

4-30-2015

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Recommended Citation

Adriansyah, Ahmad and Afiff, Adi Zakaria (2015) "Organizational Culture, Absorptive Capacity, Innovation Performance and Competitive Advantage: An Integrated Assessment in Indonesian Banking Industry," *The South East Asian Journal of Management*. Vol. 9: No. 1, Article 5.

DOI: 10.21002/seam.v9i1.4376

Available at: <https://scholarhub.ui.ac.id/seam/vol9/iss1/5>

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Organizational Culture, Absorptive Capacity, Innovation Performance and Competitive Advantage: an Integrated Assessment in Indonesian Banking Industry

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Abstract

The positive impact of absorptive capacity (ACAP) on innovation and the positive impact of innovation on competitive advantage have been proven in different research contexts. However, current knowledge on organizational culture that affects ACAP, innovation and competitive advantage as a whole, remains unclear. This article proposes a model to examine how organizational culture (developmental culture and rational culture) affects ACAP, innovation and competitive advantage, directly and indirectly as well. Surveyed data (from the Indonesian Banking Industry) shows that both of organizational culture have a direct impact on ACAP. Only developmental culture has a direct impact on innovation. There is no culture type that affects competitive advantage directly. In this research, culture affects competitive advantage through ACAP and innovation.



Keywords: absorptive capacity, innovation, competitive advantage, developmental culture, rational culture.

Abstrak

Dampak positif dari absorptive capacity (ACAP) pada inovasi dan dampak positif dari inovasi pada keunggulan kompetitif telah banyak dibuktikan dalam berbagai konteks penelitian. Namun demikian pemahaman mengenai dampak budaya organisasi terhadap ACAP, inovasi dan keunggulan kompetitif secara keseluruhan, belum banyak diteliti. Artikel ini mengajukan model penelitian tentang bagaimana dampak budaya organisasi (budaya pengembangan dan budaya rasional) terhadap ACAP, inovasi dan keunggulan kompetitif baik secara langsung maupun tidak langsung. Hasil pengujian data (pada industri perbankan Indonesia) memperlihatkan bahwa kedua budaya mempengaruhi ACAP secara langsung. Hanya budaya pengembangan yang mempengaruhi inovasi secara langsung. Tidak ada budaya yang mempengaruhi keunggulan kompetitif secara langsung. Budaya organisasi berdampak pada keunggulan kompetitif melalui inovasi dan absorptive capacity.



Kata Kunci: absorptive capacity, inovasi, keunggulan kompetitif, budaya pengembangan, budaya rasional.

Absorptive capacity (ACAP), innovation and competitive advantage are important in strategic management field (Lane, Koka

and Pathak 2006; Jimenez, Angelov and Rao, 2012; Mahoney and Qian, 2013; Porter, 1985). Competitive advantage is the heart of company performance,

especially in the competitive market (Porter, 1985). Therefore, many researchers try to reveal the factors that influence competitive advantage. One of the factors is innovation (Daghfous, 2004; Zahra and George, 2002; Chen, Lin and Chan, 2009; Prajogo and Ahmed, 1996). Innovation has been proven affects competitive advantage, especially in the knowledge based economy (Chen, Lin and Chan, 2009). The best way for companies to achieve a competitive advantage is through innovation (Ramadani and Gerguri, 2011).

The sources of innovation come from sources inside and outside the company, but Ramadani and Gerguri, (2011) revealed that innovation from external sources are more superior. An IBM study on the potential sources of innovations found collaboration with business partners and customers as the top sources for new ideas, more significant than internal R&D (Ramadani and Gerguri, 2011). Another research shows that innovations come from internal sources only 28.4% of the time, and the rest from external sources: suppliers (26.4 %), customers (25.8 %), competitors (24.9 %), exhibitions (24.6 %), universities (3.7%) and other non-profit R&D institutions (2.9 %) (Ukrainski and Varblane, 2005).

To be able to absorb and utilize the knowledge, information and ideas from external sources, companies need capabilities known as ACAP (Cohen and Levinthal, 1990). ACAP is the organization's routines and processes that enables the company to acquire, assimilate, transform and exploit knowledge to produce dynamic organizational capabilities (Zahra and George, 2002; Malhotra, Gosaian and Saway, 2005).

