The Influence of Technology Adaptation and Market Orientation on Business Performance of BPR in Karanganyar with Competitive Advantage as the Mediation

Susanto Tanggono
Soegijapranata Catholic University
susanto.tanggono@outlook.com

Maria Y.D. Hayu Agustini
Soegijapranata Catholic University
hayu@unika.ac.id

Abstract
The study addresses competition problems experienced by BPRs in Kabupaten Karanganyar. The competition from other financial institutions, particularly fintech, has led the BPRs to experience a decline in particularly credit performance. The purpose of this study was to analyze the effect of new technology adaptation and market orientation on competitive advantage and business performance of BPRs in Kabupaten Karanganyar. The study selected executive officers and directors of 12 BPRs available in Kabupaten Karanganyar using purposive sampling. Those have worked for at least 3 years for the BPR were selected as the respondents and this resulted in 54 respondents. Data was collected using questionnaire and was analyzed using Structural Equation Modeling-PLS. The analysis indicates that new technology adaptation and market orientation have positive and significant effect on competitive advantage. New technology adaptation has direct effect on business performance, but market orientation shows indirect effect on business performance through competitive advantage. Competitive advantage is only proven to mediate the effect of market orientation on business performance and unable to mediate the effect of adaptation new technology on business performance.

Keywords: adaptation of new technology, market orientation, competitive advantage, business performance

INTRODUCTION

New players in financial services industry have beaten Bank Perkreditan Rakyat (BPRs). Previously they competed directly only with other BPRs but lately they have to compete also with application-based financial institutions (fintech). Aggressiveness of financial institutions other than BPR has deteriorated market share (Annur, 2019) and business performance of BPRs. Commercial banks aggressively penetrate the traditional market segments which was the market of BPRs. They proactively collect installments on site so that the clients do not need to come to the bank.
The tightened OJK regulation such as POJK No. 5/POJK.03/2015 about minimum basic capital differentiated into 3 billion and 6 billion rupiahs has created higher competition for BPRs. If a BPR can't fulfill it, it must consolidate with other BPRs and can only do limited activities on for example money changer and ATM which have been the income source for BPR (Annur, 2019). According to the Head of Perhimpunan Bank Perkreditan Rakyat Indonesia (Perbarindo) Karanganyar, the BPRs in Kabupaten Karanganyar are experiencing the problem in meeting the requirement of minimum basic capital of either 3 billion rupiahs for those having capital of less than 3 billion or 6 billion rupiahs for those having capital of 3-6 billion rupiahs. In order to meet the requirement, BPRs have to get funds by for example selling their assets, finding new investors, and handing in their BPR to other entity. This condition leads to lower performance of BPRs.

Credit performance of the BPRs in Kabupaten Karanganyar had been decreasing in the last 10 years. In one side, the credit amounts had increased drastically by 186% but on the other side the number of debtors had been declined by 63% (Otoritas Jasa Keuangan, 2019). This indicates higher risk since a debtor has high debt and possibly can lead to higher NPL (Non-Performing Loans). As a consequence, people tend to distrust BPRs for their credits and this in turn lowers credit performance (Baihaqi, 2019).

Application of new technology can possibly lower credit risk and increase work efficiency and effectivity. The technology possibly enable BPR to screen a potential debtor quickly and effectively to reduce credit risk. Technology adaptation also enables BPRs to create new products (Ghadikolaei, Bagheri, and Keshavarz, 2013; Hana, 2013) that differ from those created by the competitors so that competitive advantage can be increased (Hana, 2013). In conclusion, Ghadikolaei et al (2013) dan Hana (2013) found that technology adaptation influences competitive advantage.
Competitive advantage can also be built through ability to recognize consumers’ needs, which is called market orientation. Ability to recognize consumers’ needs is an asset that must be possessed by a company (Zainul, Astuti, Arifin, & Utami, 2016) since it can then detect needs, create appropriate strategy, and take the market opportunity faster than the competitors (Aprizal, Dung, Tobeoto, & Yohanis, 2016). For the purpose of providing products according to the clients’ needs, BPRs have to be able to recognize the needs as early as possible and create suitable products accordingly. This way can increase profit and credits provided to clients (Ladipo, Rahim, Oguntoyibo, & Okikiola, 2016), and create debtors’ profiles according to the BPR’s target market. According to Aprizal, Dung, Tobeoto, and Yohanis (2016), Puspaningrum (2017), and Sutapa, Mulyana, and Wasitowati (2017), market orientation influences competitive advantage.

