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The Effect of Intellectual Capital Digital Transformation and Knowledge Management on Sustainable Competitive Advantage with Dynamic Environments as Moderating Variables

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Abstract

This study aims to determine the effect of intellectual capital, digital transformation, knowledge management, dynamic environment and modernization on sustainable competitive advantage. The research method used is a survey method. The method is carried out with an approach to the type of descriptive and explanatory research, so that a more complete method used is descriptive survey. The results show that the variable of sustainable competitive advantage with the highest value indicator is Cost-based advantage with the item "WINNER's production costs are lower than our competitors'. In the intellectual capital variable, the indicator with the highest value is structural capital with the item "The latest information system contributes greatly to the company's excellence". In the digital transformation variable, the indicator with the highest value is practice with the item “The company collects and analyzes data systematically”.pthere is a knowledge management variable, the indicator with the highest value is the transfer of knowledge management by item.In the dynamic environment variable, the indicator with the highest value is the increase in competitors with the item "The number of competitors” in the field of production, has increased.

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1. Introduction

The information and knowledge age has changed the business environment to become more competitive. Even since the pandemic hit the world, the digitalization process has progressed very rapidly. This of course has an impact on the lifestyle of the community. Activities that were originally carried out offline were forced to transform into online. The activities carried out by companies, including State-Owned Enterprises (BUMN), are no exception.

SOEs are at the forefront of development. In accordance with its function, the role of BUMN as an agent of development and as a commercial business entity is the main source of the state to increase revenue in order to spur economic growth. In implementing its role, SOEs need to be responsive to business demands both in the national and international realms. Discussing the demands of business, as if never separated from the industrial revolution.

The perspective of the industrial revolution 4.0 for SOEs cannot be separated from the demand to adapt more quickly to various forms of change, especially in the use of technology, so that SOEs are able to be highly competitive. Not only that, SOEs must also be competitive to assist the state in building programs for the people. The paradigm shift positions SOEs to be competitive, especially in terms of generating dividends for the state. Quoted inKompas.com (2021), in 2021, transformation in state-owned companies is only limited to 40 percent while the other 60 percent still depend on assignments or are in their comfort zone. This indicates that there are still companies that are not ready to compete openly with the private sector and foreign parties. Following up on this, the Ministry of SOEs continues to encourage companies under the auspices of SOEs to implement digital transformation. Not only that, the Ministry also stated that currently all state-owned companies are under special supervision to monitor the implementation of technology adoption and digitization. The acceleration of technology adoption and digitization is also driven by shareholders.

In line with the Ministry of SOEs, the Ministry of Industry also participates in encouraging the progress of the manufacturing sector towards industry 4.0 through the Indonesia Industry 4.0 Readiness Index (INDI 4.0) Assessment. The assessment activity aims to measure the company's readiness to transform towards Industry 4.0. This has been regulated in the Regulation of the Minister of Industry Number 21 of 2020 concerning Measurement of the Level of Industry Readiness in Transforming Towards Industry 4.0(Ministry of Industry, 2021). The importance of readiness in facing the digitalization of industry 4.0, several companies under the auspices of SOEs have transformed in the context of digital implementation. This is done through the use of big data and artificial intelligence for its business processes. Even other companies already have e-commerce platforms for selling their products.

One company that is within the scope of BUMN and has adopted the use of technology in its business processes in a major way is PT. Wijaya Karya Tbk (WIKA). Since 2020, WIKA has carried out digital transformation. WIKA's theme in accelerating digitization in business processes is "For a Better Quality of Life". The theme is in line with the company's vision of “Leading in Investment and Sustainable EPC for a Better Quality of Life”. Based on the observations of researchers, digital transformation in WIKA as a BUMN is carried out in a systematic and planned manner, it cannot be done immediately. In order to support this step, WIKA has prepared a legal basis, infrastructure and application integration system.