ACAP itself can also be affected by

internal and external factors (Lane, Koka and Pathak 2006). Although both are of relatively equal importance, internal factors are more easily controlled by the company than external factors. Therefore, this study focuses more on internal factors than external factors. Internal factors consists of many things, such as organizational structure, strategy, systems, leadership, staff and skills, and organizational culture. Organizational culture is central among other internal factors (Peters and Waterman, 1982), and has a strategic value (Amit and Schoemaker, 1993).

Research shows that organizational culture affects ACAP (Harrington and Guimaraes, 2005; Murovec and Prodan, 2009), innovation (Naranjo-Valencia, Jime'nez-Jime'nez, Sanz-Valle, 2011; Crossan and Apaydin, 2010) and conceptually affect competitive advantage (Barney, 1986; Fiol, 1991). Therefore, this study is using organizational culture as a factor affecting ACAP-innovation-competitive advantage as a whole.

To further strengthen the research, organizational culture is represented by two-dimensional culture (cultural developmental and rational) as a research variable. By using this model, the effect of each type of culture (developmental and rational) on ACAP, innovation and competitive advantage, whether directly or indirectly, will be known. To the best of our knowledge, there is no study that using this comprehensive research model.

LITERATURE REVIEW

Competitive Advantage

Competitive advantage is one of the most important constructs of the following two reasons. First, competitive advantage is the heart of

company performance, especially in the competitive market (Porter, 1985). Second, competitive advantage is associated with sustainable competitive advantage (SCA). The discovery of the source of SCA is a major area of research in strategic management (Porter, 1985; Barney, 1991).

Definition of competitive advantage is the unique position of the company, compared with competitors. It is obtained through the patterns of utilization of their resources (Reed and DeFillippi, 1990). Besides unique position against competitors, competitive advantage is also talking about the internal condition of the company. Competitive advantage is about how the company practices generic strategy (cost leadership or differentiation) in their daily actions (Porter, 1985). Hansen, Hoskisson and Barney (2008) say that competitive advantage can be realized with the development of governance arrangements that enable companies to exploit the diversity of its resources. Other researchers combine the above two factors; the position against competitors and the company's internal capabilities. Li, Ragu-Nathan, and Rao, (2006) said that competitive advantage is the extent to which an organization is able to create a defensible position compared to its competitors. Competitive advantage consists of capabilities that enable organizations to differentiate itself from its competitors and is the result of important management decisions. The company's internal condition, such as innovation, is essential for competitive advantage (Daghfous, 2004).

Innovation

Innovation is a concept that has received much attention of academics and practitioners. There has been an increase

in the publication of articles about innovation in business and economics leading journals (Crossan and Apaydin, 2010). The results of their review also illustrates the breadth of research coverage on innovation. An example of this is the type of articles published (theory building, theory testing, literature review, meta-analysis), the unit of analysis used in the research (organization, industry, society, team, individual or multilevel), to the type of innovation (product/service, process management, process production, general, knowledge) (Crossan and Apaydin, 2010).

The definition of innovation has a variety of perspectives; an example of this is whether innovation should be something completely new created internally by the organization, or it could be adopted from external sources. Is the focus of the innovation only on the product, process, or market, or is it some combination of all three? Crossan and Apaydin (2010) defines innovation in general as "the production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. Innovation is both a process and an outcome. Gloet and Terziovski (2004) used a combination of levels of productivity, product innovation, quality of product / process / service, product launch time and cycle time of production. This means that Gloet and Terziovski (2004) use innovation performance as a proxy for measuring innovation. Chen et al. (2009) also uses the results of the performance of the product and process innovation as a proxy measurement of innovation.

Sources of innovation can come from

internal sources or external sources. To utilize external sources of innovation, the company requires a capability called absorptive capacity/ACAP (Cohen and Levinthal, 1990). Research on ACAP often uses innovation as a main effect (Kostopoulos et al., 2010).

Absorptive Capacity (ACAP)

Absorptive Capacity (ACAP) is introduced by Cohen and Levinthal (1990) as a new perspective in the study of innovation. ACAP is defined as the number of the organization's routines and processes that enables the company to acquire, assimilate, transform and exploit external knowledge to produce a dynamic organizational capability (Zahra and George, 2002; Malhotra, Gosain, El Saway, 2005; Cohen and Levinthal 1990). Together, the four dimensions of ACAP enable companies to exploit new discoveries and knowledge (Cohen and Levinthal, 1994).

