

Original Article

The Effect of Intellectual Capital and Potential Absorptive Capacity to The Realized Absorptive Capacity of Tourism Service Industry

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Abstract - The purpose of this study is to examine the effect of intellectual capital and potential absorptive capacity on the realized absorptive capacity of the tourism service industry in Batam City, Riau Islands Province, Indonesia. The concept of realized absorptive capacity has become an important issue for the development of industry, whereby the relevant knowledge of the organizations, they can develop further knowledge into useful knowledge for increasing creativity. The involved respondents of this study are amount to 54 CEOs (Chief Executive Officers) who manage a travel business. Data were analyzed by Structural Equation Model (SEM) by using the 3.0 version of SmartPLS software. The results showed that the intellectual capital had an effect on potential absorptive capacity, intellectual capital had an effect of realized absorptive capacity, potential absorptive capacity had no effect of realized absorptive capacity, and potential absorptive capacity did not mediate the relationship of both intellectual capital and the realized absorptive capacity.

Keywords - Intellectual capital, Potential absorptive capacity, Realized absorptive capacity.

I. INTRODUCTION

Nowadays, the tourism industry has become a current concern for the global economic doer; this sector has contributed 10.2% during 2016 to the formation of world GDP, the enhancement of global investment, and the absorption of 292 million human resources (WTCC, 2017). Indonesian country contributes as much as 9.6% of all foreign tourists entering Southeast Asia but is still lower compared to other relative countries such as Malaysia and Singapore. In addition, the growth of the number of foreign tourists in Indonesia is only around 10.3% ASEAN (2017). This research was conducted in Batam City, one of the cities in Indonesia which has the third-largest number of foreign tourists in Indonesia, but its growth is still very fluctuating from the last few years.

In maximizing opportunities in the tourism sector, either in exploring the marketplace or the growth of foreign tourists, thus one of the steps of the strategy is adapting the

global changes to increase competitive advantage. In his study, Kaur & Mehta (2017) concluded that dynamic capabilities have a significant effect on competitive advantage, where one of the elements is an absorptive capacity that is able to create the innovation value through the utilization of knowledge absorption.

Absorptive capacity has two dimensions of *potential absorptive capacity* and *realized absorptive capacity* (Zahra & George, 2002). Furthermore, according to Tolima & Bernroider (2017), a potential absorptive capacity represents the company's ability to acquire knowledge and assimilation processes of that creation of knowledge that will give the significant positive impact of the *realized absorptive capacity* that will transform and exploit that knowledge into useful knowledge for the company.

Engelman, Fracasso, Schmidt, & Zen (2017) conducted research on intellectual capital variables with dimensions of *human capital*, *social capital*, and *structure capital* to the absorptive capacity of 500 technology companies in Brazil. The results of his research showed that *human capital*, *social capital*, *structure capital* affected the significant absorptive capacity even though it is different in each dimension. The dimensions used are the *potential absorptive capacity* (*acquisition*, *assimilation*) and the *realized absorptive capacity* dimension (*transformation and exploitation*).

Davila, Durst, & Varvakis (2018) conducted a correlational study between *absorptive capacity*, *organizational performance*, and *innovation* in 111 companies in Brazil that drew a conclusion that *potential absorptive capacity* positively affects the *realized absorptive capacity*.

Basically, to ensure a company constantly develops, dynamic capabilities are needed, considering that dynamic capabilities have an influence on competitive advantage and make the company better because the company gets new external information to the creation of new capabilities and skills for its human resources. This is in accordance with the



conditions of the tourism sector in Batam City. Batam tourism industry still faces many problems, especially on the quality of human resources (Ratnasari, 2017; Rizki, 2014).

This research is crucially conducted to provide policy strategy recommendations for CEOs of tourism travel services companies in managing their business, especially in relation to the development of the company's intellectual capital and absorption capacity of knowledge. So that the objectives in this study are: (1) Does the intellectual capital affect the *potential absorptive capacity*, (2) Does the intellectual capital affect *realized absorptive capacity*, and (3) Does the *potential absorptive capacity* affect the realized absorptive capacity.

II. LITERATURE AND HYPOTHESES DEVELOPMENT

Intellectual capital is the intangible asset of companies that have a large capacity to create innovation in the organization. Dimensions of intellectual capital are *human capital*, *social capital*, and *structure capital* which will affect the absorptive capacity (Cassol, Gonçalo, & Ruas, 2016; Engelman et al., 2017; Nazarpoori, 2017). Human capital includes all employee knowledge and abilities that are useful to the company. The aspects of human capital consist of creativity, flexibility, tolerance, motivation, satisfaction, learning ability, loyalty, training, and formal education (Engelman et al., 2017). According to Costa, Fernandez, & P. Dorrego (2014), the elements of human capital are 1) ability, value, and attitude of employees; 2) top manager competency; and 3) commitment of all human resources towards the innovation process.

