Creation of competitive advantage in improving the business performance of banking companies

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Abstract

Purpose – This study aimed to examine the impact of innovation, intellectual capital and knowledge management, and competitive advantage on business performance.

Design/methodology/approach – This study was conducted in Padang City, West Sumatra, Indonesia. The respondents are bank employees who have worked for more than five years and have structural positions in the company. The data has been collected using a survey with questionnaires. This study got 109 responses out of 135 questionnaires, so the response rate was 80.7%. It employed the Structural Equation Modeling (SEM) approach using Smart-PLS as the data analysis software.

Findings – This study found that (1) innovation has a positive and significant effect on competitive advantage; (2) knowledge management has a negative but insignificant effect on competitive advantage; (3) intellectual capital has a positive and significant effect on competitive advantage; and (4) competitive advantage has a positive and significant effect on business performance. Surprisingly, it found that innovation significantly indirectly affects business performance through competitive advantage as a mediating variable. Intellectual capital has a significant indirect effect on business performance through competitive advantage as a mediating variable.

Research limitations/implications – This study result can be more impactful considering several factors. First, this study is a cross-sectional study. Hence, it has a limitation in finding generalizations. Therefore, for further research, it could be expanded to a longitudinal study. Second, it is one country study. Future research might be extended to some countries with similar cultures, such as Southeast Asian Countries.

Practical implications – This study has implications for the decision-makers. First, companies need to develop their intellectual capital through improving employee skills and applying information technology in business processes in order to maintain the company’s competitive advantage so that it has an impact on improving the company’s business performance. Second, the company is expected to be able to manage the knowledge owned by the company so that the knowledge it has can increase the creation of company innovation it provides a competitive advantage for the company.

Originality/value – The contribution of this research is that the results of this study can be used as empirical evidence for banking companies of the importance of the role of IC, innovation, and KM in improving company performance by constantly creating the company’s competitive advantage.

Keywords: Innovation, intellectual capital, knowledge management, competitive advantage, and business performance.
Introduction

Amid the current development of the banking industry, there is increasing competition, so companies must increase their competitive advantage to survive in the long term. The company's business performance is a significant concern in ensuring competitiveness and sustainability by utilizing existing resources (Muthuveloo et al., 2017). Therefore, banks need to understand what and how to manage the various resources they have to win the competition and create a competitive advantage (Kuncoro & Suriani, 2017), which will impact the company's business performance. Organizations carry out various strategies such as innovation to create a competitive advantage. Innovation is often described in terms of what changes the company offers and how to create these offers (Liao, et al., 2007). Various innovations in the banking world are currently growing and adapting to the needs of society. For example, issuing electronic money, mobile banking, internet banking, and others.

Another factor that affects competitive advantage is knowledge management, which will affect the company's success. Knowledge management consists of infrastructure and information technology to store and provide the knowledge generated, which can support the achievement of company goals to create a sustainable competitive advantage (de Guimarães et al., 2018). According to de Guimarães et al., (2018), the application of knowledge management can provide benefits, where knowledge management through work procedures and personal knowledge are responsible for impacting their performance. Improvement in the field of information technology and increasingly competitive competition, many companies have transformed from a conventional business relying on labour (labour-based business) to a business based on knowledge (knowledge-based business), with the main characteristic being science. Knowledge-based business is a business that is carried out by utilizing more intellectual capital (IC). Suppose the competencies possessed by employees have a great opportunity to actualize and integrate them into the management process. In that case, intellectual capital is believed to significantly increase asset capabilities in terms of increasing profit, performance, job satisfaction, customer satisfaction, and other interested parties in the organization (Adigüzel & Kayadibi, 2015).

Based on previous research on how innovation, Knowledge Management, and IC in creating competitive advantage and then in the creation of a company's business performance, determining the factors that will influence the achievement of business performance is a major concern (Ferreira et al., 2018; Cheng et al., 2010; Hult et al., 2004; Katila & Ahuja, 2002; Martin-de et al., 2011; Zaied et al., 2012). Many studies conducted only tested KM, IC, and innovations on competitive advantage and were carried out partially (Zaied et al., 2012; Li et al., 2018; Ferreira et al., 2018). However, limited studies have addressed how the competitive advantage will impact the business performance. Besides, research on the effect of competitive advantage on business performance is mostly carried out in the SME and manufacturing sectors (Meutia & Ismail, 2015; Cantele & Zardini, 2018). So, this research needs to be done in banking, considering that for banking, innovation creation is very important in increasing the company's ability to have a competitive advantage to maintain the company's survival. The contribution of this research is that the results of this study can be used as empirical evidence for banking companies of the importance of the role of IC, innovation, and KM in improving company performance by always creating the company's competitive advantage.

Literature Review and Hypotheses

Business Performance

Rosli & Sidek (2013) find that performance is a mirror of a company. If the performance is poor, the company is experiencing a setback, whereas if the performance is great, the company is progressing. Business performance results from meeting internal and external company goals (Lin et al., 2008). The measure of a company's success can be seen from the company's financial performance. Financial performance is a tangible result achieved by a business entity in a certain period which can reflect the level of the financial soundness of a particular business entity and can be
used to demonstrate the achievement of positive results. To measure the performance of banking in this study used profitability, productivity, and market value (Keown et al., 2005). In order to achieve business performance, the company must increase and maintain the company's competitive advantage.

A competitive advantage illustrates that a company has one or more advantages compared to its competitors. These advantages, in turn, will improve overall company performance (Mentzer et al., 2000). Competitive advantage can provide high levels of economic performance, customer satisfaction and loyalty, and relationship effectiveness. Companies that offer high-quality products can reduce production costs, thereby increasing profit margins on sales and returns on investment. Therefore, a positive relationship exists between competitive advantage and business performance (Li et al., 2006).

**Innovation and Competitive Advantage**

Innovation is a change in the process or knowledge development towards better results. Udriyah et al., (2019) said that the innovation ability of a company will guarantee the company's competitiveness. According to Lin & Chen (2007), innovation is one of the determining aspects of company performance in an increasingly competitive environment. In understanding organizational acceptance behavior and identifying the determinants of innovation, it is necessary to know the types of innovation. Three types of core innovations have received broad attention, namely administrative and technical, product and process, and radical and incremental (Damanpour, 2016).

