KNOWLEDGE SHARING CAPABILITY, ABSORPTIVE CAPACITY, AND INNOVATION CAPABILITY: AN EMPIRICAL STUDY OF INDONESIA'S INFORMATION AND COMMUNICATION TECHNOLOGY INDUSTRY

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ABSTRACT

This research investigates the relationships between knowledge sharing capability, absorptive capacity, and innovation capability. This research proposed and tested three hypotheses. The data was collected by conducting a survey on 114 companies of Indonesia's information and communication technology industry, including a telecommunication service provider, a support service provider, network vendors, and consumer devices vendors. This study finds that absorptive capacity is the intervening factor between knowledge sharing capability and innovation capability. It also shows that potential absorptive capacity has a positive influence on realized absorptive capacity, and realized absorptive capacity has a positive influence on product and process innovation capability.

Keywords: Knowledge sharing capability, Absorptive capacity, Innovation capability

INTRODUCTION

In the global world with rich information flows coming from many different sources and channels, an organization's ability to manage knowledge effectively becomes a prerequisite for success and innovativeness. This is especially important in information and technology intensive industries. In these circumstances, a greater awareness and a more active debate is needed concerning the creation of internal environments, and the organizational ability to support collective knowledge production and knowledge sharing

(Wulff & Suomi, 2007). According to Barney (1991), there are many ways that can be undertaken by the company to achieve competitive advantage; however, the most important aspect required in a dynamic environment is success in generating innovation.

The company's ability in generating innovation continuously is viewed as the main source in sustaining the company's competitive advantage, and in avoiding the risk of being eliminated from the market. Choo (1998) reinforces the point by pointing out that companies which manage to survive and continuously develop its business in the long term is not because of their size or the fortune of the company, but it is because the companies have the capacity to adapt faster and to continuously innovate. The resource to generate innovation is the knowledge proprietary. An organization's available knowledge is becoming an increasingly important resource (Hooff & Weenen, 2004). To make knowledge available, it is crucial that individuals and departments are involved in the process of knowledge sharing (O'Dell & Grayson, 1998).

An organization's ability to effectively leverage its knowledge is highly dependent on its people, who actually create, share, and use the knowledge. Leveraging knowledge is only possible when people can share the knowledge they have, and build on the knowledge of others. Knowledge sharing is basically the act of making knowledge available to others within the organization. Knowledge sharing between individuals is the process by which knowledge held by an individual is converted into a form that can be understood absorbed, and used by other individuals (Ipe, 2003).

Previous research has shown that there is a relationship between knowledge and absorptive capacity. The company's absorptive capacity has a significant influence on the ability to innovate. For example the research in conceptual level conducted by Zahra and George (2002) investigates the relationship among knowledge, absorptive capacity, and competitive advantage. Quinn, Anderson and Finklestein (1996) states that the foundation of a company's competitive advantage is its ability to make use of its absorptive capacity to develop unique competitive ability. However, in line with Liao, Wu and Chin (2007), current related studies present little discussion on how to improve or develop the company's absorptive capacity.

This study investigates the relationships among knowledge sharing capability, absorptive capacity and innovation capability in Indonesia's information and communication technology industries. In this research, we define absorptive capacity as the company's ability to acquire and assimilate knowledge (potential absorptive capacity) and the ability to transform and explore

knowledge (realized absorptive capacity), as highlighted in Zahra and George (2002). We use LISREL 8.5 on the sampled data from 114 companies related to Indonesia's information and communication technology industry. These companies include a telecommunication service provider, a support service provider, network vendors, and consumer devices vendors.

LITERATURE REVIEW

Knowledge Sharing Capability

Nonaka and Takeuchi (1995), in their definitive work *The Knowledge Creating Company*, were among the first to recognize the importance of individual employees in the knowledge creation process. Knowledge creation should be viewed as a process whereby knowledge held by individuals is amplified and internalized as part of an organization's knowledge base. Thus, knowledge is created through interaction between individuals at various levels in the organization. Nonaka and Takeuchi (1995) argued that organizations cannot create knowledge without individuals, and unless individual knowledge is shared with other individuals and groups, the knowledge is likely to have limited impact on organizational effectiveness.