The legal basis that strengthens the WIKA program is the criteria for Superior Performance Assessment (KPKU) and Good Corporate Governance. Even WIKA has won a number of ISOs for both. Furthermore, quoted inInspire Great & Telco for Business Performance (2021)For infrastructure, WIKA has DC and DRC with High Availability. Perform daily data back-ups, supported by IT HR, and

an SLA ticketing application is available. WIKA also has an integrated system and portfolio for all lines of activities including the head office, regional/project, mobile, web, to subsidiaries. All transactional data from the channel will be pulled into an analytical system in the form of a Data Warehouse. The data will be processed into Business Intelligence and displayed in the Dashboard/Performance Management. WIKA is known as a company engaged in construction. However, WIKA actually has penetrated various industrial sectors including WIKA Beton, WIKA Realty, WIKA Building, WIKA Energy Industry, and WIKA Engineering Construction. In 2021, WIKA recorded a positive performance in the third quarter of 2021.(Liputan6.com, 2022).

Discussing sustainable competitive advantage, the researcher tries to find information about WIKA's subsidiaries or associated entities that already have a basis for demonstrating competitive advantage in their field. One of them is PT WIKA Industri Energi (WINNER). WINNER is classified as an associate entity of WIKA with the company's business fields in the manufacturing industry, energy industry, renewable energy and energy conversion. One of WINNER's superior products is the Water Heater. For urban people, it is no stranger when discussing water heater products that are often found in homes, hotels and offices. Even quoted from the main pageWika WH (2022)about 50 percent of the market share of these products has been controlled by WINNER. On the company profile page, management stated that WINNER is committed to being like the sun that continues to radiate bright rays throughout the universe. In this case, WINNER shows its determination to always present superior products in renewable energy sources.

The thing that makes WINNER's products superior is because the solar water heaters produced by WINNER are local products, while similar products from other brands are still imported. Meanwhile, photovoltaic, not many in Indonesia that produce it. Regarding quality, according to him, WINNER's customers also recognize it because the products are reliable and durable. WINNER's market is currently 70% residential and 30% commercial. However, this high market figure cannot make WINNER complacent. The reason is, competition in this industry, especially water heaters, has begun to experience a fairly serious movement. Several companies known for their superior water heater products such as Ariston Thermo, Modena, Rinnai, Electrolux, Daalderop, Solahart, and Lamborghini are implementing strategic steps to achieve competitive advantage in their fields. Quoted inNews One (2021), since the first semester of 2020, Modena, which dominates the household appliances market, especially for cooking products, recorded up to 47 percent of 2-digit sales growth until September 2020. One of the contributors to this growth was water heating products. Not only Modena, the company Ariston Thermo Indonesia said sales of water heaters in the first semester of 2021 increased by 50 percent compared to last year. Even to increase product excellence, Ariston Thermo itself has launched the first smart water heater in Indonesia in 2020, Andris2 Top Wi-Fi. Presenting the first Wi-Fi water heater equipped with Wi-Fi and a mobile application that can be accessed anywhere and anytime. Andris2 Top Wi-Fi is also equipped with a titanium heating element for strong durability and a lifetime guarantee(Kontan.co.id, 2021).

Therefore, the focus of the research is to analyze the readiness of companies under the auspices of BUMN, namely WINNER, to face private and global competition which begins with facing the challenges of the industrial revolution 4.0. It is hoped that careful readiness will support the state-owned company in increasing sustainable competitive advantage so that it is highly competitive.

Competitive advantage is the advantage an organization gains over competitors by offering consumers greater value, either through lower prices or by providing greater benefits and services (Muazu, 2021).

Table1. WINNER Development Program

Business Unit	Existing Condition	WINNER Development Program
Water heater	1. Expansion of Marketing Territory 2. Quality improvement	1. Digitizing Control with remote and IoT 2. Water Heater Quality Development 3. Increase in TKDN 4. Entering new investment markets
Photovoltaic	Module Efficiency Improvement	1. Development of the quality of the main and supporting materials 2. O&M development with IoT technology 3. Complete PV pengujian testing tools 4. Increase in TKDN
Lamp	*2nd Labeling*Product	Manufacturing your own product
Battery	*2nd Labeling*Product	Manufacturing your own products to battery cell materials

Source: Data Processed by Researchers (2022)

To achieve a competitive advantage WINNER created a development program for its major products, namely water heater, photovoltanic, lamp and battery which is described in table 1. The advantages of this product are developed based on technological advances. In achieving a sustainable competitive advantage in the era of the industrial revolution, WINNER cannot escape from digital implementation. The development of technology that is advancing very rapidly and the development of an increasingly dynamic environment has caused many changes in the business environment, including behavior and mindset. Therefore, to keep pace with technological advances and environmental changes, companies need the support of more adaptive and responsive resources.

