



## ORIGINAL RESEARCH

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**Resource-based view model implementation toward business competitiveness  
(Case study in mushroom SMEs in Malang, Indonesia)**Ardaneswari Dyah Pitaloka Citraresmi<sup>1</sup>, Andan Linggar Rucitra<sup>1</sup>, Novi Haryati<sup>2</sup>, Faizatul Amalia<sup>3\*</sup><sup>1</sup> Department Agro-industrial Technology, Faculty of Agricultural Technology, Universitas Brawijaya, Malang, Indonesia<sup>2</sup> Department Agricultural Socio-Economics, Faculty of Agriculture, Universitas Brawijaya, Malang, Indonesia<sup>3</sup> Department of Information System, Faculty of Computer Science, Universitas Brawijaya, Malang, Indonesia

KEYWORDS	ABSTRACT
Capability Company performance Competitive advantage strategy Strategic resources	Mushroom is one of the main commodities of agroindustry which experienced an increase in production due to the existence of consumer awareness to consume healthy products. The popularity causes the development of the mushroom processing industries in Malang. To improve the quality of products, mushroom SMEs need to further develop the company performance. Company performance can be achieved with an effective competitive advantage. Competitive advantage is a factor that a company should have in order to succeed in business. The fundamental source of competitive advantage is assets. This research use a Barney's theory in determining strategic resources to achieve competitive competitiveness called Resource-Based View (RBV). The purpose of this research are to determine the influence of: (1) tangible assets on competitive advantage strategy, (2) intangible assets on competitive advantage strategy, (3) company capability on competitive advantage strategy, and (4) competitive advantage strategy on company performance. The exploration techniques utilised are quantitative and Partial Least Square (PLS). The results showed that the tangible assets and company capability have a strong influence and positively contribute to competitive advantage strategy, meanwhile intangible assets have a weak influence and negatively contribute to competitive advantage strategy, and competitive advantage strategy has a strong influence and positively contributes to company performance.

**Introduction**

Nowadays, the market demand for mushrooms is increasing, both nationally and internationally. The high demand improves the prospect of the mushroom processing business. For example, demand for oyster mushrooms in East Java currently reaches 35-50 tons/day. While the production of oyster mushrooms has only reached 7.5-15 tons/day. The increasing trend of consuming mushrooms is also supported by public awareness of the importance of healthy food. Mushrooms are one of the nutritious foods, because they contain high fiber and vitamins. Unlike meat which generally contains high fat and cholesterol, the cholesterol content in mushrooms is relatively lower. Therefore, mushrooms are often consumed as a substitute for animal protein sources. This is the reason why the mushroom agroindustry is growing at this time, and is able to produce various products (fresh and processed), which are popular

both in the local and global market. Mushrooms have a soft texture and neutral taste so they can be easily combined with various spices and processed into various types of dishes. The mushroom processed food franchise business is also increasingly popular and easy to find. This condition makes the mushroom consumption business opportunity in the country still wide open (Astrini, 2016).

One of the SMEs growing in Malang is mushroom SME. This SME is a business that uses mushrooms as raw materials and processed it into various products. Initially, this mushroom SMEs was a business unit that focused on processing mushroom cultivation. From the various experiences they have, mushroom SMEs continue to innovate to create other innovative products. To create a competitive advantage, mushroom SMEs are still constrained by the limited resources owned by the company, so that more optimal preparation is

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Received on 2 January 2020, revised on 11 April 2020, accepted on 14 June 2021

