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ANALYSIS OF FACTORS AFFECTING SUSTAINABLE COMPETITIVE ADVANTAGE OF SMEs DURING THE COVID-19 PANDEMIC IN PEMATANGSIANTAR CITY

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Abstract

Achieving sustainable competitive advantage will be successful for those with competence, namely someone with the knowledge, skills, and qualities of people that include actions, incentives, points, and sales actions needed to carry out a profession or activity. Achieving a sustainable competitive advantage requires the hard work of every SME actor. To face increasingly complex product competition requires a touch of entrepreneurial orientation, the adoption of qualified information technology, and the ability to apply a culture of innovation in every line of business. This study aims to analyze and examine the effect of entrepreneurial orientation, information technology adoption, and innovation culture on the sustainable competitive advantage of SMEs in Pematangsiantar City. This study uses a causal quantitative research design. The number of samples used in this study was 170 SME business actors. The data analysis method used is Partial Least Square (PLS). The data analysis test tool uses the statistical software Smartpls 3.0. The results of this study conclude that entrepreneurial orientation, information technology adoption, and innovation culture have a positive and significant effect on sustainable competitive advantage.

Keywords: Entrepreneurial Orientation, Information Technology Adoption, Innovation Culture, Sustainable Competitive Advantage

INTRODUCTION

Covid-19 impacts all sectors, one of which is the economic sector. This is felt significantly by the perpetrators of Micro, Small, and Medium Enterprises (MSMEs) who are experiencing an economic crisis. The reason is that the decline in people's purchasing power due to the Covid-19 pandemic has also greatly affected the sustainability of MSME businesses. The economic crisis experienced by MSMEs can unwittingly become a threat to the national economy. With this situation, the implication of increasingly rapid business development will certainly create very tight competition, without exception in the SME sector (Inrawan et al. 2021). Every day, new businesses emerge with their product innovations (Julyanthry et al. 2021). This intense competition ultimately requires SMEs to continue to be creative and innovative so as not to drown in market competition (Halim et al. 2021). The trend towards sustainability and the perception of entrepreneurial desire in increasing entrepreneurial intention requires a concrete analysis to achieve it (Afwa et al. 2021). The analysis

must be oriented towards sustainability in entrepreneurship in the long term by taking into account all the possibilities that occur (Sudirman et al. 2021). All entrepreneurial activities that will be carried out must refer to the effectiveness of operating activities, the ability to manage entrepreneurial orientation, and develop sustainable product innovations (Ayesha et al. 2021). All of these activities must be planned with an appropriate design description of production operations and equipped with the adoption of appropriate technology (Purba et al. 2020). Managers must make decisions about allocating the company's resources in order to compete and gain a sustainable advantage (Manikas, Patel, and Oghazi 2019).

Small and medium enterprises (SMEs) are recognized as one of the main contributors to economic development and employment growth. Despite playing a major role in today's world economy, SMEs are well known to have limitations in increasing competitive advantage and barriers to acceptance in adopting new technologies even though the revolution of the internet and communication channels has changed the way people do business (Manikas et al. 2019). Competitive advantage refers to certain business attributes that help businesses to outperform their rivals (Dahnil et al. 2014). Access to resources or skills may be primarily a competitive advantage (Barney 1991). Firms' business strategies manipulate various resources over which they have direct control to gain a competitive advantage, and these resources can generate a competitive advantage (Yi, Amenuvor, and Boateng 2021). A sustainable power advantage depends on the organization's entrepreneurial orientation and innovation strategies to better compete in the market (Distanont and Khongmalai 2020); (Rothwell 1992). In addition to being the hallmark of successful companies, entrepreneurial orientation and innovation are also important for successful countries. For example, proposes that innovation is essential for a country's industry's economic development and competitiveness (Benner and Tushman 2002). The study (Agarwal and Adjirackor 2016), also stated that the ability of entrepreneurial orientation is very important for companies that want to gain a sustainable competitive advantage. A number of studies have also found that the ability to adopt technology positively affects sustainable competitive advantage (Widyanti and Mahfudz 2020); (Indriyaningrum and Fachrunnisa 2021).