Flatten, Engelen, Zahra & Brettel, (2011, 100) define the four dimensions of ACAP. Acquisition refers to a firm's ability to identify and obtain knowledge from external sources (e.g., suppliers). Assimilation refers to a firm's ability to develop processes and routines useful in analyzing, interpreting, and understanding externally acquired knowledge. Transformation means developing and refining those routines that facilitate the combination of existing knowledge with acquired and assimilated knowledge for future use. Exploitation denotes a firm's capacity to improve, expand, and use its existing routines, competencies, and technologies to create something new based on the "transformed" knowledge.

Factors affecting ACAP can come from internal or external source (Cohen and Levinthal, 1990; Lane and Lubatkin,

1998). In the context of internal and external factors, some researchers say that both are equally important, some say one of the more important factors, while others say the relationship between the internal-external is more important. Zahra and George (2002) illustrates that the individual capabilities within the company is more important.

One of the most important internal factor is culture (Kaplan, 2005).

Organizational Culture

There are many definitions of organizational culture with a variety of perspectives (Hatch and Cumliffe, 2006). Two of them are from Pettigrew (Hatch and Cumliffe, 2006), and Van den Berg and Wilderom (2004). Pettigrew (in Hatch and Cumliffe, 2006) defines culture as the "accepted meaning" together, which has been published and owned collectively by a particular group at a particular time. This system consists of the terminology, forms, category-category and the pictures belong to someone interpret the situation on themselves. While Van den Berg and Wilderom (2004) defines culture as shared perceptions about the habits of work within an organizational unit. Based on that, we define culture as a system of "accepted meaning" (the meaning of which has been approved and accepted) or "shared perception" (common perception), embodied in the habits of work, and has been published and owned collectively by a particular group at a particular time.

Organizational culture is also studied from the perspective of its dimensions or types. One of the dimensions of organizational culture proposed by Harrington and Guimaraes (2005); there are four dimensions used, namely developmental culture, rational culture, group culture and hierarchical culture.

Table 1. Dimensions of Culture

	External Focus	Internal Focus
More concerned with flexibility	Developmental	Group
More concerned with regularity/order	Rational	Hierarchical

The four dimensions of culture is formed based on two perspectives: whether the company is more focused on factors internal to the organization, or those external to it, and whether the company is more concerned with flexibility or regularity/order (Harrington and Guimaraes, 2005). The result of the combination of the two perspectives form a four-dimensional cultures as shown in Table 1.

This study uses the ACAP, focusing on the factors external to the company. Therefore this study uses a two-dimensional cultures and also use external focuses: the developmental culture and rational culture. The characteristics of a developmental culture are adaptability, growth, resource acquisition, risk taking, adhocracy and compliance by ideology. While the characteristics of a rational culture are planning and goal setting, efficiency, competence, compliance by contract.

RESEARCH METHOD

Research Hypotheses

ACAP and Innovation

Since the beginning of its development, innovation has been used Cohen and Levinthal (1990) as a result of ACAP, especially innovation capabilities. It has also been confirmed by Liao et al. (2007), stating that ACAP improve innovation capabilities. Not surprisingly, many studies of ACAP uses innovation as the main impact (Kostopoulos, Papalexandris, Papachroni and Ioannou, 2010; Lane, Koka and Pathak 2006).

Mention (2011) also said that internal development does not guarantee sustainable competitive advantage, due to the increased movement of knowledge workers and the difficulty controlling intangible resources for the company. So, companies would need the capability to absorb knowledge and information from external sources. That capability is Absorptive Capacity/ACAP (Cohen and Levinthal, 1990).

H1: *Organizations with stronger levels of ACAP will have a higher level of innovation.*

Innovation and Competitive Advantage

Researchers have proposed many concepts and empirical studies to discover the factors that may affect competitive advantage. One of the factors is innovation (Chailom and Mumi, 2010; Daghfous, 2004; Zahra and George, 2002; Chen, Lin and Chan, 2009; Prajogo and Ahmed, 1996). Innovation has been proven affects competitive advantage, especially in the knowledge based economy (Chen, Lin and Chan, 2009). Even more, the best way for companies to achieve competitive advantage is through innovation (Ramadani and Gerguri, 2011). The importance of innovation's role in generating competitive advantage can also be seen through the use of innovation as a dimension of competitive advantage (Zahra and George, 2002).