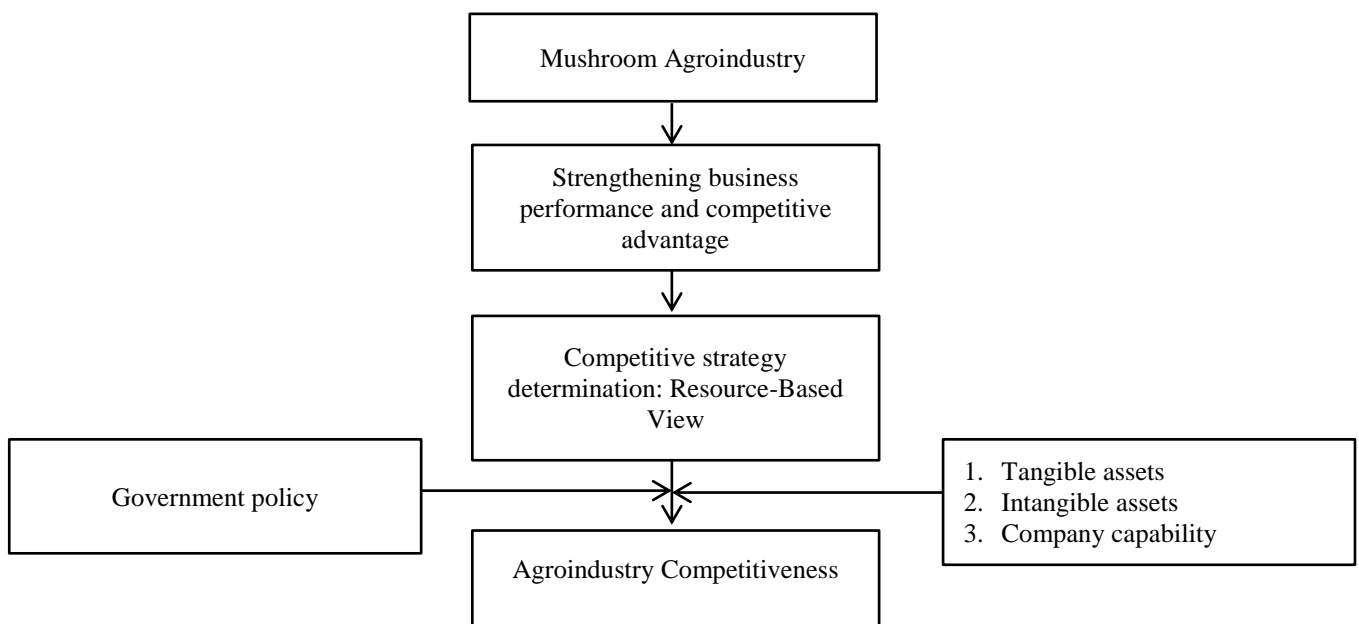
needed to develop their business to face global competition. The existence of a free market increasingly requires business units to improve product quality. Likewise, to face the global market, mushroom SMEs are required to have high competitiveness because they will compete both with similar products and with substitute products. Therefore, it is necessary to improve business performance so that mushroom SMEs can face the challenges and obstacles. An excellent business performance can be achieved with a sustainable competitive advantage. Competitive advantage is a factor that must be owned by a company in order to be successful in business (Abiodun and Harry, 2014).

### Research Methods

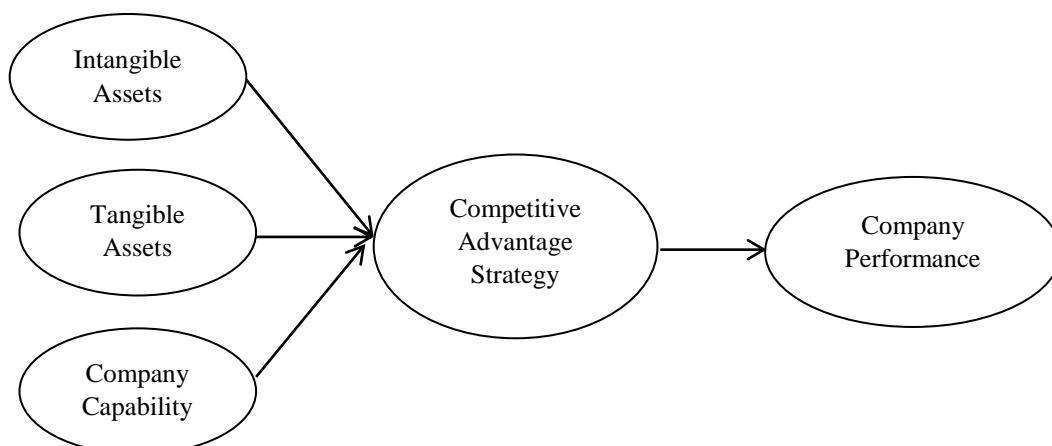
The method used in this research is qualitative, specifically research in which information and