The concept of entrepreneurial orientation oriented towards independence has been studied by many previous researchers and is believed to be an important factor in the company's success (Zeebaree and Siron 2017). The study's results (Ghobakhloo et al. 2011), explain entrepreneurial orientation as an activity needed to create or run a company where not all markets are well established or clearly defined. Furthermore, (Pratono et al. 2019) defines the entrepreneurial orientation of activities as activities that include the identification of opportunities in the economic system. The urgency of entrepreneurial orientation is important to influence sustainable competitive advantage (Bygrave 1993). Entrepreneurial orientation is considered the initial step of marketing (Tang et al. 2020) and planned marketing ability by entrepreneurs because it can change the environment related to the feasibility of opening a new business (Bambang et al. 2021); (Aidoo, Agyapong, and Mensah 2020). The results of several studies examining entrepreneurial orientation show that entrepreneurial orientation has a significant positive effect on sustainable competitive advantage (Bygrave 1993); (Sirivanh, Sukkabet, and Sateeraroj 2014).

New information and communication technologies have posed many challenges and opportunities for entrepreneurs and companies in the cultural and creative fields that require a changing environment (Indriyaningrum and Fachrunnisa 2021), where potential users and consumers want to participate in every stage of cultural and creative products (Sukmamedian 2021). Internet of things, cyber-physical systems, and industry 4.0 are the main components of the current development of information technology (Nguyen 2009). Therefore, companies adopt information technology at various levels of management to support the operationalization of company activities (Potiwanua and Avakiat 2017). In this review, information technology will cover various information processing and computer applications in organizations, as various definitions of IT have been widely used by researchers (Zhu, Wittmann, and Peng 2012). Therefore, In research, the adoption of information technology will include IT infrastructure, strategic alignment, organizational structure, and individual learning that processes or transmits information to improve individual and organizational effectiveness

(Ghobakhloo et al. 2011). The results of several studies examining information technology adoption show that information technology adoption has a significant positive effect on Sustainable Competitive Advantage (Zhu et al. 2012); (Kumar and Ayedee 2021).

Every small and micro business strives to develop new products that deliver innovative results by incorporating an innovative culture (Chen and Tsou 2007). Opinion (Nimfa et al. 2021) defines innovation culture as a company's tendency to learn continuously and develop knowledge to detect and fill the gap between what the market wants and what the company currently offers. If it does not support innovation, corporate culture can be an obstacle to its implementation (Hult, Hurley, and Knight 2004). SMEs tend to have a flexible corporate culture that will be able to grow well through the encouragement of innovation. In particular, they are usually characterized by low resistance to change, risk aversion, and tolerance for ambiguity (Brettel and Cleven 2011). Also, (Acs et al. 1997) compared the cultural norms of France and the United States and found that corporate culture plays an important role in the growth of companies. The results of several studies examining innovation culture show that innovation culture has a significant positive effect on Sustainable Competitive Advantage (Benner and Tushman 2002); (Bandera et al. 2018).

One of the right steps to improve the competence of entrepreneurs is to develop and implement the concept of entrepreneurial orientation (Zeebaree and Siron 2017). However, the main problem in the aspect of entrepreneurial orientation, namely the culture of using old concepts in running their business, is still difficult to eliminate until now, so this has implications for a sustainable business. In addition, the role of technology adoption plays an important role in the process of developing a business. Digital transformation is becoming an important issue for companies, as technological advances open up many opportunities to improve processes, products, and services (Potiwanna and Avakiat 2017). Innovation is not only always associated with opening new markets, but innovation is driven by the ability to see and take advantage of information technology connections (Hult et al. 2004). The next problem is that most SMEs are not ready to accept the adoption of information technology to support their business, for example, there is still a lack of understanding regarding the use of financial technology as a means of payment when transacting. Based on the problem phenomena described above, this study aims to analyze and examine the effect of entrepreneurial orientation, information technology adoption, and innovation culture on the sustainable competitive advantage of SMEs in Pematangsiantar City.