Jay & Hesterly (2015) mention criteria related to resources in order to increase sustainable competitive advantage. These criteria are valuable, rare, costly to imitate, and organized to capture value or shortened to VRIO. In language, these criteria describe that the product of the company must have a certain value, is very difficult to imitate, requires a high cost to imitate the product for other companies, and only one company is able to manage and produce the product.

Based on the criteria described previously, it is known that from two types of resources that meet the criteria in increasing sustainable competitive advantage, namely tangible resources and intangible resources. Intangible resources meet the VRIO criteria in creating a sustainable competitive advantage. To find out the intangible resources factors that can increase sustainable competitive advantage, the researcher uses references from previous studies.

Research conducted byYuliana & Khoiriyah (2018)shows that there is a positive and significant influence on Intellectual Capital on Competitive Advantage, research byM. Anwar et al., (2018) shows that Intellectual Capital has a positive relationship with Competitive Advantage. According to Farhas et al., (2016) stated that Knowledge Management has a positive relationship with Competitive

Advantage. Research conducted byTrott et al. (2018) in China using the independent variable organizational learning,Khan (2018) in Pakistan using intellectual abilities, financial capital, and CSR. Furthermore,Miotto & Blanco-González (2020)in Spain using reputation and legitimacy variables. WhereasAl-Shahwani (2020) in Qatar using skills, motivation and opportunities.Gwinji & Ndoro (2020) in Africa using the variables of internal communication, coordination between functions, and organizational commitment. WhereasMuazu (2021)using setting management variables. Previous research has also used digital transformation variables including Akram & Aljarallah (2018).

In determining the independent variables that can affect sustainable competitive advantage, the researchers made observations directly on WINNER and indirectly through a review of articles related to the industrial world. The main resource that is central to the company's success in achieving excellence is human resources. Talking about human resources, of course, can not be separated from intellectual intelligence. In research conducted byAljuboori et al. (2022) shows that intellectual capital has a strong impact on a company's competitiveness and long-term sustainability.Kompas.id (2021)where he stated that the Company needs to emphasize transformation. However, the transformation of BUMN will not occur if it is not supported by the transformation of HR. Companies can develop SOPs, change business strategies and carry out digital innovations at the same time. However, when HR does not have the desire to change, in this case, does not have the ability and willingness, then all planned programs will not be able to be implemented.

Based on the KPI results for the 2021 period, it is clear that WINNER has the advantage in terms of financial and market results. However, these advantages are not directly proportional to the results focused on the workforce. Data shows that the KPI score with the labor indicator ranks as the second lowest score above leadership. Through the assessment of employee productivity, capability and engagement level, it can be seen that employee capability is still below the productivity and engagement level.

It can be concluded that the potential of employees to carry out certain activities or a series of activities is low. This indicates that the intellectual capital owned by employees has not been maximized. In simple terms, it can be stated that employees still need programs to increase their intellectual capital. WINNER is very concerned about intellectual intelligence for its employees. This can be seen from the programs implemented by WINNER, namely People, Processes, and Technology or known as PPT. This program focuses on the mindset of employees, as well as business implementation and technology implementation. Of course, this effort cannot be separated from WINNER's main goal, which is to go global. This activity is implemented from the process of recruitment, development, application of attractions and retaining talent to regeneration.

WINNER also encourages its employees to continue their education level from diploma to undergraduate and from undergraduate to postgraduate. This is done by WINNER to improve intellectual intelligence for its employees. From this presentation, it can be seen that WINNER is very serious about developing intellectual intelligence for its employees, therefore, researchers want to know whether intellectual intelligence has a positive impact on sustainable competitive advantage or not.

The next point of the WINNER program besides people is the process. It can be described that WINNER not only focuses on planning but also pays attention to the implementation process. The implementation process to improve intellectual intelligence is carried out by the managerial section. This activity is known as knowledge management. In managing knowledge management, WINNER allocates a sizeable investment for the development of HR knowledge. Some of its programs include the Advance Leadership Program for Section Manager level, Career Path, as well as a Performance

Management System consisting of Key Performance Indicators (KPI) and Key Behavior Indicators (KBI) which can be evaluated for competency improvement and future performance.