explanations are obtained from the direct cooperation between the researcher and the object under research (Palmer and Bolderston, 2006). The exploration area was determined purposively, that is five SMEs that processed oyster mushroom in Malang. The research was conducted from March to August 2019.

The total respondents used in the research were 30 business people in processing mushrooms SMEs, consisting of 5 owners and 25 workers from 5 SMEs. It is assumed that experiences of respondents make them know best about the performance of their business. The determination of respondents utilized a purposive sampling technique. Purposive sampling is a method of conscious inspecting of information sources dependent on specific considerations (Etikan et al., 2016). The research was conducted according to the procedure as shown in Figure 1.



**Figure 1.** Research Procedure



**Figure 2.** Resource-Based Value Structural Model

**Table 1.** Variables of Research

Variables	Operational Definition	Indicators	Source	Measurement scale
<b>Tangible Assets (X1)</b>	Resources whose value is visible in accounting data and are easily identified and evaluated	1. Financial resources 2. Physical resources	Kamasak (2017); Esterby et al. (2008)	Likert
<b>Intangible Assets (X2)</b>	Resources that are not visible in the company's balance sheet	1. Technology 2. Innovation	Hana (2013)	Likert
<b>Company Capability (X3)</b>	A collection of resources that display certain tasks or activities in an integrative way.	1. Human resource capability 2. Marketing capabilities 3. Production capabilities 4. Accounting and financial capabilities 5. Organizational capabilities 6. Cooperation capability	Helfat et al. (2003)	Likert
<b>Competitive Advantage Strategy (Y1)</b>	The ability obtained from the characteristics and resources of a company to have a higher performance than other companies in the same industry or market.	1. Cost – based 2. Product – based 3. Service – based	Hussain and Waheed (2019)	Likert
<b>Company Performance (Y2)</b>	The level of achievement of the company in a certain period of time	1. Increasing profits 2. Improving product quality 3. Enhancing company image 4. Increasing the amount of cooperation with the business community that becomes a marketing network	Felicio et al. (2014); Al-tit (2017)	Likert

### Research Framework

The problem analysis is based on a discussion of research variables (Table 1) compiled based on the resources owned by the mushroom SMEs in applying competitive advantage strategy to increase the business competitiveness. Analysis of problems related to the relationship between resources by determining competitive advantage strategy and business performance is done by searching for relations between exogenous variables (resource-based) with endogenous variables (competitive strategy and business performance) using Structural Equation Modeling (SEM) with Partial Least Square (PLS) approach.

Exogenous variables are independent variables that can affect the dependent variable (endogenous), while endogenous variables are the dependent variable which is the dependent variable (exogenous). According to Henseler et al. (2014), the PLS approach was chosen because this

application can use a small number of samples. It does not have to be multivariate normally distributed and can be used to explain the presence or absence of a relationship between latent variables (predictive objectives). The structural model of research can be seen in Figure 2.

The next step is compiling a questionnaire with a 5-level Likert measurement scale. The questionnaire filled in by the respondents then is tested for its validity and reliability. The validity testing criteria are  $r_{\text{arithmetic}} \geq r_{\text{table}}$  (two-party test with sig. 0.05) (Leo and Sardanelli, 2020). Reliability testing can be done using the Alpha (Cronbach's) method. If the alpha value  $> 0.90$  then the reliability is perfect; alpha value of 0.70 - 0.90, the high reliability; alpha value 0.50 - 0.70 then moderate reliability; alpha value  $< 0.50$ , the reliability is low (Nawi et al., 2020).