Wang & Ahmed (2004) identified five main areas that define an organization's overall innovation, namely (1) product innovation, (2) market innovation, (3) process innovation, (4) behavioral innovation, and (5) strategic innovation. This research discusses product and process innovation, but management innovation is poured into process innovation because management changes are also needed. Liao et al., (2007) measure innovation using three indicators developed into statement items: product innovation, process innovation, and management innovation.

The ability to develop new ideas to encourage innovation and present something different from competitors can be an added value for an organization in achieving maximum competitive advantage. The application of innovation will impact the organization's competitive advantage (Hult et al. 2004). According to the resource-based view, innovation is the main source of competitive advantage in the knowledge economy era (Ferreira et al., 2018). Based on previous research conducted by Chatzoglou & Chatzoudes (2017; Linda et al., 2020), states that innovation has a positive and significant effect on competitive advantage. In line with research by Sharabati et al. (2010), innovation positively affects competitive advantage. Therefore, it hypothesizes that:

H1: Innovation have a significant relationship with competitive advantage.

**Knowledge Management and Competitive Advantage**

Knowledge management is a source of knowledge, innovation and renewal. Humans are intangible resources that are believed to be able to develop knowledge or knowledge. The better knowledge or knowledge that humans receive, the knowledge will be able to create new knowledge that is even better (Prabowo, 2010). The indicators used to measure knowledge management, according to de Guimaraes et al., (2018) are as follows:

1) New knowledge for the sustainable development process, the leadership is always open to every individual in developing their creativity towards new ideas for the sustainable development process.
2) Development and process for new ideas, the engagement of all parties in the organization for the development of science and technology
3) Knowledge exchange between departments, between departments exchanging information related to new ideas for sustainable development and innovation.
4) Development and the process of creating works, creating works in an organization from the new ideas that are obtained.

Needs an organization of knowledge management for competitive advantage in order to
last it is very necessary because organizations that can be said to be successful are those who can create new knowledge and manage to pass it on to all individuals and quickly utilize it in the organization (Dewi, 2013). Naturally, most knowledge management is dynamic and intangible, with unique characteristics that can sustainably create competitive advantage because knowledge is the basis of differentiation which is difficult to imitate (Curado & Bontis, 2007). Knowledge management is one of the companies' most important strategic resources and a main source of value creation (Nonaka, 1991). Therefore, knowledge management becomes a knowledge-centered process that allows employees to contribute to the company's competitive advantage (Wang & Noe, 2010). In line with that, previous research by Alavi & Leidner (2001) found that well-managed knowledge management can help companies gain a competitive advantage. This is also in line with (Chatzoglou, & Chatzoudes, 2017; Ode, & Ayavoo, 2020), where their research shows that knowledge management positively affects competitive advantage. Thus, this study proposes a hypothesis that:

H2: Knowledge management has a significant relationship with a competitive advantage.

**Intellectual capital against the competitive advantage**

The results of the study from Hermawan (2013) suggest that intellectual capital (IC) is an intangible asset that is beneficial for companies to improve performance, competitiveness, and welfare. This is in line with the results of previous studies, which state that IC is crucial and influences business performance, company value-added, organizational effectiveness, competitiveness, and creating prosperity (Belkaoui 2003; Chen et al. 2009; Cabrita et al. 2007; Sharabati et al. 2010; Khalique et al. 2011). Bontis & Richardson (2000) stated that the researchers generally identified three main constructs of IC: human capital, structural capital, and customer capital.

Research Kamukama, (2013) states that IC is correlated with a competitive advantage. Wang & Ahmed (2004; Li et al., 2006) state that a positive influence exists between competitive advantage and performance as measured by sales volume, profit rate, market share, and return on investment. Furthermore, Barney & Clark (2007) explained that intellectual capital is the company's main capital to survive and achieve superior performance. IC provides the resources and capabilities to create a sustainable competitive advantage in the organization. Without IC, it will be difficult for companies to gain a competitive advantage in the market (Yaseen et al., 2016).

H3: Intellectual capital has a significant relationship with a competitive advantage.

**Competitive Advantage and Business Performance**

Competitive advantage is the ability of a company to create value that is not owned and cannot be imitated by existing competitors (Boyer & Lewis, 2009). As explained in (Bratic, 2011; Li et al., 2006) in their research, competitive advantage is the company's ability to create a defensible position from competitors. Competitive advantage implies creating a system that has a unique advantage over competitors. This competitive advantage consists of the ability that enables the company to differentiate itself from its competitors and result from critical management decisions. Competitive advantage can be measured from Differentiation, Cost Leadership, and Outreach levels (Kamukama, 2013).

Competitive advantage is a strategy that can be applied by a company to achieve its ultimate goal, namely to improve company performance that generates profits. A Competitive advantage allows a company or a group of businesses in an industry to achieve superior business performance (Wright et al., 1995). Competitive advantage will improve business performance through profit growth, sales growth, and customer growth. The result from Chan et al., (2004; Ferreira et al., 2021; Anwar, 2018) states that competitive advantage positively affects firm performance. Li (2000) stated that companies that excel in the competition will have a higher company performance. Hence, this study proposes that:

H4: Competitive advantage has a significant impact on business performance.

**Innovation, Competitive Advantage, and Business Performance**
Lin & Chen (2007) assert that innovation is related to company performance. On the contrary, Ferreira et al., (2021) argue that innovation is the main influence factor of competitive advantage. Chan et al., (2004) have highlighted that competitive advantage is directly linked to firm performance. Udriyah & Azam (2019) concluded that competitive advantage moderates between innovation and business performance. Even though some previous studies have partially examined the link between innovation and competitive advantage and the relationship between competitive advantage and business performance, the mediating effect of competitive advantage on the link between innovation and business performance remains limited. Therefore, this study proposes a hypothesis that

**H5: competitive advantage is a mediating factor of the relationship between innovation and business performance**

**Intellectual Capital, Competitive Advantage, and Business Performance**

According to Kamukama (2013), IC has a significant relationship with a competitive advantage. Meanwhile, Li (2000) has investigated the significant role of competitive advantage on business performance. Therefore, it may argue that IC has a relationship with business performance. Even though some prior studies have partially addressed these relationships and Barney & Clark (2007) have asserted a possible relationship between IC, competitive advantage, and business performance, studies that have addressed the indirect relationship remain neglected. Jain et al., (2017; Anwar, 2018) suggests that competitive advantage mediates the relationship between intellectual capital and business performance. Intellectual capital can create a competitive advantage, and its competitive advantage will improve the company’s business performance. Hence, this study develops a hypothesis that:

