant positive effect on SME sustainability (H4 accepted)

Source: Processed data, 2023

Discussion

The Government's Role in the Sustainability of SMEs

According to the results of research data analysis as shown in Figure 1 and Table 5.3, it appears that the government's role is very weak, even statistically considered insignificant in relation to the sustainability of weaving SMEs in Bali. This result is indicated by a path value of 0.080 with a p-value of $0.434 > 0.05$. The results of this study illustrate that the government's role has no significant effect on business continuity, especially in its role in solving problems of production, promotion/sales, finance, resources, and business legality. The efforts made by the government in order to maintain the sustainability of small and medium businesses in Bali, especially in Ikat weaving SMEs, are felt to have not had a real impact by most of the UKM managers. The results of this study are in contrast to a number of research results which found that the government's role is positively significant to business sustainability. The research results of Shalhoob & Hussainey (2023) found that the government has a strong role in encouraging the sustainability of SME businesses in Saudi Arabia. The same results were also shown by Koontz's (2006); Aras & Crowther (2008); Kocmanova, et al. (2011); Benn & Dunphy (2013); Hashim et al. (2015); Neubauer & Lank (2016); Petschow et al (2017); Songling et al. (2018); and Pu et al. (2021).

The Role of Higher Education in UKM Sustainability

The results of the study also found that universities play a very small role in relation to the sustainability of SMEs. This is indicated by the path value of 0.166 with a p-value of $0.058 > 0.05$. The results of this study illustrate that universities have not shown a significant role in the sustainability of SMEs, especially in their role in assisting business development, increasing business knowledge, technology development, and assisting SMEs. The results of this study differ from a number of previous results, where in several previous studies of tertiary institutions it was found that tertiary institutions had a significant positive effect on business sustainability, such as the results of research conducted by Leal Filho et al. (2018) and Sokoco et al. (2020).

The Role of Industry on the Sustainability of SMEs

Referring to the results of the analysis as shown in Figure 1 and Table 5.3 it shows where the industry has a significant positive influence on the sustainability of SMEs. This result is shown by the path value of 0.378 with a p-value of $0.000 < 0.05$. This means that the industry has a significant positive role for the sustainability of SMEs, especially in its role in informing the problems faced, willingness to become objects of research/development, collaborating with the government and universities, and running business according to government directives. Increased cooperation within the association is able to obtain various useful information in solving business problems. The more intensive the communication within the association, the more likely it is to get solutions/information to increase business continuity capabilities.

The Role of Triple Helix on SME Sustainability

Analysis of the role of the Triple Helix (Government, Higher Education, Industry) on the sustainability of SMEs, shows a significant positive influence on the sustainability of SMEs. This result is shown by the path value of 0.294 with a p-value of $0.001 < 0.05$. These results illustrate that the triple helix (government, universities, and industry) has a significant positive effect on the sustainability of SMEs. This means that collaboration between the government, universities and associations has a significant positive impact on business sustainability. Universities carry out a number of studies and studies, then the government issues various policies based on the results of the studies, and then the industry (association) does business according to the results of the studies and government policies. The results of this study are consistent with a number of previous research results, such as the findings of research conducted by Kalenov & Shavina (2018); Luengo et al. (2020); Lahi (2021).

V. Conclusions and recommendations

Based on the results of the analysis and discussion, it can be concluded that the triple helix has a significant positive effect on business sustainability in small and medium enterprises, especially endek weaving in Bali. However, separately the government and universities have not shown a significant role in business sustainability. This means that the policies that have been issued by the government related to production, marketing, finance, and legality have not had a significant impact on small and medium enterprises. Likewise, higher education activities related to knowledge sharing, appropriate technology products, and business development assistance have also not been felt as beneficial in efforts to continue business. Meanwhile, the existence of the industry (association) plays a fairly good role in business sustainability, even though it's not that big, but its role is positively significant.

Thus, the government and universities, including associations, need to increase their role so that small and medium enterprises, especially endek weaving in Bali, can develop properly and sustainably.

VI. Limitations and Future Research

This research only focuses on the role of government, universities, and industry (associations) in the sustainability of small and medium enterprises, especially endek weaving in Bali. Talking about business continuity, there are many factors that must be taken into account besides the role of government, universities and associations, the role of customers, leadership, employees, competitors, innovation and creativity, and many other factors that affect the sustainability of a business. Therefore these factors need to be considered for further research in order to obtain more comprehensive results.