H2: *Organizations with stronger levels of innovation will have a higher level of competitive advantage*

Culture and ACAP

Researchers have been searching for

factors that can affect the ACAP, both from internal and external sources. Examples of external/environmental factors are competition environment, knowledge environment and regulation environment (Lane, Koka and Pathak 2006). While the internal factors of the organization are made up of many factors such as Research & Development (Murovec and Prodan, 2009; Hammerschmidt, 2009), operation capability, marketing capability, R&D capability (Narasimham, Rajiv & Dutta, 2006), internal knowledge creation capacity (Camison and Fores, 2011), knowledge tools (Mahnke, Pedersen & Venzin, 2005), the role of top management team (Datta, 2011), and the role of the human resource and training (Qian and Acs 2013 ; Murovec and Prodan, 2009).

Besides the internal factors above, the existence of organizational culture is also important to develop ACAP (Harrington and Guimaraes, 2005). Nonaka and Takeuchi (1995) says that one of the dimensions of culture, namely the bureaucratic culture, is a barrier to ACAP. Murovec and Prodan (2009) describe the behavior of changes that are influenced by organizational culture affects ACAP. From various existing research, we still need to explore the impact of cultural dimensions on the ACAP.

H3: *Organizations with stronger levels of developmental culture will have a higher level of ACAP*

H4: *Organizations with stronger levels of rational culture will have a higher level of ACAP*

Culture and Innovation

Organizational culture plays an important role to innovation. Research shows that organizational culture affects innovation (Naranjo-Valencia, Jime'nez-

Jime'nez, Sanz-Valle, 2011; Crossan and Apaydin, 2010). Donate and Guadamillas (2011), proved that organizational culture became a moderating variable of Knowledge Management influence on innovation. Škerlavaj, Song, and Lee (2010), found a direct influence of the culture of learning and innovation culture to innovation itself.

Leavy (2005) analysed the success of innovative companies (such as 3M and IDEO) and attributed it to the culture of innovation. Innovation culture may be the single biggest factor overall. The components of innovative culture are openness, trust, knowledge-based company, community across the organization, encourage people take a risk to try things and learn from their mistakes. Risk taking is one of the characteristics of developmental culture, while competence is one of the characteristics of a rational culture. Therefore both cultures can be a culture of innovation, which is the antecedent of innovation.

H5: *Organizations with stronger levels of developmental culture will have a higher level of innovation*

H6: *Organizations with stronger levels of rational culture will have a higher level of innovation*

Culture and Competitive Advantage

Organizational culture is a central factor for the organization (Peters and Waterman, 1982), and has a strategic value (Amit and Schoemaker, 1993). Conceptually, organizational culture is also a source of competitive advantage (Barney, 1996; Fiol, 1991). The firm's culture could bound its strategic projections and undermine the effectiveness of its strategic investments (Rindova and Fombrun, 1999). Though culture is important for competitive

Table 2. Final Validity and Reliability

Latent variable		Number of Initial item	Convergent Validity Range	Discriminant Validity		Reliability		Number of Final Item
2nd order	1st order			Sqrt AVE	Others -Max	AVE	CR	
Competitive advantage	In Group	7	0,60-0,87	0,81	0,79	0,66	0,92	6
	Between Group	7	0,82-0,93	0,87	0,79	0,75	0,95	7
	Innovation	9	0,77-0,88	0,84	0,80	0,70	0,95	9
ACAP	Acquire	7	0,55-0,84	0,79	0,77	0,62	0,91	6
	Assimilation	9	0,52-0,85	0,92	0,79	0,85	0,92	2
	Transformation	9	0,69-0,88	0,84	0,84	0,71	0,95	7
	Exploitation	5	0,80-0,94	0,86	0,77	0,74	0,93	5
	Developmental	5	0,73-0,91	0,79	0,76	0,63	0,89	5
	Rational	5	0,68-0,89	0,82	0,80	0,67	0,91	5
		63						52

advantage, to the best of our knowledge, culture has never been tested empirically as factors that directly affect competitive advantage.

H7: *Organizations with stronger levels of developmental culture will have a higher level of competitive advantage*

H8: *Organizations with stronger levels of rational culture will have a higher level of competitive advantage.*

Sample and Data Collection

The context of this research is the banking industry in Indonesia. The banking industry can be observed through its different aspects, one of which is the size of the banks within it. Size is important because it affect ACAP companies (Francalanci and Morabito, 2008). In the context of banking, the most widely used as a proxy for a bank's size is the amount of capital it has. It is also the proxy formally used by the regulator, Bank Indonesia.