Questionnaire data that has been processed using descriptive analysis technique then was analyzed using inferential techniques, that are the Structural Equation Modeling (SEM) method with the Partial Least Square (PLS) approach. The steps in inferential analysis using SEM are as follows:

1. Tabulating and preparing data with Microsoft Excel program;
2. Inputting data to WarpPLS 6.0 software to begin inferential analysis;
3. Reading and pre-processing data;
4. Defining variables and describing structural models;
5. Testing the suitability of the model consisting of the whole model (Goodness of Fit), testing the hypothesis, and testing the validity and reliability;
6. Interpreting the results and discussion.

Hypothesis testing determines the decision of whether to reject or accept the truth of the statement that has been made. Hypothesis testing with a probabilistic approach, in the form of p-values from statistical tests conducted with WarpPLS 6.0 software. Statistical test decisions are made by comparing p-values with alpha values ( $\alpha$ ), with the following conditions (Streib and Dehmer, 2019): If the p-value <  $\alpha$  value, the decision H0 is rejected (H1 accepted). If p-value >  $\alpha$  value, the decision H0 is accepted (H1 is rejected). The  $\alpha$  value used is 0.1 or 10%. The  $\alpha$  value states that the level of accuracy used in this study is equal to 10%. Development of research hypotheses as follows:

- H1: Tangible Assets (X1) has a positive effect on Competitive Advantage Strategy (Y1)
- H2: Intangible Assets (X2) has a positive effect on Competitive Advantage Strategy (Y1)
- H3: Company Capability (X3) has a positive effect on Competitive Advantage Strategy (Y1)
- H4 : Competitive Advantage Strategy (Y1) has a positive effect on Company Performance (Y2)

## Results and Discussion

### *Description of Mushroom SME*

Mushroom is one of the commodities that is currently developed quickly in East Java. As indicated by Indonesian Statistics (2018), mushroom production in Malang was 7,420 tons (in 2018), and is predicted to continuously increase. The 5 SMEs used as research objects have been established and have business licenses for 5-10 years. The products produced by the

mushroom SMEs include fresh mushrooms, chips, floss, and crispy mushrooms. Most products are marketed in Malang and East Java area, but some products have also been widely marketed in Indonesia. The increasing mushroom business cannot be separated from the fact that Malang is a productive city in producing commodity of vegetables and fruits. Therefore, many businesses are processing these commodity products, including mushroom SMEs.

The educational backgrounds of people who included in this mushroom business are 15 bachelors, 7 diplomas, and 8 high school graduates. The mushroom SMEs is dominated by men, whose educational background is dominated by bachelor degree. The mushroom SMEs people in Malang come from different educational backgrounds. This shows that the establishment of SMEs does not always depend on the educational background of the actors. The average turnover is IDR 7,107,421.265/months.

### *Validity and Reliability*

The result of validity testing can be seen Table 2. AVE value for tangible assets (X1) is 0.589, intangible assets (X2) is 0.632, company capability (X3) is 0.623, competitive advantage strategy (Y1) is 0.620, and company performance (Y2) is 0.651. Based on the cross-loadings value, it can be concluded that the variables used are valid because the AVE value of each variable is greater than the correlation value (Hamid et al., 2017) and it said to have good discriminant validity (Bonett and Wright, 2014). It shows that the five variables have met and represented the use of resource-based models to further develop business competitiveness through the application of business competitive strategies.

The testing of composite reliability is performed to decide the reliability of questionnaire used in this research. The result of composite reliability testing can be seen from the value of composite reliability coefficients. The questionnaire is said to have great composite reliability if the value of composite reliability is 70% or 0.70. Furthermore, the estimation of the questionnaire reliability was additionally seen from the Cronbach's alpha coefficients value. According to Bonett and Wright (2014), the questionnaire is supposed to be reliable if it has a Cronbach's alpha value of > 60% or 0.60. Table 3 shows the the results of the composite reliability and Cronbach's alpha values of each variable.