Even in the Human Capital program initiated by WINNER, it is clear that managerial activities including recruitment, training and development, performance management, career planning to compensation and benefits continue to be optimized by WINNER in order to improve performance. Matters related to intellectual capital are reflected in the sharing session program, internal certification, and external certification. However, external certification is still in the implementation stage, and this is what underlies researchers to choose knowledge management variables, one of which can be seen from the implementation of the new program, namely external certification.

The last element of the PPT point is technology. At the beginning of the paragraph, the researcher explained simply about the urgency of digitization. WINNER has been in the renewable energy industry. Not infrequently the products produced by WINNER are the result of adapting new renewable energy technologies and energy conversion which are commonly known as renewable energy. Some of the leading environmentally friendly innovation products produced by WINNER include: Solar Water Heater, Aircon Water Heater, Heat Pump Water Heater, Electric Water Heater, Solar Pool Heating and also various products based on Solar Panels (Photovoltaic Solar Module) such as the Solar Home System. , Solar Pumping System, Solar Street Light System, Solar Centralized Hybrid System, Solar Module / Panel, Battery and so on.

Even WINNER won an award in terms of technology implementation. Tras N Co Research, a Brand & Business survey company, in collaboration with IMFocus Certified Google Partner, has conducted a survey on the Indonesia Digital Popular Brand Index for the 2017 Indonesia Digital Popular Brand Award (IDPBA).(Wijaya Energi, 2017).

Furthermore, a dynamic business environment can have a positive or negative impact on the company, especially with regard to decisions and policies that can be taken both for the short term and for the long term (Worthington, Britton, & Thompson, 2018). Factors causing a dynamic business environment due to the role of science and technology, with the development of technology, the business environment also develops. Fast-paced interactions and transactions force us to make decisions quickly. At this time no business environment is static or unchanging. In the process of achieving a sustainable competitive advantage, WINNER also encounters uncertain environmental conditions that result in a dynamic business environment, or in other words, constantly updating and not stagnant. Therefore, it is very important to involve environmental factors in research. In a dynamic environment, intangible resources are needed that are able to respond quickly to any changes in the increasingly competitive business environment. This study focuses on intangible resources variables that have three dimensions, namely intellectual capital, digital transformation and knowledge management. These dimensions are strategic assets for companies to face increasingly fierce business competition and the achievement of sustainable competitive advantage in the era of industrial revolution 4.0. Determination of dynamic environment as a moderating variable because environmental factors cannot be controlled by the company. In a dynamic environment, intangible resources are needed that are able to respond quickly to any changes in the increasingly competitive business environment. This study focuses on intangible resources variables that have three dimensions, namely intellectual capital, digital transformation and knowledge management. These dimensions are strategic assets for companies to face increasingly fierce business competition and the achievement of sustainable competitive advantage in the era of industrial revolution 4.0. Determination of dynamic environment as a moderating variable because environmental factors cannot be controlled by the company. In a dynamic environment, intangible

resources are needed that are able to respond quickly to any changes in the increasingly competitive business environment.

This study focuses on intangible resources variables that have three dimensions, namely intellectual capital, digital transformation and knowledge management. These dimensions are strategic assets for companies to face increasingly fierce business competition and the achievement of sustainable competitive advantage in the era of industrial revolution 4.0. Determination of dynamic environment as a moderating variable because environmental factors cannot be controlled by the company. digital transformation and knowledge management. These dimensions are strategic assets for companies to face increasingly fierce business competition and the achievement of sustainable competitive advantage in the era of industrial revolution 4.0. Determination of dynamic environment as a moderating variable because environmental factors cannot be controlled by the company. digital transformation and knowledge management. These dimensions are strategic assets for companies to face increasingly fierce business competition and the achievement of sustainable competitive advantage in the era of industrial revolution 4.0. Determination of dynamic environment as a moderating variable because environmental factors cannot be controlled by the company.

Based on the previous description, the researcher is interested in further researching the influence of Intellectual Capital, Digital Transformation and Knowledge Management on Sustainable Competitive Advantage at PT WIKA Industri Energi (WINNER). What is novelty in this research is that the researcher will analyze descriptively the characteristics of intangible resources factors on sustainable competitive advantage with a dynamic environment as a moderating variable.