Framework of thinking

Given the importance of knowing the extent of understanding of each SME actor related to entrepreneurial orientation, information technology adoption, and innovation culture. Therefore, the urgency of this research is to try to use the variables of entrepreneurial orientation, information technology adoption, and innovation culture as a stimulant in predicting the sustainable competitive advantage of SMEs. Through this research, it is hoped that it can provide a basic contribution in the form of supporting information related to strategic steps in optimizing the resources of SMEs. Based on the theoretical explanation and the results of the empirical studies that have been described previously, the research framework can be described as follows:

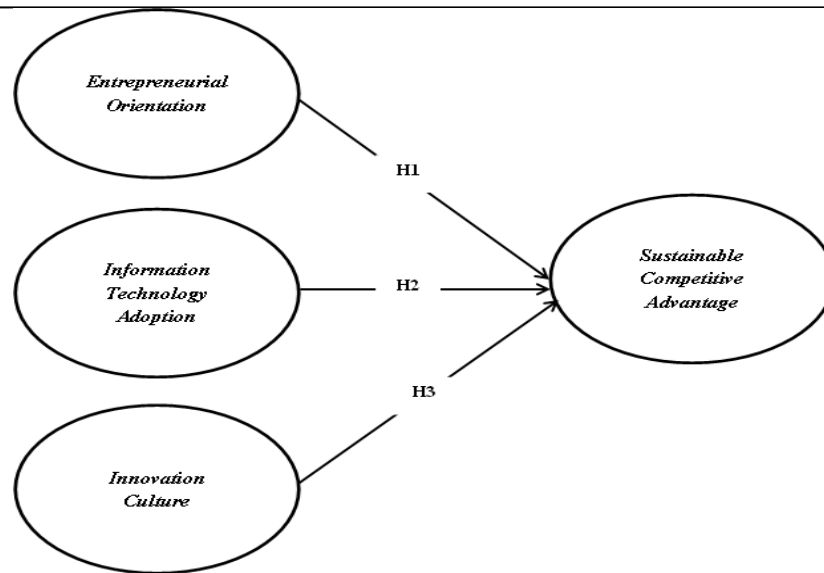


Figure 1. Research Framework

RESEARCH METHODOLOGY

Types of Research

This study uses a literature and field research design with a causal quantitative approach.

Population and Sample

The population in this study is the total number of SMEs in Pematangsiantar City. The sampling method used in this study is the convenience sampling method, where this technique was chosen because it is the fastest method due to time constraints, and anyone who accidentally meets the researcher can be used as a sample if the person is considered suitable as a data source. According to [19], the number of samples can be determined from 5-10 times the number of indicators used in a single construct. This study uses 18 indicators from 4 existing dimensions, so the number of samples obtained is $18 \times 10 = 180$ samples.

Data Analysis

The data analysis method used is Partial Least Square (PLS). The data analysis test tool uses the statistical software Smartpls 3.0. The analysis stage consists of testing the validity and reliability and evaluating the external model with convergent validity. The expected convergent validity criteria are > 0.7 (Hair 2014). The internal evaluation model reviews the value of R Square (R^2) with the criteria that the R^2 value is in the range of 0.5-0.6, which means good, 0-0.33, which means moderate, and 0-0.19, which means weak. Next, reviewing the F-Square (f^2) value with assessment criteria of 0.02 which means weak, 0.15, which means moderate, and 0.35, which means large (Hair 2014). Furthermore, a significance test was carried out to prove the hypothesis testing to determine the relationship between the exogenous and endogenous variables. The significance criterion was seen from the p-value. With a significance level of 5%, if the p-value between the exogenous variables and the endogenous variable is less than 0.05, the exogenous variables significantly affect the endogenous variable.

Results and Discussion

Table 1. Descriptions of Research Respondents

| Category | Details | Amount | Percentage (%) |
|--------------------|-------------------------------------|--------|----------------|
| Gender | Men | 72 | 40 |
| | woman | 108 | 60 |
| Age (years) | 20-29 | 25 | 13.89 |
| | 30-39 | 45 | 25 |
| | 40-49 | 83 | 46.11 |
| | 50-59 | 27 | 27 |
| Level of education | high school | 132 | 73.33 |
| | Bachelor | 38 | 21.11 |
| | Masters | 10 | 5.56 |
| Type of business | Culinary | 73 | 40.56 |
| | Fashion | 27 | 15 |
| | Automotive | 11 | 6.11 |
| | Agribusiness | 9 | 5 |
| | Internet Technology Business | 26 | 14.44 |
| | Beauty And Beauty Products Business | 14 | 7.78 |
| | Event Organizer | 10 | 5.56 |
| | Other Types of Business | 10 | 5.56 |