**H6: Competitive advantage has a significant mediating effect on the relationship between IC and business performance.**

**Knowledge Management, Competitive Advantage, and Business Performance**

According to Chatzoglou, & Chatzoudes (2017), knowledge management significantly impacts competitive advantage. Wright et al., (1995) have asserted a significant link between competitive advantage and business performance. Therefore, knowledge management may have a relationship with business performance through competitive advantage as a mediator. Although the mediating impact of competitive advantage on the link between knowledge management and business performance is still neglected previously, Wijaya & Suasih (2020) found that the study state that competitive advantage significantly mediates the influence of knowledge management on knowledge management on business performance. This study argues that:

**H7: competitive advantage has a significant mediating impact on the link between knowledge management and business performance**

**Research Methods**

The population of this research is structural officials of banking companies located in Padang City, West Sumatra Province. This research is survey research where one of the advantages lies in generalization, so the more respondents used, the better (Kerlinger & Lee, 2000. The minimum number of respondents for survey research is 30 people (Hair et al., 2010). Therefore, this time the researcher tries to get more respondents than the minimum requirements. The samples of this study were taken using a purposive sampling technique, with the criteria that each respondent must be a company employee who has the lowest structural position as a manager or head of a branch. This study used a survey with a questionnaire as a data collection tool. A Likert scale with 5 levels, starting from Strongly agree to strongly disagree, is used as a measurement tool. 109 questionnaires were returned from 135 questionnaires distributed, so the response rate for the study was 80.7%. 

Operational Definition

This study has 5 variables. In more detail, the research variables can be seen in Table 1.

**Table 1. Operational Definition**

| No. | Variable                  | Definition                                                                 | Indicator                                      |
|-----|---------------------------|-----------------------------------------------------------------------------|-----------------------------------------------|
| 1   | Business Performance      | Measuring the ability of bank management to gain profit or profit as a whole | 1. Profitability, 2. Productivity, 3. Market value (Keown et al., 2005) |
| 2   | Competitive Advantage     | Organizational ability to produce superior performance and be able to survive in the long term. | 1. Differentiation 2. Cost Leadership 3. Outreach Level (Kamukama, 2013) |
| 3   | Innovation                | Innovation is one of the determining aspects of company performance in an increasingly competitive environment | 1) Product innovation 2) Process innovation 3) Management innovation (Liao et al., 2007) |
| 4   | Knowledge Management      | Technology infrastructure and information to store and provide the resulting knowledge, in addition to facilitating the structural and organizational culture | 1. Creativity and teamwork 2. New knowledge for the sustainable development process 3. Knowledge exchange between departments 4. Development and the process of creating works (de Guimarães et al., 2018) |
| 5   | Intellectual Capital      | Knowledge resources in the form of employees, customers, processes or technology that can be used in the process of creating value for the company. | 1. Human Capital 2. Structural Capital 3. Customer Capital (Bontis, 2000) |

Source: Various Sources

Data Analysis

The data was analyzed using Partial Least Square Structural Equation Modeling (SEM-PLS) and SmartPLS as the data analysis software. SEM-PLS is a variant-based structural equation analysis (SEM) that can simultaneously test structural models. SmartPLS in the analysis to overcome if there is multicollinearity between the variables used and the research data was not normally distributed (Ramzan & Khan, 2010). The measurement model is used to test the validity and reliability, while the structural model is used to test the causality (hypothesis testing with predictive models).

1) Measurement Model (Outer Model)
   - An Outer model, also called (outer relation or measurement model), defines how each indicator block relates to its latent variable.
     1. Convergent validity test
        - Rule of thumb those used for convergent validity were outer loading > 0.7, communality > 0.5 and average variance extracted (AVE) > 0.5 (Jogiyanto & Abdillah, 2014).
     2. Discrimination Validity Test
        - The validity test of discrimination is measured based on cross-loading with the constructor by comparing the AVE root for each construct with the correlation between the constructor and other constructs in the model.
     3. Reliability Test
        - The reliability test in PLS can use two methods: Cronbach’s alpha and Composite reliability. Rule of thumb alpha value or composite reliability > 0.7.

2) Evaluation of the Structural Model (Inner Model)
   - The Structural model describes the relationship between latent variables based on substantive
theory. The structural model was evaluated using the R-square for the dependent construct, the Stone-Geisser Q-square test for predictive relevance, and the t-test and the significance of the structural path parameter coefficients. Assessing the model with PLS starts by looking at the R-square for each latent dependent variable. The interpretation is the same as the interpretation in regression.

Sofyan (2011) described the criteria for limiting the R-square value in three classifications, namely the R-square values of 0.67, 0.33, and 0.19, as substantial, moderate, and weak. Changes in the R-square value can be used to see whether the effect of exogenous latent variables on endogenous latent variables has a substantive impact.

Results and Discussion

Convergent Validity

Exams The convergent validity of the reflexive indicator can be seen from the loading factor value for each construct indicator. A rule of thumb is usually used to assess convergent validity with the condition that the loading factor value must be more than 0.7. The following is the loading factor value for each indicator can be seen in the table below:

| Table 2. Outer Loading Factors |
|--------------------------------|
| Business Performance | Competitive Advantage | Innovation | Intellectual Capital | Knowledge Management |
| BP1 | 0.911 | | | |
| BP2 | 0.960 | | | |
| BP3 | 0.950 | | | |
| CA1 | | 0.932 | | |
| CA2 | | 0.844 | | |
| CA3 | | 0.852 | | |
| IC1 | | | 0.863 | |
| IC2 | | | 0.745 | |
| IC3 | | | 0.897 | |
| IN1 | | | 0.814 | |
| IN2 | | | 0.862 | |
| IN3 | | | 0.807 | |
| KM1 | | | | 0.726 |
| KM2 | | | | 0.831 |
| KM3 | | | | 0.854 |
| KM4 | | | | 0.794 |