2. Materials and Methods

Method according toSugiama (2008)is a high-level representation of a theory that is usually designed using symbols or physical analogies. While the research method according toSugiono (2007)are scientific ways to obtain valid data with the aim of being found, developed and proven so that in turn it can be used to understand, solve, and anticipate problems. This research uses quantitative research, which is a type of research that emphasizes testing theories through measuring research variables with numbers and requires data analysis with statistical procedures. The measuring instrument of this research is in the form of a questionnaire, the data obtained in the form of answers from WINNER employees to the statements submitted.

The research method used is a survey method. The method is carried out with an approach to the type of descriptive and explanatory research, so that more fully the method used is descriptive survey. This method was chosen to be implemented because in this study the researcher looked for data by going directly to the field through a questionnaire. Through descriptive research, this study examines research variables through a more meaningful description of numbers and writing. The model used in this study is a causal model or relationship and influence, or also known as path analysis. This model was chosen because in this study the independent variable with the dependent variable there is mediation that affects.

3. Results and Discussions

Hypothesis Testing

After performing the PLS algorithm and boostrap using SmartPLS 3.0, hypothesis testing can be carried out to test whether the proposed hypothesis is supported or not. Researchers tested the hypothesis by measuring the direct effect which can be seen in the path coefficient and indirect effect to see the effect of the intervening variables in this study.

Direct Effect

Table 2. Path Coefficient (*Path Coefficient)*

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Dynamic Environment -> Sustainable Competitive Advantage	0.188	0.182	0.093	2.024	0.043
Knowledge Management -> Sustainable Competitive Advantage	0.239	0.243	0.082	2,912	0.004
Intellectual Capital -> Sustainable Competitive Advantage	0.247	0.249	0.117	2,110	0.035
Digital Transformation -> Sustainable Competitive Advantage	0.318	0.318	0.102	3.114	0.002

Source: Data processed using Smart PLS 3.0 (2022)

H1: The Effect of Intellectual Capital on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.247 on intellectual capital to sustainable competitive advantage. This means that there is a positive influence on the intellectual capital variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.110 and the p-value is 0.035 (<0.05), which means that intellectual capital has a direct significant effect on sustainable competitive advantage. Therefore, it can be concluded that the first hypothesis in this study is accepted and statistically supported by the results of this study.

H2: Effect of Digital Transformation on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.318 in digital transformation to a sustainable competitive advantage. This means that there is a positive influence on the digital transformation variable on the sustainable competitive advantage variable. In addition, the t-statistic value is 3.114 and the p-value is 0.002 (<0.05), which means that digital transformation has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the second hypothesis in this study is accepted and statistically supported by the results of this study.

H3: The Effect of Knowledge Management on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.239 on knowledge management to sustainable competitive advantage. This means that there is a positive influence on the knowledge management variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.912 and the p-value is 0.004 (<0.05), which means that knowledge management has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the third hypothesis in this study is accepted and statistically supported by the results of this study.

H4: Effect of Dynamic Environment on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.188 in a dynamic environment to a sustainable competitive advantage. This means that there is a positive influence on the dynamic environment variable on the sustainable competitive advantage variable. In addition, the t statistic value is 2.024 and the p value is 0.043 (< 0.05), which means that the dynamic environment has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the fourth hypothesis in this study is accepted and statistically supported by the results of this study.

Indirect Effect

Table 3. Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
MI – LD – KKB	0.322	0.322	0.069	4,641	0.000
TD – LD – KKB	0.311	0.306	0.069	4,509	0.000
MP – LD – KKB	0.226	0.225	0.080	2,831	0.005

Source: Data processed using SmartPLS 3.0 (2022)

H5: Dynamic Environment Moderates the Effect of Intellectual Capital on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the intellectual capital variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.322, which means that there is a positive influence on the influence of intellectual capital on sustainable competitive advantage with a dynamic environment as a moderating variable. Dynamic environmental variables can strengthen the influence of intellectual capital on sustainable competitive advantage by 46.41%. This can be seen from the value of t statistic that is equal to 4.641 and p values of 0.000 (< 0, 05) which means that the intellectual capital variable has a significant effect on sustainable competitive advantage with a dynamic environment as a moderator variable.

Therefore, it can be concluded that the fifth hypothesis in this study is accepted and statistically supported by the results of this study.

H6: Dynamic Environment Moderates Effect of Digital Transformation on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the intellectual capital variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.311, which means that there is a positive influence on the influence of intellectual capital on sustainable competitive advantage with a dynamic environment as a moderating variable.