Social capital is the embedded knowledge of a company through a process of internal interaction within the industry and the existence of reciprocal networks within the company (Engelman et al., 2017; Nazarpoori, 2017). By the existence of social capital, it is possible to obtain a lot of useful knowledge from the company and can be followed up for certain purposes that are useful for the company both in the form of potential absorptive capacity and realized absorptive capacity, likewise with *structure capital* which is systematic and explicit knowledge that has been internalized by the company as a routine.

High intellectual capital will propose human resources increasingly create new ideas related to the *potential absorptive capacity*. Likewise, when employees have new ideas, and it is useful ideas for the company in the realized absorptive capacity (Cassol et al., 2016; Cettin & Fidan, 2017; Engelman et al., 2017; Nazarpoori, 2017; Soo, Tian, Teo, & Cordery, 2017).

H₁. Intellectual capital affects the *potential absorptive capacity*.

H₂. Intellectual capital affects the *realized absorptive capacity*.

Absorptive capacity was firstly developed by Cohen & Levinthal (2012), who explained that an organization needs a relevant and useful knowledge of the organization, then continued with assimilation and used the new knowledge. This knowledge is used as a source of innovation for the company (Nazarpoori, 2017). Hernandez-Perlines (2018) explains that absorptive capacity is the company's ability to identify, assimilate and exploit new knowledge combined with the knowledge of the company that has been arranged into something useful.

According to Zahra & George (2002), absorptive capacity consisted of the dimensions of *potential absorptive capacity* and *realized absorptive capacity*. *Potential absorptive capacity* is formed by the ability to obtain and assimilate knowledge; then the next step is to encourage knowledge to be *realized absorptive capacity* so that *potential absorptive capacity* significantly affects the *realized absorptive capacity* (Albort-Morant, Leal-Rodríguez, & Marchi, 2018; Davila et al., 2018; Gunawan, Gerardus, Tji, & Richard, 2017; Limaj & Bernroider, 2017; Mennens, Gils, Odekerken-Schröder, & Letterie, 2018; Zahra & George, 2002).

H₃. *Potential absorptive capacity* effects on the *realized absorptive capacity*.

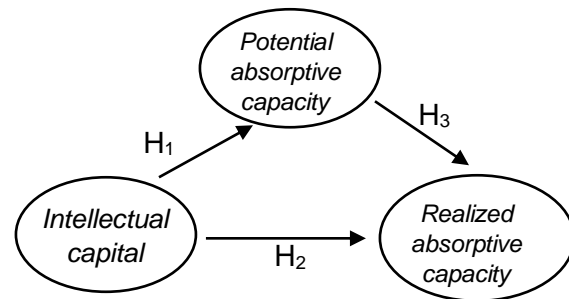


Fig. 1 Proposed Research Model

III. RESEARCH METHOD

This research is conducted in Batam City, Riau Islands Province, Indonesia. This research is survey research to test the hypothesis of the influence of intellectual capital on *potential absorptive capacity*, the influence of intellectual capital on *realized absorptive capacity*, and the influence of potential absorptive capacity on the *realized absorptive capacity*. This research is conducted from November 2018 - March 2019. The respondents of this study are the CEO of a listed tour company in the ASITA (Asosiasi Perusahaan Perjalanan Wisata Indonesia/Association of the Indonesian Tourist and Travel Agencies), a totally of 54 people there. The dimensions of the study time allocation are *cross-sectional*. Data is obtained and analyzed is by the 3.0 version of SmartPLS.

This study applies two independent variables, namely intellectual capital and *potential absorptive capacity*, and one dependent variable is the *realized absorptive capacity*.

Intellectual capital consists of three dimensions, namely *human capital*, *social capital*, and *capital structure*. Measurement of the dimension perceptions of human capital and social capital uses 1-5 Likert scale refers to the study of Engelman et al. (2017), while the perception of structure capital uses a 1-5 Likert scale refers to Costa et al. (2014). The potential absorptive capacity variable consists of two dimensions, namely acquisition and assimilation, where the measurement uses a 1-5 Likert scale refers to Engelman et al. (2017). Variables Realized absorptive capacity has two dimensions, namely transformation and exploitation, where measurements use a 1-5 Likert scale refers to Engelman et al. (2017).