Source: Primary Data Processing (2020)

From Table 2, it can be seen that the loading factor value of all indicators has a loading factor value above 0.7, meaning that all of these indicators can be used for further analysis. After ensuring that the loading factor of all indicators is above 0.7, then the measurement of the construct validity is carried out. It can be seen that the data reliability from the Cronbach alpha, rho-A, and composite reliability values above 0.7, then to see the validity of the data by looking at the AVE value, where the AVE value is ≥ 0.5. The results of the construct validity can be seen in the Table 3.

| Table 3. Construct Validity and Reliability |
|--------------------------------------------|
| | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
| Business Performance | 0.935 | 0.961 | 0.958 | 0.885 |
| Competitive Advantage | 0.849 | 0.859 | 0.909 | 0.769 |
| Innovation | 0.772 | 0.779 | 0.867 | 0.686 |
| Intellectual Capital | 0.789 | 0.826 | 0.875 | 0.702 |
| Knowledge Management | 0.815 | 0.828 | 0.878 | 0.644 |
The final structural model shows that the AVE values of all variables have met the required rule of thumb (AVE > 0.50). Referring to the rule of thumb, the outer loading necessary value is 0.70. Then all indicators in this study are declared valid because each indicator has met the requirements for the outer loading value > 0.70 and the Cronbach’s alpha value > 0.70.

**Discriminant Validity**

Discriminant validity is related to the measuring principle (manifest variable) of different constructs which should not be highly correlated (Ghozali & Latan, 2015). Measuring discriminant validity can be done in two ways: by using a cross-loading table or by comparing the value of the square root of AVE.

| Table 4. Square Roots of AVE |
|-----------------------------|
|                            | Business Performance | Competitive Advantage | Innovation | Intellectual Capital | Knowledge Management |
| Business Performance        | 0.941                | 0.378                  | 0.877      |                    |                     |
| Competitive Advantage       | 0.260                | 0.503                  | 0.0828     |                    |                     |
| Innovation                  | 0.520                | 0.288                  | 0.241      | 0.838              |                     |
| Intellectual Capital        | 0.310                | 0.343                  | 0.641      | 0.441              | 0.803               |
| Knowledge Management        | 0.941                | 0.378                  | 0.877      |                    |                     |

From the output results shown in Table 4, the diagonal is the value of the square root of AVE and the value below is the correlation between constructs. So it can be seen that the square root value of AVE is higher than the correlation value. Based on the table above, it can be concluded that the estimated model is valid because it has met the criteria for discriminant validity.

**Structural Model (Inner Model)**

**R-Square**

After the estimated model meets the discriminant validity criteria, testing the structural model (inner model). Structural model testing is done by looking at the goodness-fit model test’s R-square value. The following is a table of the R-square values of this study:

| Table 5. R-Square table |
|-------------------------|
|                        | R Square | R Square Adjusted |
| Business Performance    | 0.143    | 0.135            |
| Competitive Advantage   | 0.284    | 0.263            |

From Table 5 above, it can be seen that the R-square value of the business performance variable (Y) shows the number 0.143. This shows that intellectual capital, innovation, knowledge management and competitive advantage contribute 14.3% to the company’s business performance, while other variables explain the rest with the competitive advantage (Z) variable. From the table above, it can be seen that the R-square value for the competitive advantage variable is 0.284. It can be concluded that competitive advantage has contributed as much as 28.4% of intellectual capital, innovation, and knowledge management.

**Goodness of Fit**
Based on Hairs (2013), a model is said to be fit if it has an SRMR value < 0.11. The SRMR value in this study is 0.080, where the value is smaller than 0.11, which means that this research model fulfills the goodness of fit.

**Discussion**

![Figure 2. Structural Model](image)

**Direct Effect**

Testing can be done by looking at the results of the path coefficient table which will be explained as follows:

| No. | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P-Values  |
|-----|---------------------|-----------------|-----------------------------|---------------------------|-----------|
| H1  | Innovation → Competitive Advantage | 0.494 | 0.464 | 0.165 | 2.996 | 0.003 * |
| H2  | Knowledge Management → Competitive Advantage | -0.060 | -0.026 | 0.141 | 0.425 | 0.671 |
| H3  | Intellectual Capital → Competitive Advantage | 0.195 | 0.206 | 0.091 | 2.148 | 0.032 * |
| H4  | Competitive Advantage → Business Performance | 0.378 | 0.384 | 0.086 | 4.415 | 0.000 * |
| H5  | Innovation → Competitive Advantage → Business Performance | 0.187 | 0.185 | 0.089 | 2.104 | 0.035 * |
| H6  | Intellectual Capital → Competitive Advantage → Business Performance | 0.074 | 0.078 | 0.038 | 1.951 | 0.051 ** |
| H7  | Knowledge Management → Competitive Advantage → Business Performance | -0.023 | -0.014 | 0.055 | 0.412 | 0.680 |

*Source: Primary Data Processing (2020)*

Significant at level 0.05 *, Level 0.10 **

**Direct Influence of Innovation on Competitive Advantage**

The ability to develop new ideas to encourage innovation to present something different from competitors will be an added value for an organization and achieve maximum competitive advantage. Table 6 shows that, which is the result of the relationship between constructs, it states that innovation has a positive and significant effect on competitive advantage with a parameter
coefficient of 0.494 and significant at alpha 0.05 and alpha 0.1, where the P-value is 0.003. Thus, the first hypothesis in this study is accepted, meaning that innovation directly affects competitive advantage.

Added value to the company can be obtained through the creation of innovation by the company through creativity in creating new products, services, or processes within the company or outside the company. Companies with a high level of innovation will perform better in gaining a competitive advantage. The value of innovation is a way to reduce the intensity of competition, in other words, to get out of the competition with an emphasis on delivering quality products accompanied by competitive prices (Alim, 2017). Sandvik & Sandvik (2003) state that the more innovative a product is, the higher the value it will give to consumers and the higher the level of differentiation offered. Linda et al. (2020) said that innovation made by banking companies would create competitive advantage because innovation will help design, improve, and enhance sustainable advantage. Therefore, the greater the capacity for organizational innovation, the greater the competitive advantage.