The dynamic environment can strengthen the influence of digital transformation on the company's sustainable competitive advantage by 45.09%. This is reflected in the t-statistic value of 4.509 and p-value of 0.000 (<0.05), which means that the intellectual capital variable has a significant effect on sustainable competitive advantage with a dynamic environment that acts as a moderator. Therefore, it can be concluded that the sixth hypothesis in this study is accepted and statistically supported by the results of this study.

H7: Dynamic Environment Moderates the Effect of Knowledge Management on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the knowledge management variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.226, which means that there is a positive influence on the influence of knowledge management on sustainable competitive advantage with a dynamic environment as a moderating variable.

The dynamic environment can strengthen the influence of knowledge management on competitive advantage by 28.31%. This is indicated by the t-statistic value of 2.831 and p-value of 0.005 (<0.05), which means that the knowledge management variable has a significant effect on sustainable competitive advantage with a dynamic environment acting as a moderator variable. Therefore, it can be concluded that the seventh hypothesis in this study is accepted and statistically supported by the results of this study.

Discussion

H1: The Effect of Intellectual Capital on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.247 on intellectual capital to sustainable competitive advantage. This means that there is a positive influence on the intellectual capital variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.110 and the p-value is 0.035 (<0.05), which means that intellectual capital has a direct significant effect on sustainable competitive advantage. Therefore, it can be concluded that the first hypothesis in this study is accepted and statistically supported by the results of this study.

Companies that have good intellectual capital management skills will have differentiation from rival companies, namely competitive advantage as a plus for the company in competing in the market. Then it is added that the strategic perspective of the company only depends on the presence of internal resources, assets, capabilities, and competition in order to achieve competitive advantage, namely in the form of intellectual capital.(Yuliana & Khoiriyah, 2018).

According toAnwar et al. (2018), to be more innovative and competitive in a dynamic market, companies are required to use intellectual capital efficiently because it plays an important role in the company's success. In the early stages of business creation and operation, companies need some internal capabilities to succeed in the marketplace. Intellectual capital contributes to the success and growth of every type of company whether small, medium or large. However, it is considered a fundamental element of a company's success and competitive advantage. So it can be concluded that the results of this study are relevant to the results of research conducted by Yuliana & Khoiriyah (2018) and (Anwar et al., 2018).

H2: Effect of Digital Transformation on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.318 in digital transformation to a sustainable competitive advantage. This means that there is a positive influence on the digital transformation variable on the sustainable competitive advantage variable. In addition, the t-statistic value is 3.114 and the p-value is 0.002 (<0.05), which means that digital transformation has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the second hypothesis in this study is accepted and statistically supported by the results of this study.

Digital transformation is the application of technology to build new business models, processes, software, and systems that generate more profitable revenue, greater and more sustainable competitive advantage, and higher efficiency.(Schwertner, 2017). According toIsmail et al. (2018), digital transformation is a process by which a company brings together several new digital technologies, enhanced with various connectivity, with the aim of achieving superior performance and sustainable competitive advantage, by changing several business dimensions, including business models, customer experience (consisting of products that are enabled digital services and services) and operations (consisting of processes and decision-making), and simultaneously impacting people (including talent, skills and culture) and networks (including the entire value system). So it can be concluded that the results of this study are relevant toSchwertner (2017) and Ismail et al. (2018).

H3: The Effect of Knowledge Management on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.239 on knowledge management to sustainable competitive advantage. This means that there is a positive influence on the knowledge management variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.912 and the p-value is 0.004 (<0.05), which means that knowledge management has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the third hypothesis in this study is accepted and statistically supported by the results of this study.

Soewarno & Tjahjadi (2020) explained that the success of a business depends on the company's ability to use and utilize knowledge, especially in terms of management. Management knowledge as

a form of intangible asset becomes a new source of financial performance and competitive advantage. Knowledge management refers to the processes and practices that enable companies to manage their intellectual assets and to achieve knowledge-based sustainable competitive advantage (Hussinki et al., 2017). Then,Areed et al. (2021)"Knowledge management is the systematic management of all operations and procedures involving the generation and growth, codification and storage, transfer and sharing of information for a sustainable competitive advantage for the company." So it can be concluded that the results of this study are relevant to the results of research conducted byFarhas et al. (2016)and Nasution et al. (2021).