In this study, banks were selected as the sample is a bank that has a minimum capital of Rp. 100 billion (as of 31 December 2011). There are 125 banks match the criteria. From 125

questionnaires sent, 49 questionnaires were returned (response rate: 39,2%). Based on capital, this represents 52% of banks in Indonesia. The respondents who filled the questionnaire is the Top Management Team (TMT), as a representative of the firm (Hambrick and Mason, 1984). Top Management Team (TMT) operationalized by highest two level in the banks (Wiersema and Bantel, 1992), the board of directors and senior officers report to directors.

Questionnaire Design, Validity, and Reliability

The research questionnaire was developed from previous empirical studies and is modified according to the context of the Indonesian banking industry. A pretest is conducted for the questionnaire before actual use with the strategic management experts (operationalized by PhDs and PhD student) and respondents sharing demographic similarities to actual research respondents to provide feedback (Hair, Black, Babin, Anderson, Tathan, 2006). Invalid items are improved by considering the feedback from the pretest respondents.

Competitive Advantage

The competitive advantage questionnaire is constructed by

Table 3. Mean, SD, And Bivariate Correlation**

Variable	Mean	SD	Competitive advantage	Innovation	ACAP	Developmental	Rational
Competitive advantage	4.92	0.53	1	-	-	-	-
Innovation	4.63	0.86	0.51*	1	-	-	-
ACAP	4.99	0.60	0.65*	0.82*	1	-	-
Developmental	4.65	0.75	0.50*	0.84*	0.83*	1	-
Rational	5.15	0.59	0.65*	0.76*	0.91*	0.79*	1

* P < 0.05 ** Using SPSS 21.00

considering its definition: competitive advantage is the relative advantage of a firm to its competitor. Chen, Lin and Chang (2009) states that superiority is reflected in terms of competitive products and efficient processes, managerial capability, profitability and position in the market.

In the context of Indonesia's banking industry, banks compete directly with a group of banks with relatively equal capital, and compete indirectly with members of other groups (bank with bigger and/or smaller capital). Therefore, this study uses two dimensions to measure competitive advantage: within group and with other group.

Innovation

The innovation questionnaire is developed from Chen, Lin and Chang, (2009). Innovation is measured through several aspects: (1) the company's ability to improve its product quality by innovation; (2) the company's ability to accelerate the commercialization pace of new products through innovation; (3) the company's ability to generate considerable profit from its new products; (4) the company's ability to can develop new technology to improve operation processes; (5) the company's ability to purchase new instruments or equipments to accelerate productivity

(Chen, Lin and Chang, 2009, p. 155).

Absorptive Capacity

The dimensions and measurement of ACAP is diverse and ambiguous (Zahra and George, 2002; Flatten, Engelen, Zahra, Brettel, 2011; Duchek, 2013). It is because the diversities of ACAP's concepts, definitions, levels, the types and dimensions of ACAP has been described in the literature review. A measurement tool based on Flatten, Engelen, Zahra, and Brettel (2011) is developed in this study, measuring the ACAP which is based on 4 dimensions. Measurements using a multidimensional ACAP is an improvement over the single-dimensional measurement widely used before. This questionnaire shows good validity and reliability, and more recent than the questionnaire published by Camison and Fores (2010).

Corporate Culture

This study developed a measurement tool based on Harrington and Guimaraes (2005). The items are developed from characteristics of developmental culture and rational culture according to Harrington and Guimaraes (2005). The characteristics of a developmental culture are adaptability, growth, resource acquisition, risk taking, adhocracy and compliance by ideology. While the characteristics of a rational culture are