Szulanski (1996) defines knowledge sharing as the exchange or transfer process of facts, opinions, ideas, theories, principles and models within and between organizations, including trial and error, feedback and mutual adjustment of both the sender and receiver of knowledge. Hooff and Ridder (2004) states that knowledge sharing is a concept defined as the process where individuals exchange their knowledge (tacit and explicit knowledge) and collectively create new knowledge. This definition implies that knowledge sharing behavior consists of bringing (donating) and getting (collecting) knowledge.

Bringing is the behavior of communicating one's personal intellectual capital to others, and getting is the individual behavior to consult other individuals on one's intellectual capital. The two behaviors are distinguished as active processes, both in communicating or consulting. The two behaviors are distinct in nature and will pose different impacts. Following Hooff and Ridder (2004) and Hooff and Weenen (2004), we label the two central behaviors as knowledge donating and knowledge collecting. Knowledge sharing capability in this conceptual review is defined as the employees' ability to conduct knowledge donating and knowledge collecting on experiences, ideas, expertise, and contextual information.

Absorptive Capacity

The basic concept of absorptive capacity was originally stated by Cohen and Levinthal (1990), they defined absorptive capacity as the company's ability to identify, assimilate, and exploit knowledge from the external environment. According to Cohen and Levinthal (1990), a company must continuously acquire, absorb and create new knowledge. Zahra and George (2002) re-conceptualized absorptive capacity (ACAP) as the dynamic capability in creating and using knowledge that will leverage the company's ability to acquire and sustain a competitive advantage. Zahra and George (2002) pointed out that ACAP emerged as two subset potential absorptive capacities (PACAP) and comprised knowledge acquisition and assimilation, while realized absorptive capacity (RACAP) comprised knowledge transformation and exploitation.

Acquisition refers to the company's capability in identifying and acquiring externally produced knowledge. Assimilation refers to the company's routines and processes that allow the examination, interpretation and understanding of the information obtained from external sources. Transformation refers to the company's ability to develop and refine the routines that facilitate 'combination' processes. Exploitation involves routines that allow a company to refine, extend, and leverage existing knowledge and incorporate it into to its operations (Zahra and George, 2002).

Innovation Capability

The definition of innovation is often intertwined with the definition of invention. Therefore, earlier discussions were focused on comprehending the difference between innovation and invention. Invention is the first event resulting from a new idea, process, or product. Meanwhile, innovation is the first attempt to realize it. In other words, invention is a new product, while innovation is a new value (Szmytkowski, 2005). West and Farr (1990) defined innovation as the intentional introduction and application within a role, group, or organization of ideas, processes, product or procedures, new to the relevant unit of adoption designed to significantly benefit the individual, the group, organization or wider society. Walker, Jeanes and Rowlands (2002) made distinctions between product and process innovations. *Product innovations*, were defined as new products or services. *Process innovations,* were defined as new elements introduced into an organization's production or service operations and processes. Examples are rules, roles, procedures and structures, communication and exchange among organizational members, and between the environment and organizational members.

RESEARCH FRAMEWORK AND HYPOTHESES

Knowledge Sharing Capability and Potential Absorptive Capacity

There is an assumption that performance in various parts of a department will increase when the people within the department have the desire to conduct knowledge sharing in terms of sharing information, effective practices, insights, experience, preferences, and other things they have already learned. Knowledge sharing creates high potential to the knowledge stock owned by every employee to result in new understanding.

Knowledge transfer or sharing processes are mostly drawn from the analogy of a communication process of text message transmission which is from the source or the sender to the receiver. Husman (2001) stated that in a successful knowledge transfer process, the knowledge senders will have an increase in the level of knowledge stock owned by not causing a reduction on the sender's knowledge stock. The knowledge stock value of the knowledge sender remains constant if the knowledge receiver uses and does not misuse the transferred knowledge. The knowledge sender still has control over the transferred knowledge. The knowledge sender only transfers knowledge and still has the knowledge shared, thereby the transfer will not affect the sender's knowledge stock level. The receiver's knowledge stock level has increased as compared to the level prior to the transfer; the receiver has no clue of the knowledge whatsoever. Meanwhile the receiver's knowledge stock will remain constant even though the transfer fails.