The analysis data technique of partial least square (PLS) is applied as a reminder that the relatively small number of populations and samples can do well with PLS. PLS uses the MTMM (*Multi Trait Multi-Method*) approach. Evaluation of the measurement model uses a convergent validity with the provision of a factor loading of more than 0.7 (Ghozali & Latan, 2013). Reliability analysis uses *Cronbach's alpha* and *composite reliability*, where the requirements are more than 0.7 to meet reliability requirements. The hypothesis test uses the T-Statistic value and the model goodness by using R^2 and Q^2 tests.

IV. FINDINGS AND DISCUSSION

The result of the research data analysis is shown in Figure 2:

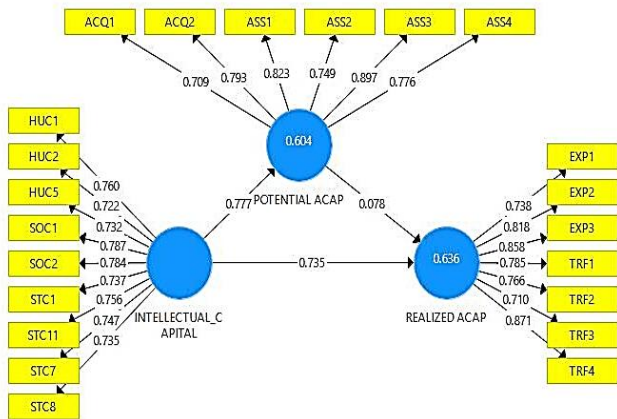


Fig. 2 Validity

Based on the figure above, it is showed that the validity requirement is fulfilled because the factor loading score is above 0.7. Reliability requirement is also fulfilled due to Cronbach's alpha, and composite reliability score is higher than 0.7. See Table 1.

Table 1. Reliability Test

Variable/ Dimension	Cronbach's Alpha	Composite Reliability	Conclusion
Intellectual Capital	0,904	0,921	Reliable

Potential ACAP	0,881	0,910	Reliable
Realized ACAP	0,902	0,992	Reliable

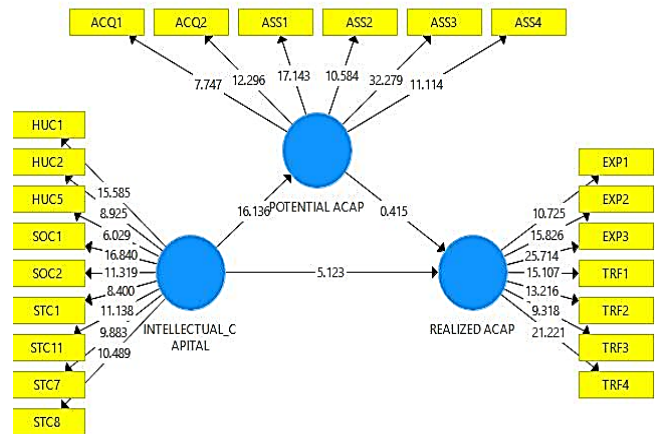


Fig. 3 T-Test

Hypothesis tests are served in Table 2.

Table 2 Hypothesis Test of Research Model

Hypothesis	T-Statistics	P-Value	Conclusion
H ₁	16,136	0,000	Accepted
H ₂	5,123	0,000	Accepted
H ₃	0,415	0,652	Rejected

The goodness test requirement is fulfilled by R^2 Test and Q^2 Test. The R^2 score is served in Table 3.

Table 3 R^2 Score

Connection	R^2 Score
Intellectual Capital → PACAP	0,604
Intellectual Capital, PACAP → RACAP	0,636

Q^2 score is counted through this formula:

$$Q^2 = 1 - [(1 - R_1^2)x(1 - R_2^2)]$$

$$Q^2 = 1 - [(1 - 0,604)x(1 - 0,636)]$$

$$Q^2 = 1 - [(0,396)x(0,364)]$$

$$Q^2 = 0,856$$

$Q^2 = 0,856$ showed that the research data variable, which could be explained by the research model, is 85,6%. The rest, 14,4%, is another research model external factors.

V. DISCUSSION

The result of the hypothesis test (H₁) showed intellectual capital significantly positively influenced potential absorptive capacity. Meaning, if the intellectual capital is higher / positive, therefore the potential absorptive capacity is higher / positive. The higher absorptive capacity

showed as, the higher competency of employees in tourism industries, as the employees develop new ideas and knowledge, collaborate and share information skillfully. As well as the company pushed the employees to participate, as high as the commitment of the highest management, and as well-organized as the new product development, could improve potential absorptive capacity, which means the higher of relevant information searching and of inter-department communication intensity of solving problems and new development ability. The research result is in line to Engelman et al. (2017; Nazarpouri, (2017); Soo et al. (2017). The owners and employees of tourist travel companies in Batam have an average degree and diploma education, and some even have master's degrees, making them skilled at communicating and solving problems. To support this, they always seek relevant information concerned with the organization, which also supports the participation management system to collaborate and trust each other.