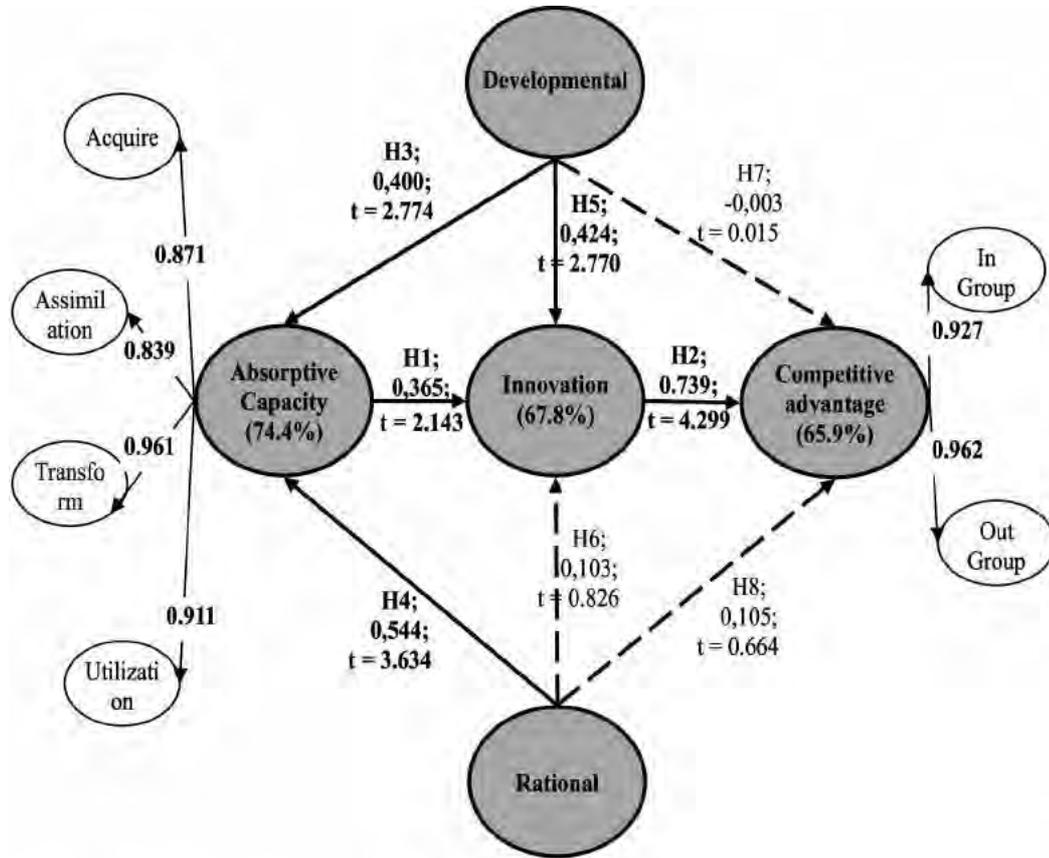


Figure 2. Testing the research model

Based on the data shown on Figure 1, the recapitulation of hypothesis testing is shown on table 4.

planning and goal setting, efficiency, competence, compliance by contract.

Validity and Reliability

Before performing hypothesis testing, the researcher should measure the validity and the reliability of the test. To test the validity, this study used a test of convergent validity and discriminant validity. Convergent validity is tested using a minimum score of 0,5. To test reliability, this study uses a score of Average Varian Extracted (AVE) minimum of 0,5 and Composite Reliability (CR) minimum of 0,7 (Hair, Black, Babin, Anderson, Tathan , 2006).

A recap of validity and reliability can be seen in Table 2.

After eliminating invalid or unreliable items, the final results show that all the variables and dimensions are reliable and valid. The remaining items is run into the model.

RESULT AND DISCUSSION

Descriptive Analysis and Bivariate Correlation

All of the questions on this questionnaire uses the Likert scale with a range of 1-6. Scores are categorized as low for values of 1.00 - 2.66, moderate for values of 2.67 - 4.33 and high for values of 4.34 to 6.00. Based on the mean scores (see Table 3), all variables has a high score. The highest mean score is

Table 4. Result of Hypothesis Testing**

Hypothesis	Description	Coefficient	T value*	Conclusion
H1	ACAP → innovation	0,365	2.143	Accepted
H2	Innovation → competitive advantage	0.739	4.299	Accepted
H3	Developmental → ACAP	0.400	2.774	Accepted
H4	Rational → ACAP	0,544	3.634	Accepted
H5	Developmental → Innovation	0,424	2.770	Accepted
H6	Rational → Innovation	0.103	0.826	Rejected
H7	Developmental → competitive advantage	-0,003	0.015	Rejected
H8	Rational → competitive advantage	0.105	0.664	Rejected

* $\alpha = 5\%$, significant if $t > 1.96$ ** Using Smart PLS 2.0

a rational culture, while the lowest score was innovation. This describes the state of anking industry's culture in Indonesia, which is more concerned with routine than the desire to take risks (which is characteristic of rational culture). The low score on innovation also illustrate that banks, especially in Indonesia, are not overly aggressive in innovation. These results are also consistent with the findings of Arifin (2010), which also studies the Indonesian banking industry.

Based on standard deviation, innovation's score is the highest. This means that some banks are more driven to innovate than others. Competitive advantage's score is the lowest. This means that respondents claim to have similar levels of competitive advantage. Based on bivariate correlation of the data, it appears that the whole construct has a significant correlation ($\alpha = 5\%$). These results can be used as a supporting data and analyzing, especially for rejected hypothesis.