Competitive advantage refers to value creation that can leverage company position in the consumer’s eyes and differentiates the company from the competitors. It makes company to have better bargaining position against the consumers and makes consumers want to buy the company’s products as they may think that the company has unique specialization compared to the competitors (Kaleka & Morgan, 2017). This way can increase the company’s business performance. Based on the interviews to the managers of BPRs in Kabupaten Karanganyar, the expected performance of BPRs can be achieved by increasing competitive advantages. This is supported by the research of Aprizal, Dung, Tobeoto, and Yohanis (2016) and Sutapa, Mulyana, and Wasitowati (2017) that found that competitive advantage influences business performance.

This research aims to understand the influence of technology adaptation and market orientation on competitive advantage and business performance of BPRs in Kabupaten Karanganyar which are experiencing declining performance. The results can be used by the
BPRs to increase their business performance by adapting technology, increasing market orientation and competitive advantage.

**LITERATUR REVIEW**

Business performance is the level of achievement of a company in particular period of time (Pfano, 2016). It is measurement of an organization achievement for a period of time based on particular criteria (Aprizal, Dung, Tobeoto, & Yohanis, 2016). The criteria must be the guidance for the organization to make operational decisions so that strategic purposes can be more flexible, applicable, on time, and understandable by all management levels. Business performance can be gauged using financial and non-financial measurements. Financial performance is commonly identified using ROI, ROE, ROS, ROA, and profitability (Aprizal, Dung, Tobeoto, & Yohanis, 2016). Meanwhile, non-financial performance refers to market performance that can be gauged using growth of sales, growth of consumer (Stoian, Rialp, & Dimitratos, 2017), and productivity in manufacturing (Aprizal, Dung, Tobeoto, & Yohanis, 2016).

According to Porter (2015), company that focuses on its performance and keeps to grow it will have opportunity to reach better competitive position and actually indicates that the company has strong capital to keep competing with others. Company can create their better competitive position by making their products to be efficient, effective, and meet the standard of quality. Kotler and Armstrong (2014) stated that offering more values to the consumers such as lower price or more benefits for higher price leads to competitive advantage. It relates to customer’s perception about company’s offers vis-a-vis the competitors’. It indicates ability of a company to acquire economic benefits in terms of the income gained by the competitors operating in the same industry (Porter, 2015). Intensive, broad coverage, and attentive
promotions can make competitive advantage of the products to increase business performance (Kaleka & Morgan, 2017).

It can be stated that competitive advantage influences business performance. Many studies, for example Sutapa, Mulyana, and Wasitowati (2017), Balakhrisnan and Khan (2018), Aprizal, Dung, Tobeoto, and Yohanis (2016), and Bruque-Camara, Moyano-Fuentes, Hernandez-Ortiz, and Vargas-Sanchez (2003) support this. Nevertheless, inconsistent result found by Hana (2013) who concluded that there is no significant influence of competitive advantage to business performance. The proposed hypothesis is thus as follow:

H1: Competitive advantage positively and significantly influences business performance.