The above statements provide a description of the increase of the knowledge stock as a result of the transfer process. When both parties conduct active processes, thereby the increase of knowledge stock will be gained by both parties; the sender and the receiver, since the interaction has already taken place. In fact, interaction can result in new understanding which can be the new power source. This power can be in the form of collective decision on problem solving which in turn could even generate new knowledge. Therefore, the following is hypothesized:

Hypothesis 1:
The employees' ability to perform knowledge donating and knowledge collecting with other employees has a positive influence on the company's ability to develop its potential absorptive capacity (PACAP).

Potential Absorptive Capacity and Realized Absorptive Capacity

Potential absorptive capacity (PACAP) plays an important role in updating the company's base knowledge and expertise required to compete in a dynamic

market. The firms which are flexible in using their resources and capabilities can reconfigure their basic resources in order to gain benefit from the emerging strategic opportunity. Acquisition and assimilation components can lead to maintaining a competitive advantage when it is used and integrated properly with other assets and resources in order to overlap one another (Zahra & George, 2002).

Potential absorptive capacity (PACAP) and realized absorptive capacity (RACAP) have separate but overlapping roles. Companies are not able to exploit knowledge without acquiring it first. As such, companies can acquire and assimilate knowledge but may not have the capabilities to transform and exploit knowledge. Therefore, a high level of PACAP does not necessarily imply high performance. RACAP involves transformation and exploitation of assimilated knowledge by integrating it into the company's operation, thus improving its performance. Therefore, the following is hypothesized:

Hypothesis 2:
The company's ability to acquire and assimilate knowledge (potential absorptive capacity-PACAP) has a positive influence on the company's ability to transform and exploit knowledge (realized absorptive capacity - RACAP).

Realized Absorptive Capacity and Innovation Capability

Several researches have paid attention to the relationships between absorptive capacity and the firm's performance. Among others are Zahra and George (2002), who found that competitive advantage was the outcome of absorptive capacity. Absorptive capacity included the following: strategic flexibility, innovation, and performance. Meanwhile, Cohen and Levinthal (1990) linked absorptive capacity to a company's outcome, and for them absorptive capacity included innovative capability and innovative performance. Innovation was considered an output over the company's ability to exploit the acquired external knowledge. Zahra and George (2002) confirmed that realized absorptive capacity (RACAP) tended to influence the company's performance by means of product and process innovation, after going through transformation and exploitation capabilities that constitutes RACAP, thus the companies would gain the knowledge that helped leverage and recombine the expertise to pursue the product line extension or new product development (Zahra and George, 2002). Therefore, the following is hypothesized:

Hypothesis 3:
Realized absorptive capacity (RACAP) has a positive influence on innovation capability.

The research framework is shown in figure 1.

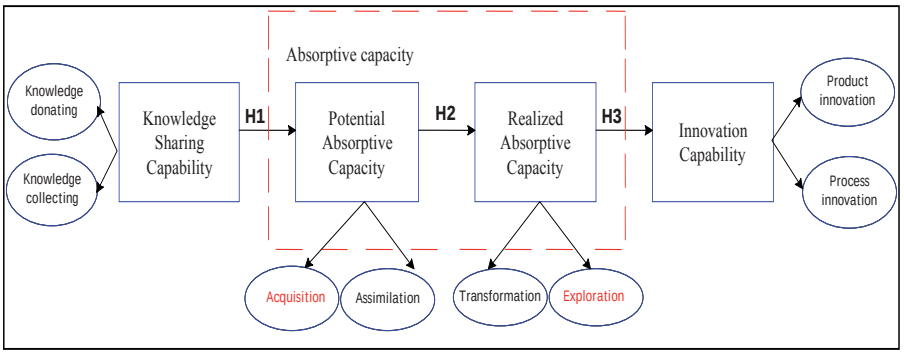

Fig. 1. Research Framework

Note: In fig. 1 spelling 'acquition' should be acquisition, and 'eksploration' should be exploration

RESEARH METHODOLOGY

Variable Operations

In this research, in order to translate or to operate variables into measurable variables, the variables are disentangled from concepts, dimensions and elements (Sekaran, 2003). There are three concepts which are translated into measurable elements, namely knowledge sharing capability, absorptive capacity, and innovation capability.