Hypothesis Testing and Discussion

The research model will be tested simultaneously using Structural Equation Model (SEM), variance-based (or component-based), instead of covariance-based that is already known and has attracted the attention of various

researchers (Haenlein and Kaplan, 2004). Even though covariance-based SEM is better in testing theoretical models than variance-based SEM, but both actually has similar test results (Hair, Ringle, and Sarstedt, 2011). Covariance-based SEM also has its limitations, which can be overcome by variance-based SEM. Covariance-based SEM require a minimum sample of at least 200 data points (Stan and Saporta, 2005), while the sample of this study only consists of 125 data points. On the other hands, the response rate for research in strategic management in Indonesia remains low (Tarigan, 2012; Arifin, 2010). Details of testing can be seen in figure 1.

H1 is accepted, proving that ACAP affects innovation. The capability to absorb and utilize information, idea and knowledge from outside of the company, increases innovation. Information and knowledge from external sources contributes to the accumulated stock of knowledge as the raw material of innovation (Dierickx and Cool, 1989; Lev, Fiegenbaum, Shoham, 2009). Compared to previous studies, the impact of ACAP on innovation seems to occur in various industrial contexts, countries and research methodology such as Chen et al (2009), Yongping et al (2011) and Kostopoulos et al (2010). The comparison can be seen in tabel 5

Table 5. Effect of ACAP on Innovation

	This Research	Chen et al (2009)	Yongping et al (2011)	Kostopoulos et al (2010)
Coefficient and confidence level	0,779 $\alpha = 0.00\%$	0,54 $\alpha = 1\%$	0,586 $\alpha = 0,1\%$	0,209 $\alpha = 1\%$
Industry	Banking	Manufacture	High tech	Manufacture and services
Country	Indonesia	Taiwan	China	Greece
Statistical Methods and Application	SEM variance based, Smart PLS 2.0	SEM covariance based, Lisrel 8.72	SEM covariance based, AMOS 7.0	SEM path analysis, EQS 6.1
Number of Cases	49	106	159	461
ACAP' Measurement	Multidimensional (4 dimensions; 30 items)	3 items (ability apply, understand, combine)	-	4 items (cost and R&D activities, number of employee hold bachelor degree, training)
Innovation' Measurement	9 indicators	5 indicators (quality of product, new product launching, profit from new product, efficiency of process, productivity)	-	1 indicator (sales ratio of new product)

But, although significant, the effect of ACAP to innovate is not too dominant (structural coefficient is 0.365). It is lower than the impact of developmental culture on innovation (structural coefficient of 0.424; H5 accepted). It means, in the innovation perspective, developmental culture is more important than ACAP. The role of developmental culture is characterized by flexibility, risk taking, adaptability, growth and resource acquisition is more dominant in innovation, compared to the amount of knowledge gained from external sources.

The other culture, the rational culture, is not found to directly affect innovation (H6 is rejected). Rational culture, which is characterized by planning and goal setting, efficiency, and competence, is not suitable for innovation. Innovation can not be grown organically in a company that has a rational culture, but through ACAP (H3 and H1 accepted).

So a company should utilize rational culture to develop ACAP, and utilize ACAP to develop innovation. In general,

the effect of culture on innovation is mixed. One culture (developmental culture) is dominant, even more dominant than ACAP, but the other culture (rational culture) is not.

The effect culture to ACAP is different with effect culture to innovation. Both, developmental culture and rational culture directly and significantly affects ACAP (H3 and H4 accepted). Rational culture is more dominant than developmental culture for the development of ACAP. The structural coefficient of rational culture (0,544) is bigger than the structural coefficient of developmental culture (0,400). It seems that rational culture is better suited to the development of ACAP. ACAP will grow better in stable culture (rational culture) than flexible culture (developmental). If a company is only concerned with ACAP, they can choose rational culture than developmental. However, if the company is interested in having both ACAP and innovation, developmental culture is more suitable.