Technology is a set of processes, ways, tools, work methods, approaches to do a job or manufacture. It enables company to serve customers’ and market’s needs better. It also supports company’s core competence and plans in the industry (Ghadikolaei, Bagheri, & Keshavarz, 2013). Accordingly, adopting the most suitable technology leads company to produce more competitive products and services, develop more efficient system, and offer effective solutions for the customers. It is thus beneficial for company to adapt their technology to the new one. There are many benefits the company can gain from adapting to the new technology such as digital technology. It helps in creating creative process, stimulates innovation in the entire value chain, be a route to the market, and challenges existing market structure and business. Creative industry adopting digital technology is considered as the most dynamic sector in the world economy (Bujor & Avsilcai, 2016).

Adapting to new technology opens opportunity for company to create distinct products to the competitor’s and this directs company to have competitive advantage. Even though many studies concluded that technology adaptation influences competitive advantage (Kaleka & Morgan, 2017; Pfano, 2016; Hana, 2013; Bruque-Camara et al., 2003), but some others ended
up in contradictory results (Bujor & Avsilcai, 2016). Thus, this study proposes the following hypothesis:

\[ H_2: \text{New technology adaptation positively and significantly influences competitive advantage.} \]

Furthermore, company can create new production methods by adapting to new technology. The new methods enable the company to adapt its ways in doing business to be more effective and efficient (Bujor & Avsilcai, 2016). Ability to adapt the new technology to reduce costs can direct to higher profit, which will then result in higher business performance (Pfano, 2016). The influence of technology adaptation on business performance is the evidence of many studies such as Jalagat and Al-Habsi (2017), Perin, Sampaio, Jimenez, and Cegarra-Navarro (2016), Zainul, Astuti, Arifin, and Utami (2016), Hana (2013), Duschek (2004) supports this. However, Bujor and Avsilcai (2016) and Bruque-Camara, Moyano-Fuentes, Hernandez-Ortiz, and Vargas-Sanchez (2003) resulted in the opposite conclusion in which technology adaptation does not influence business performance. This study proposes the following hypothesis:

\[ H_3: \text{New technology adaptation positively and significantly influences business performance.} \]

Marketing concept emphasizes that ability of a company to determine market’s needs and wants and satisfy its target markets more efficiently and effectively than its competitors can guarantee it to achieve its goals of market share and profitability (Puspaningrum, 2017). For this purpose, company must have knowledge about the market and be oriented to the market. Market orientation refers to a way in doing the business by focusing on market condition and satisfying the market (Zainul, Astuti, Arifin, & Utami, 2016). Satisfying customers must thus be main priority (Ladipo, Rahim, Oguntoyibo, & Okikiola, 2016).

Market orientation is an asset a company must have (Zainul, Astuti, Arifin, & Utami, 2016). A company with market orientation can anticipate market’s needs by developing
appropriate strategy and thus can take market opportunity quicker than its competitors (Aprizal, Dung, Tobeoto, & Yohanis, 2016). This will be competitive advantage of a company. According to the results of Puspaningrum (2017), Stoian, Rialp, and Dimitratos (2017), and Ghadikolaei, Bagheri, and Keshavarz (2013), it can thus be proposed the following hypothesis:

$H_4$: Market orientation positively and significantly influences competitive advantage.

Market orientation is a marketing strategy adopted by businesses to increase their performance. It refers to three main things: customer focus, coordinated marketing efforts, and motivation to increase profitability and thus it can be identified from customer orientation, competitor orientation, inter-functional coordination, and innovative capability (Ladipo, Rahim, Oguntoyibo, & Okikiola, 2016).