**Table 2.** Cross-Loadings

Item	X1	X2	X3	Y1	Y2
<b>X1</b>	<b>0.589</b>	-0.074	-0.010	0.061	-0.143
<b>X2</b>	-0.074	<b>0.632</b>	0.222	0.049	0.085
<b>X3</b>	-0.010	0.222	<b>0.623</b>	0.520	0.387
<b>Y1</b>	0.061	0.049	0.520	<b>0.620</b>	0.495
<b>Y2</b>	-0.143	0.085	0.387	0.495	<b>0.651</b>

**Table 3.** Composite Reliability and Cronbach's Alpha Value

No.	Variables	Composite Reliability	Cronbach's Alpha
1.	Tangible Assets (X1)	0.767	0.604
2.	Intangible Assets (X2)	0.815	0.704
3.	Company Capability (X3)	0.926	0.915
4.	Competitiveness Advantage Strategy (Y1)	0.859	0.808
5.	Company Performance (Y2)	0.829	0.726

**Hypothesis Testing**

The results of this research are shown in Table 4. Based on Table 4, it can be concluded that the tangible assets (X1) variable has a positive and significant effect because it has a path coefficient of 0.272 (positive) and it is significantly weak ( $0.068 < 0.10$  or alpha value of 10%). It has a meaning that X1 variable has a positive contribution to the competitive advantage strategy of 27.2%. The intangible assets (X2) variable has a significant negative effect, because the value of the path coefficients is negative (-0.320) and significantly weak effect because of the p-value of X2  $0.049 < 0.1$ .

The company capability (X3) variable has a positive and significant effect. The path coefficients value is 0.667, so the positive effect of X3 on the competitive advantage strategy (Y1) is 66.7%. The X3 variable is also significantly strong because of the p-value of the X3 variable  $< 0.001$  (alpha 1%). The dependent variable of the competitive advantage strategy (Y1) has a positive and significant effect with the path coefficient value is 0.746 and a p-value  $< 0.001$  (alpha 1%). It shows that variable Y1 has a positive effect on company performance (Y2) variable of 74.6%.

Based on these information, it can be concluded that variables X1 and X3 positively contribute to variable Y1, variable Y1 positively

contributes to variable Y2, and variable X2 negatively contributes to variable Y1. The value of the path coefficients ranges from -1 to +1. The more the value approaches +1, the relationship between the two constructs is getting stronger and a value close to -1 indicates that the relationship is negative (Sarstedt et al., 2017). According to Bonett and Wright (2014), the path coefficients of the predictor variables to the response variables that are significant and positive can be interpreted. The greater the value of the path coefficients, the stronger the effect will be.

Tangible assets have a positive and significant effect on competitive advantage strategy because the productivity of mushroom SMEs is influenced by it. Tangible assets utilized by mushroom SMEs are financial and physical assets. Both of these assets greatly affect the influence of production process. Based on the existing condition, the tangible assets of mushroom SMEs are relatively easy to acquire and have addressed production needs. Financial assets include formal and informal financial sources that are relatively easy to obtain, rely on local raw materials, and serve market segments (Wardhani and Agustina, 2012). In line with Ocak and Findik (2019) statement, assets, own capital, and the number of members have a significant effect on the remaining operating results.

**Table 4.** Hypothesis testing

No.	Relations among variables (Explanatory Variables → Response Variables)		Path Coefficients	p-value	
1.	Intangible Assets (X1)	Y1	0.272	0.068	Weakly significant
2.	Tangible Assets (X2)	Y1	-0.320	0.049	Weakly significant
3.	Company Capability (X3)	Y1	0.667	$< 0.001$	Highly significant
4.	Competitive Advantage Strategy (Y1)	Y2	0.746	$< 0.001$	Highly significant

Intangible assets, which for this situation consist of technology and innovation, have a negative and significant influence on competitive advantage strategy. Negative and significant influence implies intangible assets do not affect or weakly influence the competitive advantage strategy. Owned technology and innovations have not been able to make SMEs implement competitive advantage strategy and deal with competitors well. The issues that are claimed by mushroom SMEs include the lack of human resource capabilities in innovating and the limitations of the technology they have (Ozbag, et al., 2013). This is upheld by Visconti (2020) statement, intangible assets are difficult to understand, estimated, not detailed in accounting, should be developed at any time, not easily obtained and imitated immediately.