Table 6. Effect of Innovation on Competitive Advantage

	This Research	Chen et al (2009)	Chailom and Mumi (2010)
Coefficient and confidence level	0,633 $\alpha = 0,00\%$.	0,60 $\alpha = 1\%$.	0,493 $\alpha = 1\%$.
Industry	Banking	Manufacture	Food Industry
Country	Indonesia	Taiwan	Thailand
Statistical Methode and Application	SEM variance based, Smart PLS 2.0	SEM covariance based, Lisrel 8.72	Ordinary Least Squares (OLS) regression
Number of Cases	49	106	198
Innovation' Measurement	9 indicator	5 indicators (quality of product, new product launching, profit from new product, efficiency of process, productivity)	6 indicators
Competitive Advantage' Measurement	2 dimension (14 items)	Comparison with other companies in 4 indicators (production effectiveness, managerial capability, profit, <i>first mover</i>)	4 items

Companies can also combine both cultures. This is done by applying a rational culture at the corporate level, to ensure that companies are able to absorb and utilize external information and knowledge. At the the innovation project or innovation task-force, the company chooses to implement developmental culture.

Innovation itself is convincingly shown to affect competitive advantage (H2 is accepted). The score of its structural coefficient (0.739), is the largest compared to others (see table 4). This illustrates the importance of innovation's role in creating competitive advantage. Compared with other studies that tested the same hypothesis, positive and significant impact on the competitive advantage of innovation performance also occurs in the context of different industries, in different countries, and with different methodologies-for example, if the study is compared with Chen et al (2009) and Chailon and Mummy (2010). See table 6 for more information.

It should be noted that the effect of innovation on competitive advantage is done within the context of the banking industry. This industry is a highly-regulated industry, thus innovation in banking is tightly controlled by regulation. Although controlled by regulation, the role of innovation on competitive advantage remains dominant. This should be noted by practitioners and regulators of the banking industry, especially in Indonesia. Bank Indonesia as regulator, needs to encourage and facilitate banks to innovate. Unfortunately, this study and Arifin (2010), found that the degree of innovation in the Indonesian banking industry could still be improved. Innovation here is not limited to just products, but also to the innovation of processes and management. If processes improves, it will also improve the bank's efficiency level as well. Data shows that the efficiency level of Indonesia's banking industry is still relatively low, and the trend shows no improvement (Nasution, 2011).

While innovation affects competitive advantage, both organizational culture (developmental and rational) did not (H7 and H8 rejected). Organizational culture, conceptually, is the source of competitive advantage (Barney, 1996), but this empirical research proves that the cultural role of the competitive advantage is only obtained if the company has adequate ACAP and innovation.

CONCLUSION

This study proves the positive effect of ACAP to innovation and the positive effects of innovation on competitive advantage. These results are in line with previous research, conducted by different research methods and contexts. Companies interested in developing competitive advantage, should improve the company's innovation. In order to increase the company's innovation, companies should improve its ACAP.

In order to improve its ACAP, a company should develop a culture friendly to ACAP. Organizational culture decidedly affects ACAP, especially externally-oriented culture (developmental culture and rational culture). These results are also consistent with previous studies. Although both types of culture significantly affects ACAP, rational culture is more dominant. In the context of the development of ACAP, companies should prefer a rational culture to developmental culture.

Besides affecting ACAP, externally-oriented culture also affect innovation. But, only developmental culture affects innovation directly, whereas rational culture does not. Cultures that value flexibility are more suited to innovation, compared to cultures that value routine and stability. Companies interested in

innovating more aggressively, can choose developmental culture than other types of culture.

Competitive advantage is not directly influenced by corporate culture, for both externally-oriented culture. The results of this study proved that culture can affect competitive advantage through innovation, or through ACAP and innovation. This means that organizational culture can indeed be a source of competitive advantage, only if the company has adequate ACAP and innovation.

Limitation

The main limitation of this study is the sample size (49 banks, each bank is a unit of analysis). Although statistically adequate and represented 52% of the industry capital-wise, the number is still far below 125 (the total number of respondents). Due to the limited replies from respondents, this study uses variance-based SEM that has limitations compared to covariance-based SEM. The first, is the "problem of consistency at large". Variance-based SEM tends to under-estimate the correlation between the latent variables and over-estimates the loading. Second, the hypothesis significance testing is a "non-parametric testing" with bootstrapping mechanism. So the quality of the study's significance test is less powerful than if it had used covariance-based SEM. Future studies should avoid these limitations.

Managerial Implication

The major managerial implication of this research is that companies should strengthen their developmental and rational culture to attain and sustain a competitive advantage, but it is not an automatic mechanism. Culture can only affect competitive advantage through absorptive capacity and innovation. Then companies should

develop absorptive capacity as well, and utilize it to create innovation. Innovation itself is very dominant in building competitive advantage for the company. Between these two cultures, it is better for the company to choose

developmental culture than rational culture. Developmental culture gives more impact on innovation, even greater than the direct impact of absorptive capacity on innovation.

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