As stated by Ladipo, Rahim, Oguntoyibo, & Okikiola (2016), the main goal of market orientation is to offer product and service according to customers’ needs and wants and customer satisfaction is the main priority. Accordingly, Sutapa, Mulyana, and Wasitowati (2017) noted that existence of a business relies on customer welfare. A company with market orientation is considered as having higher knowledge on the market and higher ability to connect with people and such ability will direct the company to get higher returns compared to its competitors (Sutapa, Mulyana, & Wasitowati, 2017). Market orientation enables company to offer products according to needs of the market and consequently sales will be easier to conduct and profit is expectedly to increase (Ladipo, Rahim, Oguntoyibo, & Okikiola, 2016). Even though Ghadikolaei, Bagheri, and Keshavarz (2013) found that market orientation does not influence business performance, but more studies such as Nohong, Sanusi, Nurqamar, and Haru (2018); Sutapa, Mulyana, and Wasitowati (2017); Aprizal, Dung, Tobeoto, and Yohanis (2016); Ladipo, Rahim, Oguntoyibo, and Okikiola (2016), Mulyana and Sutapa (2016); and
Bruque-Camara, Moyano-Fuentes, Hernandez-Ortiz, and Vargas-Sanchez (2003) concluded existence of the influence. Thus, the following hypothesis is proposed:

H3: Market orientation positively and significantly influences business performance.

This study is built on the following framework to test the hypotheses 1-5.

Figure 1. Research Framework

METHODS

The study addresses four variables which are new technology adaptation (X1) and market orientation (X2) as the independent variables, business performance (Y2) as the dependent variable, and competitive advantage (Y1) as the mediating variable. New technology adaptation is measured using 3 indicators: technology adoption for tracking potential debtor, for informing the progress of evaluation process, and for paying installments from different branches. Market orientation is assessed using 3 indicators comprising application of proactive system to offer credit to the potential clients, efforts to build close relationship with clients, credit focus on SMEs. The measurements of business performance comprise of the last 3 year growth of market share, profitability, omzet, and assets. Competitive advantage measurements are lower provision cost, lower credit interest, quicker credit processing, and convenient service.
The study addresses 12 BPRs in Kabupaten Karanganyar and the executives or directors of those BPRs were the respondents. Only the executives and directors who have worked at least 3 years for the institution were the selected respondents and this ended up with 54 people. Data was gathered from them by mean of questionnaire consisting questions on the variables presented in 5-point scale of Likert ranging from 1 = strongly disagree to 5 = strongly agree. Questionnaires were distributed directly to the respondents by visiting them in their BPR. Upon their agreement to participate in the survey, they were given 3 days for completing the questionnaire.

Prior to it, the questionnaire was tested for its validity and reliability. Convergent validity was conducted using outer model in Smart-PLS. An item is valid if its convergent validity value >0.5. As seen from table 1, all items are evidently valid and thus all items are feasible for measurement. Meanwhile, reliability test was conducted using Cronbach’s Alpha (α). The test resulted in α of each variable is 0.761 (NTA), 0.790 (CA), 0.892 (BP), and 0.909 (MO). Since all variables have α that is higher than 0.7, the questionnaire is thus reliable for collecting data.

Since the number of sample is less than 100, Partial Least Squares (PLS) or Variance Based SEM (VBSEM) was applied for analyzing the two structural models: CA = a₁ + b₁NTA + b₂MO + e₁ and BP = a₂ + b₃NTA + b₄MO + b₅CA + e₂. To know whether there is indirect effect of the independent variable to the dependent variable, indirect and total effects were calculated. The first effect indicates existence of an intervening variable between independent and dependent variables if p value < 0.05.

<table>
<thead>
<tr>
<th>Item</th>
<th>NTA</th>
<th>CA</th>
<th>BP</th>
<th>MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>x1.2</td>
<td>0.783</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x1.3</td>
<td>0.822</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x2.1</td>
<td></td>
<td></td>
<td></td>
<td>0.839</td>
</tr>
<tr>
<td>x2.2</td>
<td></td>
<td></td>
<td></td>
<td>0.939</td>
</tr>
<tr>
<td>x2.3</td>
<td></td>
<td></td>
<td></td>
<td>0.875</td>
</tr>
</tbody>
</table>
Inner model analysis using coefficient of determination (R²) was applied to make sure that the structural models are robust and accurate (Ghozali & Latan, 2015). To test the hypotheses, t-test was used. The null hypothesis is rejected if p < 0.05 (Ghozali dan Latan, 2015). The process was conducted using SmartPLS.