The result of the hypothesis test (H_2) showed that intellectual capital significantly positively influenced realized absorptive capacity. The influence of intellectual capital on realized absorptive capacity is significantly positive. It means that the higher / positive of intellectual capital, the higher / positive is the potential realized capacity. The increasing of intellectual capital, which consists of human capital, social capital, and structural capital, pushed employees to arrange and use the ability acquired to absorb new knowledge for further aims, to connect tacit knowledge to new knowledge, to improve new knowledge. It also pushed the company to invent prototypes and technology, which improve the company working effectiveness by adopting the technology. The research finding is coherent to Engelman et al. (2017; Nazarpouri, (2017); Soo et al. (2017). In a travel service company, there is an incentive system and a minimalist organizational structure that reduces communication barriers in the company so that employees successfully connect old knowledge with new knowledge to be followed up, which is also supported by company management.

The findings of hypothesis (H_3) showed potential absorptive capacity did not significantly positively influence realized absorptive capacity. The influence of intellectual capital on realized absorptive capacity was not positively significant. It means that the higher or lower in improving intellectual capita would not influence the realized absorptive capacity. Even though the company searched for important and beneficial information and conducted inter-department communication, It did not show a significant effect of informational usage to do further action or adopted it as new technology development. The research finding is contradicted (Albort-Morant et al., 2018; Davila et al., 2018; Gunawan et al., 2017; Limaj & Bernroider, 2017; Mennens et al., 2018; Zahra & George, 2002). There were no articles found to support this statement. Therefore, it could be considered as a new finding. However, the demography

analysis of respondents showed that there are possibilities that caused potential absorptive capacity did not significantly influence. Those are (1) the average employees were relatively few. It was eight persons in each company. When employees acquired new knowledge, which is beneficial, they could not manage it for further aims because there is no special department handled this. Most travel and tourism companies did not have a research and development department; there is also no mechanism for creating new service methods (2) Most travel and tourism companies in Batam did not use high technology tools yet, such as Android apps, websites, fintech, etc.

VI. MANAGERIAL IMPLICATION

In this research, the most important intellectual capital is human capital, then followed by social capital and structural capital. One of the important managerial implications is to increase social capital and structural capital because it designed employees to do better collaboration and sharing information to invent or develop new products. Building collaborative culture is an important point and serious business. Collaboration is related to working rhythm harmony in an organization. If it is related to absorptive capacity, it is needed company CEO that facilitated routine informal and external meetings for all employees which, today, their meeting is still in the management ring. It is supposed to be supported by the management as the commitment and the development of structural capital. Furthermore, travel and tourism companies needed to adopt new technology to support organizational business.

VII. CONCLUSION

The conclusions of the research are as followed (1) intellectual capital significantly positively influenced potential absorptive capacity. The higher / positive of intellectual capital showed, the higher / positive of potential absorptive capacity; (2) intellectual capital significantly positively influenced realized absorptive capacity. The higher / positive intellectual capital showed the higher / positive potential realized capacity; (3) Potential absorptive capacity did not significantly positively influence realized absorptive capacity. The higher or lower level of intellectual capital did not significantly positively influence realized absorptive capacity.

As a supplementary analysis, through the flow analysis of the model, found the indirect bond from intellectual capital \rightarrow potential absorptive capacity \rightarrow realized absorptive capacity with T-Statistics score of 0,444, and significance level of 0,657, which mean potential absorptive capacity did not mediate the relationship between intellectual capital and realized absorptive capacity.

VIII. RESEARCH LIMITATION

This research has weak points. It is valid only on travel and tourism companies that are registered in ASITA Batam, even though there are many travel and tourism companies that are not registered in the ASITA group. This research only discussed intellectual capital and its dimensions, which are human capital, social capital, and structural capital. As well as potential absorptive capacity and realized absorptive capacity. It might be completed by other dimensions for intellectual capital and absorptive capacity to strengthen the model formulation created. Because the research had a limitation of time, the respondent samples were only 54 from 70 persons. There were possibilities that respondents did not fill accurately based on the real condition today occurred.

IX. SUGGESTIONS FOR FURTHER RESEARCH

Further research needs to consider the additional number of samples, the wider locations, and other variables that related to the mediating variable which connect the potential absorptive capacity to realized absorptive capacity like civic virtue (Yao & Chang, 2017), relational learning (Leal-Rodríguez, Roldán, Ariza-Montes, & Leal-Millán, 2014), in addition, to uncover the problems about the tourism sector, it was also proposed by a strategic planning approach that involved all stakeholders (Yuwono, 2018).

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