**Direct Influence of Knowledge Management on Competitive Advantage**

Table 6, the result of the relationship between constructs, states that knowledge management has a negative and insignificant effect on the competitive advantage at alpha 0.05 and alpha 0.1 with a parameter coefficient of -0.060 and a P-value of 0.671. Thus, the second hypothesis in this study is rejected, namely that knowledge management has a significant effect on competitive advantage.

This second hypothesis is rejected because the company should acquire knowledge as an important resource to create and maintain a competitive advantage. (Hitt et al., 2000). However, not all companies understand this. Competitive advantage is often seen as something that can be built from good products and services to customers or outsiders of a company. This second hypothesis’s rejection is also because knowledge management has a more direct impact on increasing innovation. It happens because sharing and codifying tacit knowledge helps transform tacit knowledge into explicit knowledge and creates a culture that promotes the creation and sharing of knowledge and collaboration (Mehrdad et al, 2014). The results of this study are in line with the results of previous studies conducted by Elda et al. (2021), whose research results show that knowledge management has a positive effect on competitive advantage. Through this innovation, a competitive advantage will be created. Therefore, knowledge management does not influence competitive advantage.

**Direct Influence of Intellectual Capital on Competitive Advantage**

Intellectual capital can be defined as company resources in the form of employees, customers/customers, processes, or technology that can be used in the value creation process by a company (Bukh et al., 2005). Technology, products and services from a company can be imitated, but intellectual capital is difficult to imitate, which is why human resources are unique and strategic (Duica et al., 2010). As stated by Sawarjuwono & Kadir (2003) intellectual capital is the sum of the results of the three main elements of an organization, namely human capital, structural capital, and customer capital related to knowledge and technology that provides added value to the company in the form of competitive advantage.

Based on Table 6 above, intellectual capital has a positive and significant effect on the competitive advantage at alpha 0.05 with parameter coefficients of 0.195 and P-values of 0.032. Thus, the third hypothesis in this study is accepted, namely that intellectual capital has a significant effect on competitive advantage. This illustrates that maximizing the use of intellectual capital owned by the company can encourage the company to create a competitive advantage.

**Direct Effect of Competitive Advantage on Business Performance**

Table 6 above which is the result of the relationship between constructs. It states that competitive advantage has a positive and significant effect on business performance at alpha 0.05 and alpha 0.1 with a parameter coefficient of 0.378 and P-values 0.000. Thus, the fourth hypothesis in
this study is accepted, namely that competitive advantage has a significant effect on business performance. This illustrates that the company's ability to create a competitive advantage will be able to influence the company's business performance in a better direction. The higher the company's ability to create competitive advantage, the higher the company's business performance.

Competitive advantage is the company's strategy to achieve its ultimate goal, namely performance that generates high profits. Competitive advantage is not the end goal but a means to achieve the company's ultimate goal, namely improving company performance. Ferdinand (2003) states that in a competitive market, the company's ability to produce good performance is highly dependent on the company's ability to create a competitive advantage. To maintain the existence of the company in the long term, the company must maintain sustainability from the company's competitive advantage. Setyawati & Abrilia (2013) stated that for a company to benefit from implementing strategy, it must go through competitive advantage. These results align with the research conducted by Ferreira et al. (2021; Anwar et al., 2018), where the study results support the relationship between competitive advantage and business performance.

Indirect Effect

After testing the hypothesis above, the next step is to test the indirect effect of the variables used. The model in this study is Full Mediation, namely, the independent variable can directly influence the dependent variable through or involves the mediating variable. Cohen (1998). Based on the result of research with SmartPLS version 3.2.6, it was found that the $Q^2$ Business Performance value was 0.664, and the $Q^2$ competitive advantage value was 0.484. According to Hair et al (2014), if the $Q^2$ value is greater than 0.3, it shows a strong relationship. So based on the research results, competitive advantage as a mediating variable has a strong influence in mediating between the independent variable and the dependent variable.

Indirect Effect of Innovation on Business Performance

In order to maintain the company's survival in today's fast-paced and competitive market, the application of innovation by companies is considered a very important necessity. Zainul, et al. (2016) state that innovation is an organizational culture that reflects the extent to which a company is open to new ideas, accepts and stimulates new approaches to encourage ideas that are challenging, take risks, and are proactive. The success of a company in creating innovation can be said if the company is one step ahead of its competitors, it requires intelligence and courage in carrying out innovation activities so that innovation can create a competitive advantage to improve performance for the company. Competitive advantage can be generated from a company's ability to manage and utilize its resources and capital. In turn, competitive advantage is an important factor to produce a good performance. Story et al. (2011) stated that skills development, incubation, and acceleration are important indicators in triggering the creation of competitive advantages to improve company performance.

Based on table 16, it shows the result of the relationship between constructs. Thus, the fifth hypothesis in this study is accepted, that innovation significantly affects business performance through competitive advantage as a mediating variable. This illustrates that the company's ability to create innovation can affect the company's business performance in a better direction where the innovation made by the company creates the company's competitive advantage. Thus, competitive advantage can be accepted as a mediating or intervening variable in the relationship between innovation and firm performance.

This study's results align with research conducted by Udriyah & Azam (2019). The research results show that competitive advantage as a moderating variable between innovation and business performance has a positive and significant influence. Ferreira et al. (2021) said that innovation is one of the main instruments that can increase market share and provide a competitive advantage for the company, which will positively impact the company's performance.

Indirect Influence of Intellectual Capital on Business Performance
Intellectual capital is the main resource and driver (driver) for the performance and value creation in the company, so intellectual capital plays an important role in creating or maintaining a company's competitive advantage. (Cheng, et al., 2010). Competitive advantage can be achieved by companies that are successful in utilizing and integrating their intellectual capital in the form of knowledge, technology skills, experience and strategic capabilities. Tovstiga & Tulugurova (2009; Barney, 1991; Prahalad & Hamel, 1990; Kamukama, 2013) emphasized that the company's competitive advantage and company performance are largely influenced by the company's intellectual capital.