The company capability has a strong positive and significant effect on competitive advantage strategy because mushroom SMEs can deal with their assets into a decent quality product. The measured capability is the capability of human resources, marketing, production, accounting and finance, organization, and cooperation (Chan and Kyu, 2007). The mushroom SME has been able to do the processing and utilization of its assets to create a value that can address the needs of consumers. According to Cabarcos et al. (2015), the capability of a well-developed company can be a source of sustainable competitive advantage. These benefits permit the organization to use a similar input factors as its rivals to change over these inputs into products (goods or services) through more efficient processes or with quality output, or both.

The competitive advantage strategy has a strong positive and significant effect on company performance in light of the fact that the company has been able to manage its assets and face its competitors. Mushroom SMEs has made different product values (variations in taste and packaging), product availability in the market continuously, and met consumer needs. This implies that the company's assets and capabilities have supported the competitive advantage strategy in order to improve business performance. Teeratansirikool et al. (2013) stated that competitive strategy in terms of differentiation strategies affect company performance.

## Conclusions

This research concludes that tangible assets and company capability have a strong influence and positively contribute to competitive advantage

strategy, with path coefficients of 0.272 and 0.667, meanwhile intangible assets have a weak influence and negatively contribute to competitive advantage strategy, with path coefficients of -0.320, and the last, competitive advantage strategy has a strong influence and positively contributes to company performance, with path coefficients of 0.746.

Suggestions obtained based on the results of this research are, the mushroom SMEs are required to develop their business through optimal utilization of assets, especially to increase the utilization of tangibles (machinery and equipment) and intangibles (variations in size and packaging) in order to improve measurement resource-based models. The development and innovation of technology continuously, will help SMEs maintain product value, quality, and be able to deal with competitors.

## Conflict of interest

The authors declare that there is no conflict of interest in this publication.

## References

- Abiodun, E. A., and Harry, E. (2014) 'SME firms performance in Nigeria: competitive advantage and its impact', *International Journal of Research Studies in Management*, 3(2), pp. 75-86
- Al-tit, A. A. (2017) 'Factors affecting the organizational performance of manufacturing firms', *International Journal of Engineering Business Management*, 9, pp. 1-9
- Astrini, D. R. (2016) *Modular stand sego njamoer to the development of a business firm*. Jurusan Desain Produk Industri Fakultas Teknik Sipil dan Perencanaan, Institut Teknologi Sepuluh Nopember, Surabaya [In Indonesian]
- Bonett, D. G., and Wright, T. A. (2014) 'Cronbach's alpha reliability: interval estimation, hypothesis testing, and sample size planning', *Journal of Organizational Behavior*, 36(1), pp. 3-15
- Cabarcos, M. A., Monteiro, S. G. O., and Rodriguez, P. V. (2015) 'Organizational capabilities and profitability: the mediating role of business strategy', *Sage Open*, 5(4), pp. 1-13
- Chan, L. Y., and Kyu, L. S. (2007) 'Capabilities, processes, and performance of knowledge management: a structural approach', *Human Factors and Ergonomics in Manufacturing*, 17(1), pp. 21-41
- Esterby, M. S., and Isabel, M. R. (2008) 'Dynamic capabilities and knowledge management: an interogative role for learning', *British Journal of Management*, 19(3), pp. 235-249
- Etikan, I., Musa, S. A., and Alkassim, R. S. (2016) 'Comparison of convenience sampling and