H4: Effect of Dynamic Environment on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.188 in a dynamic environment to a sustainable competitive advantage. This means that there is a positive influence on the dynamic environment variable on the sustainable competitive advantage variable. In addition, the t statistic value is 2.024 and the p value is 0.043 (< 0.05), which means that the dynamic environment has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the fourth hypothesis in this study is accepted and statistically supported by the results of this study.

The dynamic environment is characterized by technological changes, variations in customer preferences, changes in product demand, and the uncertainty of change. The dynamic corporate environment can encourage companies to engage in exploitation and exploration of innovation simultaneously. Consequently, in order to remain competitive in a dynamic environment, companies must pursue exploitation activities and develop new products and services like existing ones; otherwise, they will quickly become obsolete (From & Isfiana dewi, 2020).

Li & Liu (2014)proposes that in a hyper-competitive environment it is difficult to acquire resources. As a result, efficiency planning, making adjustments, and implementing them dynamically with changing environments is a way for companies to gain a series of short-term benefits. Therefore, in a relatively stable environment, the current "live" operation capability is sufficient to meet customer demands, obtain higher profits and maintain a competitive advantage, it makes dynamic capabilities less necessary. So it can be concluded that the results of this study are relevant to Dari & Isfiana dewi (2020)and Li & Liu (2014).

H5: Dynamic Environment Moderates the Effect of Intellectual Capital on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the intellectual capital variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.322, which means that there is a positive influence on the influence of intellectual capital on sustainable competitive advantage with a dynamic environment as a moderating variable. Dynamic environmental variables can strengthen the influence of intellectual capital on sustainable competitive advantage by 46.41%. This can be seen from the value of t statistic that is equal to 4.641 and p values of 0.000 (< 0, 05) which means that the intellectual capital variable has a significant effect on sustainable competitive advantage with a dynamic environment as a moderator variable. Therefore, it can be concluded that the fifth hypothesis in this study is accepted and statistically supported by the results of this study.

The era of the industrial revolution has had an impact on all small and large companies, both in the service and manufacturing sectors, will always feel competition. Competition occurs because each company has advantages, advantages can come from various resources owned, but currently the most strategic resource is intellectual capital which is an important asset and has an influence in achieving sustainable competitive advantage and for long-term development.(Todericiu & Stăniț, 2015).

H6: Dynamic Environment Moderates Effect of Digital Transformation on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the intellectual capital variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.311, which means that there is a positive influence on the influence of intellectual capital on sustainable competitive advantage with a dynamic environment as a moderating variable.

The dynamic environment can strengthen the influence of digital transformation on the company's sustainable competitive advantage by 45.09%. This is reflected in the t-statistic value of 4.509 and p-value of 0.000 (<0.05), which means that the intellectual capital variable has a significant effect on sustainable competitive advantage with a dynamic environment that acts as a moderator. Therefore, it can be concluded that the sixth hypothesis in this study is accepted and statistically supported by the results of this study.

Digital transformation is a way for companies to shift the use of non-digital technology to digital-based technology. The transfer of technology to improve services that provide added value to customers that can lead to the achievement of sustainable competitive advantage and also in a dynamic environment. (Otola & Grabowska, 2020).

Gul (2020) gives the opinion that, when business competition is increasingly globalized, advanced technology has become the company's main need, then a new strategy must be developed by the company, namely by investing in technological innovation to maintain the company's sustainability in the long term (Gul, 2020).

H7: Dynamic Environment Moderates the Effect of Knowledge Management on Sustainable Competitive Advantage

Based on the statistical analysis of the path coefficient in the table above, the knowledge management variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.226, which means that there is a positive influence on the influence of knowledge management on sustainable competitive advantage with a dynamic environment as a moderating variable.

The dynamic environment can strengthen the influence of knowledge management on competitive advantage by 28.31%. This is indicated by the t-statistic value of 2.831 and p-value of 0.005 (<0.05), which means that the knowledge management variable has a significant effect on sustainable competitive advantage with a dynamic environment acting as a moderator variable. Therefore, it can be concluded that the seventh hypothesis in this study is accepted and statistically supported by the results of this study.