Based on table 6 above, which is the result of the relationship between constructs, states that the indirect relationship of intellectual capital to business performance is significant at alpha 0.1 with a parameter coefficient of 0.074 and P values 0.051. Thus, the sixth hypothesis in this study is accepted that intellectual capital has a significant effect on business performance through competitive advantage as a mediating variable. It means that when competitive advantage becomes a mediation between intellectual capital and company performance, it can have a positive effect. This is because the competitive advantage that banks have is a characteristic that can differentiate between banks and banks from other financial institutions. This competitive advantage can ultimately have a positive effect on improving company performance. Thus, a competitive advantage can be accepted as a mediating or intervening variable in the relationship between intellectual capital and company performance.

This study finds the same results as Berzkalne & Zelgalve (2014; Jain et al., 2017), where the results of their research show that intellectual capital is a set of intangible assets. Furthermore, resources can assist companies in creating a competitive advantage, providing higher performance and profitability benefits. Anwat et al. (2018) suggested that competitive advantage fully mediates the relationship between intellectual capital and business performance.

**Indirect Influence of Knowledge Management on Business Performance**

Knowledge management is a process that helps organizations find, select, organize, disseminate and transfer important information and expertise required for activities. Knowledge management is the formalization and access to experience, knowledge and expertise. It creates new capabilities that enable superior performance, encourages innovation and increase customer value (Khan, 2012). Nonaka & Takeuchi (1995) emphasize the organizational need for knowledge management, who says, "In an economy where the only sure thing is uncertainty, the one sure source of making a lasting competitive advantage is knowledge. Table 8 above, the result of the relationship between constructs, states that the indirect relationship between knowledge management and business performance is insignificant at alpha 0.05 and 0.1 with P-values 0.680. Thus, the seventh hypothesis in this study is rejected: knowledge management has a significant effect on business performance through competitive advantage as a mediating variable, which means that competitive advantage does not mediate between knowledge management and company performance. This is because knowledge management owned by banking companies does not directly contribute to the company's competitive advantage, except that existing knowledge management can create innovation so that, the company can achieve a competitive advantage and improve company performance through this innovation.

The results of this study are not in line with the research conducted by Wijaya & Suash (2020), where their results show that optimizing knowledge will produce competitive products. When the product has a competitive advantage, it will undoubtedly improve business performance.

**Conclusion**

Based on the results of the research and discussion presented in the previous chapter, several conclusions can be drawn in this study, including:

1. Innovation has a positive and significant effect on competitive advantage with a parameter coefficient of 0.494 and significant at alpha 0.05 and alpha 0.1 where the P value is 0.003.
This shows that better innovation made by the company, the greater the chance for the company to gain a competitive advantage.

2. Knowledge management has a negative and insignificant effect on the competitive advantage at alpha 0.05 and alpha 0.1 with a parameter coefficient of -0.060 and a P-value of 0.671. This shows that the company's knowledge management does not influence the company's competitive advantage.

3. Intellectual capital has a positive and significant effect on the competitive advantage at alpha 0.05 and alpha 0.1 with a parameter coefficient of 0.195 and P value 0.032. This illustrates that maximizing the use of intellectual capital owned by the company can encourage the company to create a competitive advantage.

4. Competitive advantage has a positive and significant effect on business performance at alpha 0.05 and alpha 0.1 with a parameter coefficient of 0.378 and P-values 0.000. This illustrates that the company's ability to create competitive advantage will be able to influence the company's business performance in a better direction. The higher the company's ability to create a competitive advantage, the higher the company's business performance.

5. The indirect relationship between innovation and business performance is significant at alpha 0.05 and alpha 0.1 with a parameter coefficient of 0.187 and P values 0.035. This illustrates that the company's ability to create innovation can affect the company's business performance in a better direction where the innovation that the company makes creates a competitive advantage for the company.

6. The indirect relationship of intellectual capital to business performance is significant at alpha 0.05 with a parameter coefficient of 0.074 and a P value of 0.051. This means that intellectual capital significantly affects business performance through competitive advantage as a mediating variable. When competitive advantage becomes a mediation between intellectual capital and company performance, it can positively affect.

7. The indirect relationship between knowledge management and business performance is insignificant at alpha 0.05 and 0.1 with P values 0.680. This means that competitive advantage does not mediate between knowledge management and business performance.

Research implications for decision-makers

1. Companies need to develop their intellectual capital by improving employee skills and applying information technology in business processes to maintain the company's competitive advantage to improve the company's business performance.

2. Companies must be able to change knowledge in the form of tacit knowledge into explicit knowledge by collecting and storing every knowledge and information that employees have into a system that can be accessed by employees who need that information or knowledge.

3. The company is expected to be able to manage the knowledge owned by the company so that the knowledge it has can increase the creation of company innovation and provide a competitive advantage for the company.

References

Alavi, M., & Leidner, D. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. MIS Quarterly, 25(1), 107-136.

Anwar, Muhammad., Khan, Sher., & Khan, Najib. (2018). Intellectual Capital, Entrepreneurial Strategy and New Ventures Performance: Mediating Role of Competitive Advantage. Business & Economic Review, 10(1), 63-94

Barney, J. B. & Clark, D. N. (2007). Resource-based Theory: Creating and Sustaining Competitive Advantage. New York: Oxford University Press, Inc.

Belkaoui, A. (2003). Intellectual capital and firm performance of US multinational firms: A study of the resource-based and stakeholder views. Journal of Intellectual capital, 4(2), 215-226.

Berzkalne, I., & Zelgalve, E. (2014). Intellectual capital and company value. Procedia-Social and Be-
Creation of competitive advantage in improving the business performance …

*bavioral Sciences, 110*(January), 887-896.

Bontis, N., Keow W.C.C., & Richardson, S. (2000). Intellectual Capital and Business Performance in Malaysian Industries. *Journal of Intellectual Capital, 1*(1), 85-100.

Boyer, K. K., & Lewis, M. W. (2009). Competitive Priorities: Investigating the Need for Trade-Offs in Operations Strategy. *Production and Operations Management, 11*(1), 9–20.

Bratić, D. (2011). Achieving a Competitive Advantage by SCM. *IBIMA Business Review Journal, 1–13.*

Bukh, P. N., Nielsen, C., Gormsen, P., & Mouritsen, J. (2005). Disclosure of Information on Intellectual Capital in Danish IPO Prospectuses. *Accounting, Auditing & Accountability Journal, 18*(6), 713–732.