The first concept is knowledge sharing capability. In this research framework, knowledge sharing capability is an independent variable that describes the employees' ability in conducting knowledge sharing with other employees in the company. This study employs the concept of Hooff and Weenen (2004), who used knowledge donating and knowledge collecting to measure the degree of knowledge sharing between employees in a firm. However, different from Hooff and Weenen (2004) who used the term intellectual capital; this research uses the term knowledge which is divided into tacit knowledge, which consists of working experience, ideas, and expertise, and explicit knowledge, which comprises contextual information. Operationally, knowledge donating is defined as the employees' ability in giving their knowledge, which includes working experience, ideas, skill, and contextual information to other employees. Knowledge collecting is the employees' ability to obtain knowledge from or to consult other employees, that is, they are willing to share their knowledge which includes working experience, ideas, and contextual information with other employees. Some of the original questions from the original measurements from Hoof and Weenen (2004) were modified.

The second concept, which is the moderating variable in this research, is absorptive capability. Absorptive capability (ACAP) as it is used in this research refers to the concept proposed by Zahra and George (2002). In addition, due to the limited empirical testing of this concept, it is very much relevant to this research's objective which is to know the company's ability in acquiring, assimilating, transforming, and exploiting knowledge. Zahra and George (2002) described ACAP in two subsets, namely *potential absorptive capacity* (PACAP) which comprised knowledge acquisition and assimilation, and *realized absorptive capacity* (RACAP) which comprised knowledge transformation and exploitation. Operationally, the ability to acquire knowledge is defined as the company's intensity and speed to identify and obtain the knowledge required for the operational activities which is acquired from an external environment. The ability to transform knowledge is the company's ability to sort or examine the existing knowledge, synthesize knowledge, and combine the externally acquired knowledge. The ability to transform knowledge is the company's ability to develop and improve the routines that facilitate the incorporation of the existing knowledge and the new knowledge. The ability to exploit knowledge is based on the company's routines that enable the company to improve, expand, and leverage the existing competence or create a new competence by incorporating the acquired knowledge.

The last concept is innovation capability, and in this research is defined as the company's success in generating product innovation and process innovation. It is the embodiment of the company's ability in managing its existing knowledge. In order to make it measurable, the operational definition refers to firstly, the company's achievement in generating product innovation, which is refinement, product modification, or new services, and secondly, the company's achievement in generating process innovation including the company's success in performing improvement, moderation, and operational activity changes, or administration processes or creating new working procedures for service activities. Table 1 shows formulation of concept, dimension and element in this research.

Measurement

The survey data collected will show the respondents' perception towards the indicators of knowledge sharing capability, the company's absorptive capacity, and innovation capability. The questionnaire six point scale (1 = totally disagree, 6 = totally agree). An empirical study is conducted to explain the developed model. The research model is operated and based on the operational process a set of survey questionnaires is developed.

Table 1. Concept, Dimension and Element

Concept		Dimension	Element
Knowledge sharing capability		Knowledge donating	D1 D2 D3 D4 D5 D6 D7 D8
		Knowledge collecting	C1 C2 C3 C4 C5 C6 C7 C8
Absorptive capacity	P A C	Acquisition	Q1 Q2 Q3 Q4
		Assimilation	A1 A2 A3
	R A C	Transformation	T1 T2 T3
		Exploitation	E1 E2 E3
Innovation Capability		Product innovation	N1 N2 N3
		Process innovation	N4 N5 N6

Sample Design

The population of this research included companies in the information and communication business in Indonesia. The clustering applied was based on the classification provided by Masyarakat Telekomunikasi Indonesia (Indonesian Infocom Society). These companies included 8 telecommunication operators, 24 internet service provider, 3 broadcast companies, 46 support service providers, and 33 network and devices vendors. To ensure sufficient variation in classification, the sample design used was disproportional stratified sampling. The respondents were employees who had worked for at least 2 years. This consideration was based on the recommendation from office of personnel management, that one year in office was considered sufficient working time for individuals to be able to comprehend the working environtment well. Based on this, the respondents selected were expected to be able to understand the elements that were included in the research variable indicators.

Reliability and Validity

Confirmatory factor analysis was performed to investigate reliability and validity. The results are as shown in Table 1. In the reliability analysis, Cronbach's α was greater than 0.7 and the composite reliability (CR) values were all higher than 0.6, meeting the benchmark of Baggozzi and Yi (1988) that CR values should be higher than 0.6.