Source: Processed Data (2022)

Outer Model Measurement

The data from the research questionnaire were processed using the SmartPLS version 3.2.9 application with processing guidelines (Juliandi 2018). In measuring the outer model, the validity and reliability tests were conducted. The loading factor and AVE determine a convergent validity testing with the condition that the loading factor is above 0.7 and the AVE value is 0.5 (Hair, 2014). The model reliability test, according to (Hair, 2014), is seen from the value of Cronbach's alpha and composite reliability (CR), which has a value higher than 0.7. The following will show an explanation of the measurement of the outer model, which is presented in Figure 2 and Table 2 below:

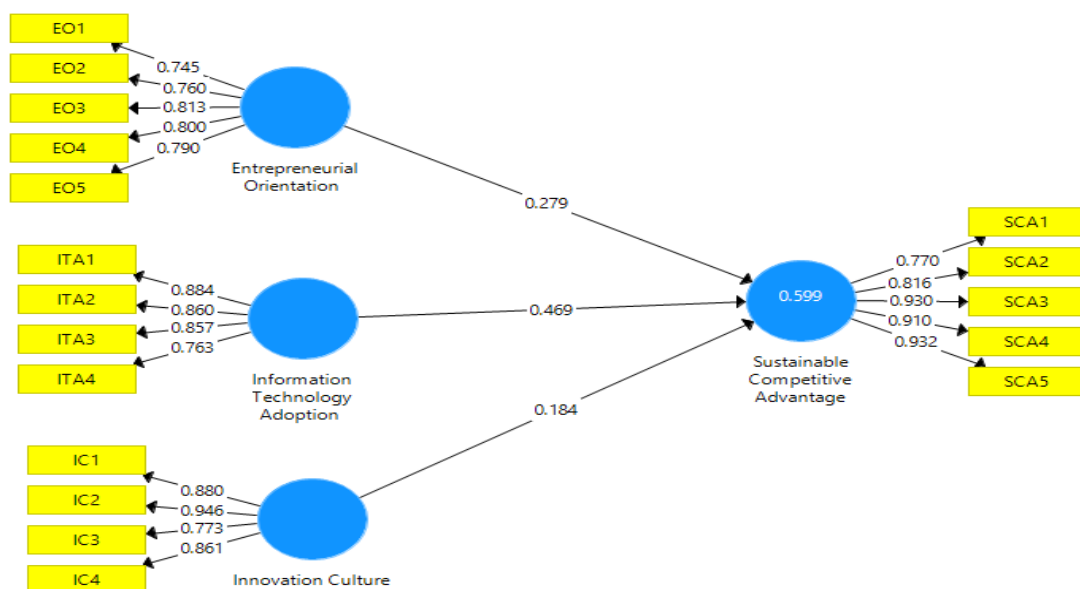


Figure 2. Outer Display Model

Table 2. Outer Model Measurement Results

| Construct/item | Code | Outlier Loadings | Cronbach's alpha | CR | AVE |
|--|------|------------------|------------------|-------|-------|
| Entrepreneurial Orientation | | | 0.841 | 0.887 | 0.612 |
| Risk-taking | EO1 | 0.745 | | | |
| Innovativeness | EO2 | 0.760 | | | |
| Proactiveness | EO3 | 0.813 | | | |
| Autonomy | EO4 | 0.800 | | | |
| Competitive Aggressiveness | EO5 | 0.790 | | | |
| Information Technology Adoption | | | 0.862 | 0.907 | 0.710 |
| IT Infrastructure | ITA1 | 0.884 | | | |
| Strategic Alignment | ITA2 | 0.860 | | | |
| Organizational Structure | ITA3 | 0.857 | | | |
| Individual Learning | ITA4 | 0.763 | | | |
| Innovation Culture | | | 0.888 | 0.923 | 0.752 |
| Innovation Intention | IC1 | 0.880 | | | |
| Innovation Influence | IC2 | 0.946 | | | |
| Innovation Implementation | IC3 | 0.773 | | | |
| Innovation Infrastructure | IC4 | 0.861 | | | |
| Sustainable Competitive Advantage | | | 0.921 | 0.942 | 0.764 |
| Differentiated Products | SCA1 | 0.770 | | | |
| Market Sensing | SCA2 | 0.816 | | | |
| Market Responsiveness | SCA3 | 0.930 | | | |
| Organizational Systems | SCA4 | 0.910 | | | |
| Management Capabilities | SCA5 | 0.932 | | | |