Cabrita, M. D. R. M. F., da Silva, M. D. L. R., Rodrigues, A. M. G., & Dueñas, M. D. P. M. (2017). Competitiveness and disclosure of intellectual capital: an empirical research in Portuguese banks. *Journal of Intellectual Capital, 18*(3), 486-505.

Cantele, S., & Zardini A. (2018). Is sustainability a competitive advantage for small businesses? an empirical analysis of possible mediators in the sustainability-financial performance relationship. *Journal of Cleaner Production, 182*(May), 166-176.

Chan, L. I., Shaffer, M. A., & Snape, E. (2004). In search of sustained competitive advantage: the impact of organizational culture, competitive strategy and human resource management practices on firm performance. *The International Journal of Human Resource Management, 15*(1), 17-35.

Chatzoglou, P., & Chatzoudes, D. (2017). The role of innovation in building competitive advantages: an empirical investigation. *European Journal of Innovation Management, 21*(1), 44-69.

Chen, Y. S., Lin, M. J. J., & Chang, C. H. (2009). The positive effects of relationship learning and absorptive capacity on innovation performance and competitive advantage in industrial markets. *Industrial Marketing Management, 38*(2), 152-158.

Cheng, M., Lin, J., Hsiao, T., and Lin, T. W. (2010). Invested Resource, Competitive Intellectual Capital, and Corporate Performance. *Journal of Intellectual Capital, 11*(4), 433-450.

Cohen, L. H., Cimbolic, K., Armeli, S. R., & Hettler, T. R. (1998). Quantitative assessment of thriving. *Journal of Social Issues, 54*(2), 323-335.

Curado, C., & Bontis, N. (2007). Managing intellectual capital: the MIC matrix. *International journal of knowledge and learning, 3*(2-3), 316-328.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal, 34*(3), 555-590.

de Guimarães, J. C. F., Severo, E. A., & de Vasconcelos, C. R. M. (2018). The influence of entrepreneurial, market, knowledge management orientations on cleaner production and the sustainable competitive advantage. *Journal of Cleaner Production, 174*(February), 1653–1663

Dewi, M. T. (2013). Meningkatkan Keunggulan Kompetitif Perusahaan dengan Penerapan Knowledge Management (Manjemen Pengetahuan). *Jurnal JIBEKA, 7*(3), 26-32.

Duicã, M. C., Florea, N. V., Duicã, A., & Cucui, A. (2010). Human resources management and knowledge management: The key for competitive advantage. In *Proceedings for Competitive Advantage of the European Conference on Management, Leadership and Governance* (pp. 119-126).

Elda, R. P., Patrisia, D., & Linda, M. R. (2021, June). The Impact of Intellectual Capital and Knowledge Management on Competitive Advantage. In *Sixth Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2020)* (pp. 480-487). Atlantis Press
Ferreira, J., Cardim, S., & Coelho, A. (2021). Dynamic capabilities and mediating effects of innovation on the competitive advantage and firm's performance: the moderating role of organizational learning capability. *Journal of the Knowledge Economy, 12*(2), 620-644.

Ghozali, I., & Latan, H. (2015). Partial least squares konsep, teknik dan aplikasi menggunakan program smartpls 3.0 untuk penelitian empiris. *Semarang: Badan Penerbit UNDIP*.

Linda, M. R., Patrisia, D., Thabrani, G., & Yonita, R. (2020). Competitive advantage through innovation, human capital and knowledge management. *International Journal of Advanced Science and Technology, 29*(3), 5554-5565.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*, 7th Edition. Singapore: Simon & Schuster Asia Pte, Ltd.

Hair, J. F., Hult, G. Tomas M., Ringle, C.M., Sarstedt, Marko. (2014). *A Primer on Partial Least Square Structural Equation Modeling (LPS-SEM)*. SAGE Publication, Inc. United State of America.

Hermawan, S. (2013). Makna Intellectual Capital Perspektif The Role Theory dan The Resource Based Theory. *EKUITAS (Jurnal Ekonomi dan Keuangan), 17*(2), 256-275.

Hitt, M. A., Ireland, R. D., & Lee, H. U. (2000). Technological learning, knowledge management, firm growth and performance: an introductory essay. *Journal of Engineering and Technology management, 17*(3-4), 231-246.

Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial marketing management, 33*(5), 429-438.

Jain, P., Vyas, V., & Roy, A. (2017). Exploring the mediating role of intellectual capital and competitive advantage on the relation between CSR and financial performance in SMEs. *Social Responsibility Journal, 30*(1), 1-23.

Jogiyanto & Abdillah. (2014). *Konsep Dan Aplikasi PLS (Partial Least Square) Untuk Penelitian Empiris*. Publishing Agency of the Faculty of Economics and Business UGM, Yogyakarta,

Kamukama, N. (2013). Intellectual capital: Company's invisible source of Competitive Advantage. *Competitiveness Review, 23*(3), 260–283.

Katila, R., & Ahuja, G., (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal, 45*(8), 1183–1194

Keown, Arthur J., Scott, David F., Martin, John D., & Petty, William. (2005). *Financial Management: Principles and Aplications*. 10th Edition, New Jersey, Pearson Prentice Hall

Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of Behavioral Research*. Harcourt College Publisher.

Khalique, M., Isa, A. H. B. M., Nassir Shaari, J. A., & Ageel, A. (2011). Challenges faced by the small and medium enterprises (SMEs) in Malaysia: An intellectual capital perspective. *International Journal of current research, 3*(6), 398-401.

Khan, M. A. (Ed.). (2012). *Handbook of Research on Industrial Informatics and Manufacturing Intelligence: Innovations and Solutions: Innovations and Solutions*. IGI Global.

Kuncoro, W., & Suriani, W. O. (2018). Achieving sustainable competitive advantage through product innovation and market driving. *Asia pacific management review, 23*(3), 186-192.

Li, Ling X. (2000). An Analysis of Sources of Competitiveness and Performance of Chinese Manufacturers. *International Journal of Operation and Production Management, 20*(3), 299-315.

Li, Suhong., Ragu-Nathan, B., Ragu-Nathan, T. S., & Subba Rao, S. (2006). The impact of supply chain management practices on Competitive Advantage and organizational performance. *Omega, International Journal of Operation and Production Management, 34*(2), 107–124.
Li, M., Liu, H., & Zhou, J. (2018). G-SECI model-based knowledge creation for CoPS innovation: the role of grey knowledge. Journal of Knowledge Management, 22(4), 887-911.