RESULTS AND DISCUSSION

The respondents are dominated by female (65%), aged 30-50 years old (74%), bachelor degree (72%), executives (70%), less than 5 years of tenure (41%).

Table 2 presents the result of Structural Equation Modelling-PLS (SEM-PLS). The result of the first model shows that new technology adaptation and market orientation influence competitive advantage positively (0.217 and 0.746 respectively) and significantly (p = 0.028 and 0.000 respectively). Thus, H2 and H4 are accepted. This first model is considerably robust since its coefficient of determination (R²) is 0.760.

**Table 2. SEM-PLS Analysis**

<table>
<thead>
<tr>
<th>Item</th>
<th>Path Coefficient</th>
<th>t Statistics</th>
<th>p Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Technology Adaptation → Competitive Advantage</td>
<td>0.217</td>
<td>2.202</td>
<td>0.028</td>
</tr>
<tr>
<td>New Technology Adaptation → Business Performance</td>
<td>0.395</td>
<td>2.055</td>
<td>0.040</td>
</tr>
<tr>
<td>Competitive Advantage → Business Performance</td>
<td>0.505</td>
<td>2.898</td>
<td>0.005</td>
</tr>
<tr>
<td>Market Orientation → Competitive Advantage</td>
<td>0.746</td>
<td>6.672</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*NTA = new technology adaptation, CA = competitive advantage, BP = business performance, MO = market orientation*
The second model results in only new technology adaptation and competitive advantage that influence business performance positively (0.395 and 0.505 respectively) and significantly with p = 0.040 and 0.005 respectively. In other words, H₃ and H₁ are accepted. Meanwhile H₅ is declined since market orientation does not statistically show significant influence to business performance (p = 0.828). Indicated by coefficient of determination amounted 0.673, the second model is also considerably good.

Table 3 presents the result of mediation effect test which is to measure indirect effect of independent variable to dependent variable through mediating variable. The result indicates that competitive advantage does not mediate the influence of new technology adaptation to business performance (p 0.184 > 0.05). This indicates that the direct effect of new technology adaptation to business performance is much stronger compared to the indirect effect which is only 0.110.

### Table 3. Mediation Effect

<table>
<thead>
<tr>
<th>Model</th>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation (STDEV)</th>
<th>t Statistics (O/STDEV)</th>
<th>p Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Technology Adaptation → Competitive Advantage → Business Performance</td>
<td>0.110</td>
<td>0.145</td>
<td>0.082</td>
<td>1.330</td>
<td>0.184</td>
</tr>
<tr>
<td>Market Orientation → Competitive Advantage → Business Performance</td>
<td>0.377</td>
<td>0.357</td>
<td>0.124</td>
<td>3.039</td>
<td>0.002</td>
</tr>
</tbody>
</table>

On the other side, competitive advantage mediates the influence of market orientation to business performance (p = 0.002 < 0.05) and the indirect effect is 0.377. As showed before that market orientation does not influence business performance and thus the existence of competitive advantage between them can strengthen the influence of market orientation.

The result shows that business performance is statistically influenced by their competitive advantage. It can be stated then that competitive advantage possessed by BPRs in Karanganyar can help in leveraging profit, number of clients, and amount of credits which can
be the indication of performance. This is in line with the result of Aprizal, Dung, Tobeoto, and Yohanis (2016) and Sutapa, Mulyana, and Wasitowati (2017) concluding that business performance is influenced by competitive advantage. If the BPRs in Karanganyar can proactively offer lower provision cost, lower interest rate, quicker process, and more convenience service than those of competitors, they will be positioned differently by clients compared to the competitors and this can make them to have better bargaining position against the clients. As the consequence, clients will keep buying from them (Kaleka & Morgan, 2017).