Source: Processed Data (2022)

In the validity test presented in Table 2 above, it was obtained that the value of each loading factor on the indicators of the variables of entrepreneurial orientation, information technology adoption, innovation culture, and sustainable competitive advantage was above 0.7 and above 0.5 for the average variance extracted (AVE) values. Furthermore, for Cronbach's alpha value and composite reliability, the value for each variable was above 0.7, which showed that all research variables had good reliability values. With these good values, it can be used as an overview that the condition of the relationship between variables was also good so that further tests can be carried out.

Inner Model Measurement

Inner model measurement was carried out by bootstrapping research data using SmartPLS 3.2.9. There were two results obtained from bootstrapping, the first was the significance of the two related variables and also the R-square of the study. The value of the R-square is the value that shows the ability of exogenous variables to build endogenous variables. According to Chin et al. (2008), there are three categories of R-square values, in which if the R-square value is 0.19, the relationship between exogenous variables forming endogenous variables is weak, if it is 0.33, it means that the relationship is moderate, and if the value is 0.67, it means that the relationship is strong. Meanwhile, (Sarwono 2016) stated that if the R-square value is more than 0.67, the relationship between endogenous and exogenous variables is very strong.

Table 3. Calculation results of the R-Square value

| Notes | R Square | R Square Adjusted |
|-----------------------------------|----------|-------------------|
| Sustainable Competitive Advantage | 0.599 | 0.592 |

Source: Processed Data (2022)

Judging from the R-square value for endogenous sustainable competitive advantage variables obtained a value of 0.599, whose value ranges from 0.33-0.67, this shows that the overall ability of exogenous variables to explain endogenous variables is moderate. Furthermore, to prove the hypothesis, a significance test was used to determine the relationship between exogenous and

endogenous variables. The significant criterion is seen from the p-value. With a significance level of 5%, if the p-value between exogenous and endogenous variables is less than 0.05, it means that the exogenous variable has a significant effect on the endogenous variable, on the other hand, if the value is greater than 0.05, it means that the exogenous variable has no significant effect on building endogenous variables.