Liao, S. H., Fei, W. C., & Chen, C. C. (2007). Knowledge sharing, absorptive capacity, and innovation capability: An empirical study of Taiwan's knowledge-intensive industries. Journal of Information Science, 33(3), 340–359.

Lin, C.-H., Peng, C.-H., & Kao, D. T. (2008). The Innovativeness Effect of Market Orientation and Learning Orientation on Business Performance. International Journal of Manpower, 29(8), 752-772.

Lin, Yeh-Yun & Chen, Yi-Ching. (2007). Does innovation lead to performance? An empirical study of SMEs in Taiwan. Management Research News, 30(2), 115–132.

Martín-de-Castro, G., Delgado-Verde, M., López-Sáez, P., & Navas-López, J. E. (2011). Towards ‘an intellectual capital-based view of the firm’: origins and nature. Journal of Business Ethics, 98(4), 649-662.

Mehrdad, N., Peyrovi, H., Kitson, A. L., Schultz, T. J., & Athlin, A. M. (2014). Knowledge translation in health care: a concept analysis. Medical journal of the Islamic Republic of Iran, 28, 98.

Mentzer, J. T., Min, S., & Zacharia, Z. G. (2000). The nature of interfirm partnering in supply chain management. Journal of Retailing, 76(4), 549–568.

Nonaka, I. (1991). The knowledge creating company. Harvard Business Review, 6(8), 96-104.

Nonaka, Ikujiro & Takeuchi (1995). The Knowledge-Creating Company, How Japanese Companies Create the Dynamics of Innovation. Oxford University Press.

Ode, E., & Ayavoo, R. (2020). The mediating role of knowledge application in the relationship between knowledge management practices and firm innovation. Journal of Innovation & Knowledge, 5(3), 210-218.

Adigüzel, Orhan & Kayadibi, Kenan (2015). The Effect of Intellectual Capital On Job Satisfaction And Organizational Attractiveness During The Person-Organization Fit: A Case Study Of A University Hospital. Journal of Business Research. 7(4), 92-92.

Prabowo. (2010). Knowledge Management Di Perguruan Tinggi. Busin Business Review, 1(2), 407–415.

Prahalad, C. K., & Hamel, G. (1990). Strategic intent. McKinsey quarterly, (1), 36-61.

Ramzan, S., & Khan, I. M. (2010). Dimension Reduction and Remedy of Multicollinearity Using Latent Variable Regression Methods. World Applied Science Journal, 8(4), 404-410.

Rosli, M. M., & Sidek, S. (2013). The impact of innovation on the performance of small and medium manufacturing enterprises: Evidence from Malaysia. Journal of Innovation Management in Small & Medium Enterprises, 1-16.

Sandvik, I. L., & Sandvik, K. (2003). The impact of market orientation on product innovativeness and business performance. International Journal of Research in Marketing, 20(4), 355-376.
Sharabati, A. A. A., Jawad, S. N., & Bontis, N. (2010). Intellectual capital and business performance in the pharmaceutical sector of Jordan. *Management Decision, 48*(1), 105-131.

Setyawati, H. A. (2013). Pengaruh Orientasi Kewirausahaan dan Orientasi Pasar terhadap Kinerja Perusahaan Melalui Keunggulan Bersaing dan Persepsi Ketidakpastian Lingkungan Sebagai Prediksi Variabel Moderasi (Survey pada UMKM Perdagangan di Kabupaten Kebumen). *Fokus Bisnis: Media Pengkajian Manajemen dan Akuntansi, 12*(2), 20-32.

Alim, S. (2017). Pengaruh Orientasi Pasar terhadap Nilai Inovasi, Keunggulan Bersaing, Kinerja Unit Usaha dan Jasa Berbasis Syari'ah (Studi Kasus unit Usaha dan Jasa berbasis Syari’ah di Wilayah Malang Raya). *El Dinair, 5*(2), 13-26.

Sawarjuwono, T., & Kadir, A. P. (2003). Intellectual capital: Perlakuan, pengukuran dan pelaporan (sebuah library research). *Jurnal akuntansi dan keuangan, 5*(1), 35-57.

Sofyan. (2011). *Dasar-dasar Metode Penelitian*. Jakarta: Sagung Seto.

Story, V., O’Malley, L., & Hart, S. (2011). Roles, role performance, and radical innovation competences. *Industrial Marketing Management, 40*(6), 952-966.

Tovstiga, G., & Tulugurova, E. (2009). Intellectual capital practices: a four-region comparative study. *Journal of intellectual capital, 10*(1), 70-80.

Udriyah, U., Tham, J & Azam, S. (2019). The effects of market orientation and innovation on competitive advantage and business performance of textile SMEs. *Management Science Letters, 9*(9), 1419-1428.

Wang, C. L., & Ahmed, P. K. (2004). The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European journal of innovation management, 7*(4), 303-313.

Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review, 20*(2), 115–131.

Wijaya, P.Y., & Suasih, N.N.R. (2020). The Effect of Knowledge Management on Competitive Advantage and Business Performance: A Study of Silver Craft SMEs. *Entrepreneurial Business and Economics Review, 8*(4), 105-121.

Wright, P., Kroll, M., Pray, B., & Lado, A. (1995). Strategic orientations, competitive advantage, and business performance. *Journal of Business Research, 33*(2), 143-151.

Yaseen, S. G., Dajani, D., & Hasan, Y. (2016). The impact of intellectual capital on the competitive advantage: Applied study in Jordanian telecommunication companies. *Computers in Human Behavior, 62*, 168-175.

Zaied, A. N. H., Hussein, G. S., & Hassan, M. M. (2012). The role of knowledge management in enhancing organizational performance. *International journal of information engineering and electronic business, 4*(5), 27-35.

Zainul, M., Astuti, E. S., Arifin, Z., & Utami, H. N. (2016). The effect of market orientation toward organizational learning, innovation, competitive advantage, and corporate performance (A study at SME Sasirangan in South Kalimantan). *Journal of Administrative Sciences and Policy Studies, 4*(1), 1-19.