The result also shows that new technology adaptation influences competitive advantage and better adaptation will lead to higher competitive advantage. Adaptation to new technology for tracking credit record of the potential clients and informing the progress of evaluation processing, and the usage of online real-time transfer payment for installment payment can surely increase BPRs’ competitive advantage. Application of the new technology can reduce credit risks and on the other hand can increase work efficiency and effectiveness of the BPRs. The new technology enables the BPRs to do debtors screening more effectively and thus minimizes risks in providing credits. Refering to Ghadikolaei, Bagheri, and Keshavarz (2013) and Hana (2013), the BPRs can create new products that previously cannot be developed due to lack of technology and offer different products from those offered by the competitors. Along with lower production costs generating from the technology adaptation, competitive advantage of the BPRs can thus be leveraged (Hana, 2013).

Furthermore, adaptation to new technology also influences business performance. Better adaptation results in better performance. Adaptation to new technology enables BPRs to do their business in a way that can minimize costs and work efficiently and effectively (Bujor & Avsilcai, 2016). Ability of the BPRs to adapt the technology to reduce costs will increase profit,
number of clients, amount of credits, and asset growth. As a result their business performance will be better (Pfano, 2016).

The study results in significant influence of market orientation on competitive advantage and this is in line with the results of Aprizal, Dung, Tobeoto, and Yohanis (2016), Puspaningrum (2017), and Sutapa, Mulyana, and Wasitowati (2017). This means that competitive advantage of the BPRs can be developed through their ability in recognizing customers’ needs. They thus can proactively provide products and services as the customers need those (Aprizal, Dung, Tobeoto, & Yohanis, 2016). Early recognition on the customers’ needs will direct the BPRs to take appropriate strategies for acquiring the market opportunity faster than the competitors and being responsive to the changing in customers’ needs, which will contribute to higher competitive advantage.

Having market orientation, the BPRs can provide products and services as needed by the markets and they can definitely increase sales which is one indicator of business performance (Sutapa, Mulyana, & Wasitowati, 2017). However, the study concludes that market orientation does not influence business performance. This result is in line with that of Ladipo, Rahim, Oguntoyibo, and Okikiola (2016). This may happen because converting market orientation strategy into business performance is a process. Nevertheless, the BPRs must still maintain their competitive advantage against the competitors and process it to make the end results able to increase the business performance. In other words, the BPRs need to make their market orientation strategy to indirectly influence business performance through their competitive advantage. Thus, it is acceptable that the influence of market orientation to business performance is strengthened by competitive advantage. This case is different from that happens to new technology adaptation. As shown by the result, competitive advantage does not mediate the influence of new technology adaptation to business performance. This means that direct
effect of new technology adaptation is stronger than its indirect effect, while market orientation does not directly influence business performance.

CONCLUSION

The study shows that business performance of the BPRs in Kabupaten Karanganyar is influenced by new technology adaptation and competitive advantage but not by market orientation. The influence of market orientation to business performance is however happened indirectly through competitive advantage. On the other hand, competitive advantage does not mediate the influence of new technology adaptation to business performance. It can be concluded that adaptation to new technology gives direct effect on business performance.

Based on the results, the BPRs in Kabupaten Karanganyar need to keep updating the adaptation of new technologies. In particular, they can apply the system of online real time transfer payment with new server to increase the speed. Even though market orientation does not have direct influence on business performance, the BPRs can still conduct proactive service by processing the credit application on site and the potential client does not need to come to the office. Such convenience process can result in higher competitive advantage against the competitors and in turn will affect business performance.

Future research may add other variables such as service quality and human resource quality in measuring business performance. Limited number of respondents may be the limitation of the study and future research can do similar research using more respondents and covering wider areas such as BPRs in Central Java to confirm the result.
REFERENCES


124


str y_Performance/fulltext/5a673e0a0f7e9b76ea8d702c/The-Role-of-Market-O

rientation-Creativity-an