Reference

- [1]. Aras, G., & Crowther, D. (2008). Governance and sustainability: An investigation into the relationship between corporate governance and corporate sustainability. *Management Decision*, 46(3), 433–448.
- [2]. Asyhari, A., & Wasitowati, W. (2015). Hubungan Triple Helix, Inovasi, Keunggulan Bersaing dan Kinerja. In 2nd Conference in Business, Accounting, and Management 2015. Sultan Agung Islamic University.
- [3]. Benn, S., & Dunphy, D. (2013). *Corporate governance and sustainability: Challenges for theory and practice*. Routledge.
- [4]. Benn, S., & Martin, A. (2010). Learning and change for sustainability reconsidered: A role for boundary objects. *Academy of management learning & education*, 9(3), 397–412.
- [5]. Chatterjee, S., & Chaudhuri, R. (2021). Supply chain sustainability during turbulent environment: Examining the role of firm capabilities and government regulation. *Operations Management Research*, 1-15.
- [6]. Dudin, M., Frolova, E., Gryzunova, N., & Shuvalova, E. (2015). The triple helix model as a mechanism for partnership between the state, business, and the scientific-educational community in the area of organizing national innovation development. *Asian Social Science*, Vol1, (1), 230-238.
- [7]. Fitriani, S., Wahjusaputri, S., & Diponegoro, A. (2019). Success Factors in Triple Helix Coordination: Small-Medium Sized Enterprises in Western Java. *Etikonomi*, 18(2), 233-248.
- [8]. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), *Multivariate Data Analysis*, Seventh Edition, Pearson Prentice Hall.
- [9]. Hashim, F., Mahadi, N. D., & Amran, A. (2015). Corporate governance and sustainability practices in Islamic financial institutions: the role of country of origin. *Procedia Economics and Finance*, 31, 36-43.
- [10]. Kalenov, O., & Shavina, E. (2018). The role of “triple helix” innovative model in regional sustainable development. In *E3S Web of Conferences* (Vol. 41, p. 04054). EDP Sciences.
- [11]. Khourouh, U., Ratnaningsih, C. S., & Rahayudi, B. (2021). Inovasi dan Daya Saing UMKM di Era New Normal: dari Triple Helix Model ke Quadruple Helix Model. *Jurnal Manajemen dan Kewirausahaan*, 9(2), 152-162.
- [12]. Kocmanová, A., Hřebíček, J., & Dočekalová, M. (2011). Corporate Governance and Sustainability. *Economics & Management*, 16.
- [13]. König, J., Suwala, L., & Delargy, C. (2021). Helix models of innovation and sustainable development goals (pp. 473-487). Springer International Publishing.
- [14]. Koontz, T. M. (2006). Collaboration for sustainability? A framework for analyzing government impacts in collaborative-environmental management. *Sustainability: Science, Practice and Policy*, 2(1), 15-24.
- [15]. Lahi, A. (2021). Triple Helix, as an acceleration model of Sustainable Development Goals, *European Journal of Economics and Business Studies*, 5 (2), 101-104
- [16]. Leal Filho, W., Raath, S., Lazzarini, B., Vargas, V. R., de Souza, L., Anholon, R., ... & Orlovic, V. L. (2018). The role of transformation in learning and education for sustainability. *Journal of cleaner production*, 199, 286-295.
- [17]. Luengo-Valderrey, M. J., Pando-Garcia, J., Perianez-Canadillas, I., & Cervera-Taulet, A. (2020). Analysis of the impact of the triple helix on sustainable innovation targets in Spanish technology companies. *Sustainability*, 12(8), 3274.
- [18]. Mochammad, B., Najib, M., & Ali, M. M. (2020). Factor Affecting Business Sustainability Of Small And Medium Coffee Shop. *Jurnal Teknologi Industri Pertanian*, 30(3), 308-318.
- [19]. Neubauer, F., & Lank, A. G. (2016). *The family business: Its governance for sustainability*. Springer.
- [20]. Nunnally, J.C. (1967), *Psychometric Methods*. New York, NY: McGraw-Hill
- [21]. Peer, V., & Stoeglehner, G. (2013). Universities as change agents for sustainability—framing the role of knowledge transfer and generation in regional development processes. *Journal of Cleaner Production*, 44, 85-95.
- [22]. Petschow, U., Rosenau, J., & von Weizsäcker, E. U. (Eds.). (2017). *Governance and sustainability: New challenges for states, companies and civil society*. Routledge.
- [23]. Prabawani B., 2016. Business Sustainability dan Peran Triple Helix dalam Industri, *Terra Media*
- [24]. Pu, G., Qamruzzaman, M., Mehta, A. M., Naqvi, F. N., & Karim, S. (2021). Innovative Finance, Technological Adaptation and SMEs Sustainability: The Mediating Role of Government Support during Covid-19 Pandemic. *Sustainability*, 13(16), 9218.
- [25]. Ralph, M., & Stubbs, W. (2014). Integrating environmental sustainability into universities. *Higher Education*, 67(1), 71-90.
- [26]. Sato, S. (2017). Climate change, the built environment and triple-helix innovation. *Energy Procedia*, 143, 843-850.
- [27]. Septiani, B. A., Chandraderia, D., Arini, T. A., & Pratomo, Y. (2020). Peran usaha Maju Sukses Bersama (MSB) dalam mendukung pertumbuhan ekonomi inklusif. *Jurnal Ilmiah Ekonomi Bisnis*, 25(2), 169-185.
- [28]. Shrivastava, P., & Addas, A. (2014). The impact of corporate governance on sustainability performance. *Journal of Sustainable Finance & Investment*, 4(1), 21-37.
- [29]. Soini, K., Jurgilevich, A., Pietikäinen, J., & Korhonen-Kurki, K. (2018). Universities responding to the call for sustainability: A typology of sustainability centres. *Journal of Cleaner Production*, 170, 1423-1432.
- [30]. Songling, Y., Ishtiaq, M., Anwar, M., & Ahmed, H. (2018). The role of government support in sustainable competitive position and firm performance. *Sustainability*, 10(10), 3495.
- [31]. Sukoco, I., Rahmawati, N. F., Hermanto, B., & Chan, A. (2020). The Role of Higher Education Institutions in Developing Sustainable Business: A Phenomenological Approach of College Students' Start-up. *Technium Soc. Sci. J.*, 14, 101.
- [32]. Surjanti, J., Aji, T. S., Sanaji, S., & Chendra, S. (2021). Triple Helix: a sustainable economy for hijab SMEs in the new normal. *Jurnal Siasat Bisnis*, 25(1), 30-40.
- [33]. Tur-Porcar, A., Roig-Tierno, N., & Llorca Mestre, A. (2018). Factors affecting entrepreneurship and business sustainability. *Sustainability*, 10(2), 452.
- [34]. Widyani, A. A. D., Suardhika, I. N., Astiti, N. P. Y., & Rustiari, N. W. (2022). Triple Helix: the concept of synergy for SMEs to increase business performance. *Review of Applied Socio-Economic Research*, 24(2), 174-191.