Efforts to achieve a company's competitive performance do not only come from technology or skills, but from knowledge. In the midst of an increasingly competitive corporate environment, knowledge is a key asset to encourage the survival of a company. At a time when business competition is getting tougher, it can be anticipated by empowering employees through increasing knowledge and skills as well as improving the company's knowledge management system comprehensively to maintain the company's long-term survival.(Martins et al., 2019).

On the other hand,de Pablos & Lytras (2018) gave an opinion that the use of knowledge management has been integrated with big data for the purposes of formulating company strategic policies, this is done to maintain the company's sustainability in the long term at a time when the level of business competition is getting tighter and in the midst of the dynamism of the company's environment.

4. Conclusion

Based on the research that has been done, empirical conclusions can be drawn through descriptions, statistical data processing, interpretation and analysis of the data that have been described, the researchers can conclude the following:

1. Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.247 on intellectual capital to sustainable competitive advantage. This means that there is a positive influence on the intellectual capital variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.110 and the p-value is 0.035 (<0.05), which means that intellectual capital has a direct significant effect on sustainable competitive advantage. Therefore, it can be concluded that the first hypothesis in this study is accepted and statistically supported by the results of this study.
2. Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.318 in digital transformation to a sustainable competitive advantage. This means that there is a positive influence on the digital transformation variable on the sustainable competitive advantage variable. In addition, the t-statistic value is 3.114 and the p-value is 0.002 (<0.05), which means that digital transformation has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the second hypothesis in this study is accepted and statistically supported by the results of this study.
3. Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.239 on knowledge management to sustainable competitive advantage. This means that there is a positive influence on the knowledge management variable on the sustainable competitive advantage variable. In addition, it is also shown that the t-statistic value is 2.912 and the p-value is 0.004 (<0.05), which means that knowledge management has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the third hypothesis in this study is accepted and statistically supported by the results of this study.
4. Based on the statistical analysis of the path coefficient in the table above, it shows the original sample value of 0.188 in a dynamic environment to a sustainable competitive advantage. This means that there is a positive influence on the dynamic environment variable on the sustainable competitive advantage variable. In addition, the t statistic value is 2.024 and the p value is 0.043 (< 0.05), which means that the dynamic environment has a significant direct effect on sustainable competitive advantage. Therefore, it can be concluded that the fourth hypothesis in this study is accepted and statistically supported by the results of this study.

5. Based on the statistical analysis of the path coefficient in the table above, the intellectual capital variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.322, which means that there is a positive influence on the influence of intellectual capital on sustainable competitive advantage with a dynamic environment as a moderating variable. Dynamic environmental variables can strengthen the influence of intellectual capital on sustainable competitive advantage by 46.41%. This can be seen from the value of t statistic that is equal to 4.641 and p values of 0.000 (< 0, 05) which means that the intellectual capital variable has a significant effect on sustainable competitive advantage with a dynamic environment as a moderator variable. Therefore, it can be concluded that the fifth hypothesis in this study is accepted and statistically supported by the results of this study.
6. Based on the statistical analysis of the path coefficient in the table above, the digital transformation variable is the variable of sustainable competitive advantage with a dynamic environment that acts as a moderating variable. The original sample value of the influence of the three variables is 0.311, which means that there is a positive influence in the effect of digital transformation on sustainable competitive advantage with a dynamic environment as a moderating variable. The dynamic environment can strengthen the influence of digital transformation on the company's sustainable competitive advantage by 45.09%. This is reflected in the t statistic value of 4.509 and p values of 0.000 (< 0, 05) which means that the digital transformation variable has a significant effect on sustainable competitive advantage with a dynamic environment that acts as a moderator. Therefore, it can be concluded that the sixth hypothesis in this study is accepted and statistically supported by the results of this study.
7. Based on the statistical analysis of the path coefficient in the table above, the knowledge management variable on the variable of sustainable competitive advantage with a dynamic environment acts as a moderating variable. The original sample value of the influence of the three variables is 0.226, which means that there is a positive influence on the influence of knowledge management on sustainable competitive advantage with a dynamic environment as a moderating variable. The dynamic environment can strengthen the influence of knowledge management on competitive advantage by 28.31%. This is indicated by the t statistic value of 2.831 and p values of 0.005 (< 0, 05) which means that the knowledge management variable has a significant effect on sustainable competitive advantage with a dynamic environment that acts as a moderator variable. Therefore, it can be concluded that the seventh hypothesis in this study is accepted and statistically supported by the results of this study.

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