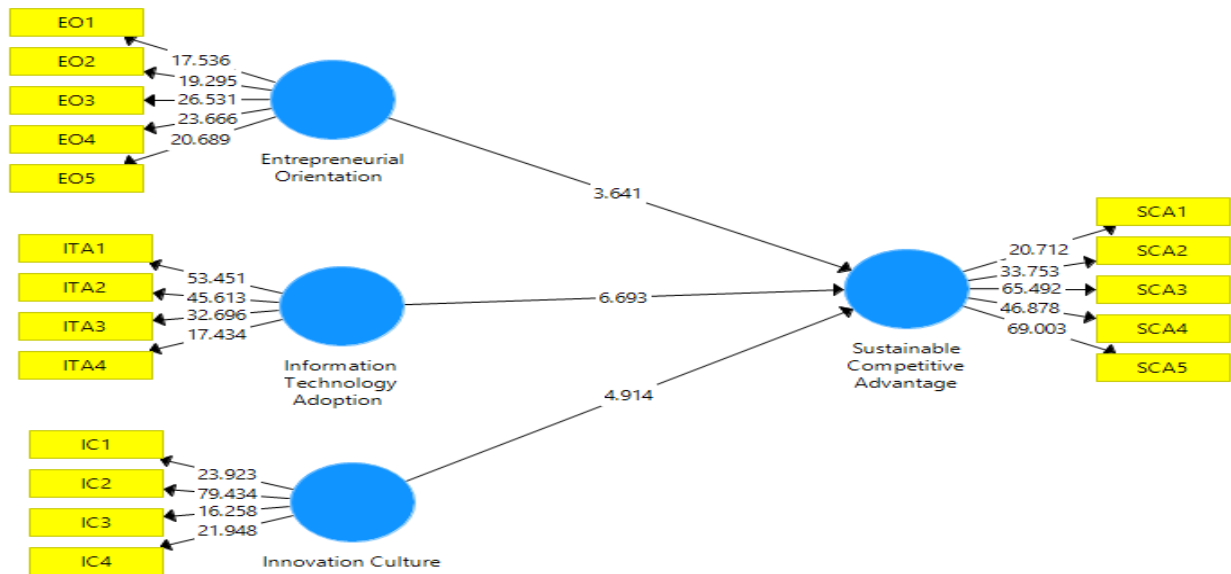


Figure 3. Inner Model Display

Table 4. Hypothesis Test Results

| Hypothesis | Coefficient | t-count | P-Value | Conclusion |
|--|-------------|---------|---------|------------|
| Entrepreneurial Orientation>>Sustainable Competitive Advantage | 0.279 | 3,641 | 0.000 | Accepted |
| Information Technology Adoption>>Sustainable Competitive Advantage | 0.469 | 6.693 | 0.000 | Accepted |
| Innovation Culture>>Sustainable Competitive Advantage | 0.184 | 4.914 | 0.000 | Accepted |

Source: Processed Data (2022)

Based on the results of the processed data presented in table 4, it is known that the influence of entrepreneurial orientation on sustainable competitive advantage obtained positive and significant results with the acquisition of a p-value of 0.000, which is below 0.05. Furthermore, the effect of information technology adoption on sustainable competitive advantage obtained positive and significant results with the acquisition of a p-value of 0.000, below 0.05. Likewise, for the influence of innovation culture towards sustainable competitive advantage, positive and significant results were obtained with the acquisition of a p-value of 0.000, below 0.05. Overall, from the three hypotheses built to test the direct effect between variables, it was concluded that all hypotheses were declared accepted.

DISCUSSION

The results of the research, which was developed through the first hypothesis, show that entrepreneurial orientation has a positive and significant effect on sustainable competitive advantage. These results prove that the higher the entrepreneurial orientation business actors apply, the more sustainable competitive advantage they will impact. Business actors can implement entrepreneurial orientation if the business has characteristics such as the first in product market innovation, daring to take risks, and being proactive in innovating (Hasan et al. 2021). Thus, entrepreneurial orientation is to

processes, practices, and activities that use product innovation, take risks, and try to innovate to beat competitors proactively. This is also supported by the statement of empirical studies, which prove a positive relationship between the dimensions of entrepreneurial orientation and sustainable competitive advantage (Abdulkarim, Ahamd, and Tariq 2021). In actual business practice, this statement suggests that more entrepreneurially oriented businesses will perform better (Sundulusi et al. 2022). The effective application of the entrepreneurial orientation dimension and these important marketing-related issues is essential to ensure success in a business environment (Bayad Jamal and Govand 2021). Lack of knowledge or poor implementation is an important element that can easily lead to business failure and other undesirable circumstances. In addition, having a high entrepreneurial orientation will have a creative mindset. This helps problem solvers in finding solutions (Jatmiko et al. 2021). Entrepreneurial orientation has many advantages and uses for individuals as well as organizations (Sudirman et al. 2021). Understanding entrepreneurial orientation is an important factor in running or facing a business (Sudrartono et al. 2022).

The research results developed through the second hypothesis show that information technology adoption positively and significantly affects sustainable competitive advantage. The results of this study confirm that the better the level of technology acceptance of business actors will have implications for a better sustainable competitive advantage. The main role of information technology adoption is as a tool that is needed to provide an increase in sustainable competitive advantage (Cahyono, Nurcholis, and Nugroho 2022). Engaged in any field, a business must use information technology to support all of its company's performance (Basoeky et al. 2021). Information technology adoption's role in increasing SME products in the form of handicrafts and food products is the community's creativity (Purba et al. 2020). One form of information technology is the emergence of the internet, an information network with a large and wide reach, and the existence of an e-commerce business, which is another alternative for business people. In addition, the contribution of information technology adoption is considered to make communication easier (Munoz-Pascual, Curado, and Galende 2021). The need for time and cost efficiency encourages every business person to feel the need to maximize the role of information technology in their corporate environment (Ginantra et al. 2020). Information Technology enables companies to market their products to outsiders. The obstacle is small and medium enterprises low absorption of information technology. Based on several studies conducted (Slim et al. 2021), to assess the effectiveness of information technology in small companies, it was found that there was a relationship between the success of technology users and the size of the organization. Therefore, the urgency of information technology is needed to sharpen the strategies and strengths used by the organization as a tool for wider promotion to increase profits (Sudrartono et al. 2022).