- purposive sampling', *American Journal of Theoretical and Applied Statistics*, 5(1), pp. 1-4
- Felicio, J., Couto, E., and Caiado, J. (2014) 'Human capital, social capital and organizational performance', *Management Decision*, 52(2), pp. 350-364
- Hamid, M. R. A., Sami, W., and Sidek, M. H. M. (2017) 'Discriminant validity assessment: use of Fornell & Larcker criterion versus HTMT criterion', *Journal of Physics: Conference Series*, 890(1), pp. 012163
- Hana, U. (2013) 'Competitive advantage achievement through innovation and knowledge', *Journal of Competitiveness*, 5(1), pp. 82-96
- Helfat, C. E., and Margaret, A. P. (2003) 'The dynamic resource-based view: capability lifecycles', *Strategic Management Journal*, 24(10), pp. 997-1010
- Henseler, J., Dijkstra, T. K., Sarsted, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen, D. J., Hair, J. F., Hult, T. M., and Calantone, R. J. (2014) 'Common beliefs and reality about PLS: comments on Ronkko and Evermann (2013)', *Organizational Research Methods*, 17(2), pp. 182-209
- Hussain, R. T., and Waheed, A. (2019), 'Strategic resources and firm performance: an application of the resource based view', *The Lahore Journal of Business*, 7(2), pp. 59-94
- Indonesian Statistics. (2018) 'Production of vegetable plants by district and types of vegetables in Malang Regency', <https://malangkab.bps.go.id/statictable/2018/10/26/732/produksi-tanaman-sayuran-menurut-kecamatan-dan-jenis-sayuran-di-kabupaten-malang-2017.html>. Accessed 16 September 2019. [In Indonesian]
- Kamasak, R. (2017) 'The contribution of tangible and intangible resources, and capabilities to a firm's profitability and market performance', *European Journal of Management and Business Economics*, 26(2), pp. 252-275
- Leo, G., and Sardanelli, F. (2020) 'Statistical significance: p value, 0.05 threshold, and applications to radiomics—reasons for a conservative approach', *European Radiology Experimental*, 4(18), pp. 1-8
- Nawi, F. A. M., Tambi, A. M., Samat, M. F., and Mustapha, W. (2020) 'A review on the internal consistency of a scale: the empirical example of the influence of human capital investment on Malcom Baldrige quality principles in TVET institutions', *Asian People Journal*, 3(1), pp. 19-29
- Ozbag, G. K., Esen, M., and Esen D. (2013) 'The impact of HRM capabilities on innovation mediated by knowledge management capability', *Procedia - Social and Behavioral Sciences*, 99, pp. 784-793
- Palmer, C., and Bolderston, A. (2006), 'A brief introduction to qualitative research', *The Canadian Journal of Medical Radiation Technology*, 37(1), pp. 16-19
- Sarstedt, M., Christian, M. R., and Joseph, F. H. (2017) 'Partial least square structural equation modeling' In Homburg, C., Klarmann, M., and Vomber, A. (eds.) *Handbook of Market Research*. Cham: Springer, pp. 239
- Streib, F. E., and Dehmer, M. (2019) 'Understanding statistical hypothesis testing: the logic of statistical inference', *Machine Learning and Knowledge Extraction*, 1, pp. 945-961
- Teeratsirikool, L., Siengthai, S., Badir, Y., and Charoenngam, C. (2013) 'Competitive strategies and firm performance: the mediating role of performance measurement', *International Journal of Productivity and Performance Management*, 62(2), pp. 168-184
- Visconti, R. M. (2020) 'The valuation of intangible assets: an introduction' In (eds.) *The Valuation of Digital Intangibles*. New York: Palgrave Macmillan, pp. 9-61
- Wardhani, R. S., and Agustina, Y. (2012) 'Analysis of factors that affect competitiveness in the Bangka typical food industry center in Pangkalpinang City', *Jurnal Akuntansi Universitas Jember*, 10(2), pp. 64-96 [In Indonesian]
- Ocak, M., and Findik, D. (2019) 'The impact of intangible assets and sub-components of intangible assets on sustainable growth and firm value: evidence from Turkish listed firms', *Sustainability*, 11(5359), pp. 1-23