The research results developed through the third hypothesis show that an innovation culture positively and significantly affects sustainable competitive advantage. The results of this study confirm that adaptation and changes in the innovation culture that are carried out systemically will impact a better sustainable competitive advantage (Tali et al. 2021). Business requires every skill and innovative attitude of every individual. Innovative people naturally want an innovative environment because they want to be given space to be creative, explore, express themselves, and make important changes (Abdul-Halim et al. 2018). This will stimulate an innovative attitude, and innovative steps will appear well along with the increasing culture of innovation. Innovation has been proven to provide a sustainable competitive advantage for the company (Tang et al. 2020). In other words, when we have a culture of innovation, we have started to innovate. This will affect how our business can stand out among the many competitors in the market. In addition, a culture of innovation will open up more opportunities to expand the market by conducting consumer research and trying to find new, more profitable niche markets (Setyanti et al. 2013). On the other hand, the high culture of innovation will ensure that we make the necessary changes, this often leads to increased efficiency in business operations (Hasan et al. 2021). The culture of innovation that develops among employees will help find better, faster, or more productive ways to do tasks. In business, those who can make operations more efficient are those who win the competition (Inrawan et al. 2022). The current trend is that innovation is no longer just to encourage innovation in terms of products/services and processes

(Halim et al. 2022). Internet diffusion to all areas of business activity also focuses on renewing business models to find new revenue streams (Purba et al. 2022).

CONCLUSIONS AND SUGGESTIONS

Conclusion

The research concludes that all hypotheses are accepted from the three hypotheses developed to test the direct effect. The influence of entrepreneurial orientation, information technology adoption, and innovation culture on sustainable competitive advantage obtained positive and significant results. The urgency of entrepreneurial orientation plays a major role in improving sustainable competitive advantage. If the entrepreneurial orientation increases, the independence of small business actors will also be stronger and tougher in running a business. However, even though entrepreneurial orientation increases, it will not always lead to business independence for small business actors, so business independence does not depend on the good or bad entrepreneurial orientation for small business actors. Being entrepreneurial means thinking differently in certain situations and environments, and entrepreneurship means making decisions frequently in highly uncertain environments. Time pressure is huge, and there is much emotion in investing. Furthermore, in the aspect of information technology adoption, if it is received quickly and well, it will also impact business resilience to face challenges from other business competitors. In general, small and medium enterprises use simple and traditional equipment in marketing and production. The internet allows for a wider market; sales are not bound by space and time because they can be done anytime. The constraints experienced by small and medium-sized business owners are: Having limited capital, so the ability to produce is also limited. Has limited ability in the use of information technology. In an innovation culture, businesses need to think about digital transformation to support an innovation climate that can grow and develop to be driven to improve service quality, increase agility, shorten lead times and introduce new services to the market. Business models incorporating digitalization can be a source of innovation and competitive advantage when developed innovatively.

Suggestion

According to the survey results in the field, some business actors still do not fully have a qualified entrepreneurial orientation. It is important to conduct socialization by local governments regarding how to develop creative and innovative entrepreneurial orientation. Then, to increase information technology adoption for SMEs, it is necessary to conduct socialization, training, and assistance to small and medium business actors in the field of information technology to provide an understanding of the ignorance of small business actors regarding the functions and benefits of information technology. Through this activity, it is hoped that there will be an increase in understanding and equalization of perceptions that the behavior of using information technology requires a policy on the application of information and communication technology, which is systematic, integrative, and comprehensive. On the other hand, improving aspects of the innovation culture can be implemented by carrying out incremental innovations. This innovation is the most common and usually utilizes technology to increase the value of existing products, both in terms of design and benefits. Innovation is done by making improvements or developing existing products. This study also confirms the weakness in the aspect of the number of samples used, which is still not able to generalize the characteristics of business actors as a whole; therefore, for further research, it is necessary to add a larger number of samples and place several research variables that are not discussed in this study. Conversely, data analysis methods with the CB-SEM approach can be used for more complex models using the Amos application.

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