Reliability testing is conducted by considering the loading factor (λ) of each element. The guidelines from Hair, Anderson, Tatham and Black (2006) on the relative importance and significance of the factor loading of each item, states that the element with (λ) ≥ 0.50 is considered valid. Meanwhile,

reliability testing for each element is calculated by looking at the squared multiple correlation (R^2) value. The element with $R^2 \geq 0.20$ is considered reliable (Guilford, 1979). In addition to testing the reliability of individual element, another testing was also conducted to figure out the joint reliability for each variable, which is known as construct reliability or composite reliability. This is aimed at measuring how far those variables indicate latent variable. The test for measuring reliability uses alpha Cronbach (Sekaran, 2003) and uses construct reliability with the recommended value higher than 0.06 (Baggozzi and Yi, 1988). Table 1 shows the result of the validity and reliability testing using structural equation modelling application LISREL version 8.50. Elements D5, C6, C8, E2, F6, and N2 did not appear on the table because when confirmatory factor analysis was conducted, those elements had a loading factor value ≤ 0.50 and had $R^2 < 0.20$, therefore those elements were not included in the structural equation modelling.

Table 2. Validity and Reliability

Dimension	Element code	Loading Factor $\lambda \geq 0.50$	Reliability CR ≥ 070	Cronbach's α
Knowledge donating	D1	0.60	0.87	0.87
	D2	0.53		
	D3	0.54		
	D4	0.64		
	D6	0.57		
	D7	0.61		
	D8	0.57		
Knowledge Collecting	C1	0.70		
	C2	0.52		
	C3	0.75		
	C4	0.58		
	C5	0.58		
	C7	0.71		
Acquisition	Q1	0.65	0.72	0.73
	Q2	0.53		
	Q3	0.52		
Assimilation	A1	0.52		
	A2	0.55		
	A3	0.46		
Transformation	T1	0.64	0.66	0.78
	T2	0.65		
	T3	0.64		
Exploitation	E1	0.54		
	E3	0.50		
Innovation capability	N1	0.88	0.82	0.79
	N3	0.52		
	N4	0.75		
	N5	0.50		
	N6	0.70		

DATA ANALYSIS AND RESULTS

The analysis of the structural model will be explained in the following section.

Overall Fit

As a method, Structural Equation Modeling (SEM) does not have the capability in statistically testing the prediction power of the model. Therefore some Goodness of fit or GOF measures were developed. The three measures used were namely absolute fit measures, incremental fit measures, and parsimonious fit measures. We had taken into account several indexes to be used as testing considerations.

Table 3. Goodness of Fit Result

Variable relationship		Goodness of fit				
		Absolute fit measures		Incremental fit measures		Parsimonious fit measures
		GFI	RMSEA	CFI	IFI	Normed Chi-Square
KSC	PAC	0.82	0.07	0.82	0.86	1.58
PAC	RAC	0.88	0.08	0.91	0.91	1.70
RAC	INO	0.84	0.06	0.84	0.79	1.44

Some Goodness of fit or GOF measures were developed. The three measures used were: absolute fit measures, incremental fit measures, and parsimonious fit measures. We have taken into account several indexes to be used as testing considerations.

First, absolute fit measures consist of GFI (Goodness of Fit Index) and RMSEA (Root Mean Square Error of Approximation). The overall fit of the model can be seen from the Goodness of Fit statistics in Table 2. GFI is a measure of model accuracy in generating observed matrix covariance. The GFI coefficient ranges from 0 (poor fit) to 1 (perfect fit). The GFI $\geq$ 0.90 is a sign of good fit, while 0. 80 $\leq$ GFI < 0.90 is a sign of marginal fit (Joreskog and Sorbom, 1993). In Table 2, the GFI ranges from 0.82 – 0.88. RMSEA is the most informative fit model indicator. RMSEA measures the parameter values deviation in the model by the covariance matrix of the population. The RMSEA $\leq$ 0.05 indicates a close fit, while 0.05 < RMSEA $\leq$ 0.08 indicates a good fit (McCallum, Browne and Sugawara, 1996). In Table 2, the resulting RMSEA value is between 0.06 – 0.08.

Second, parsimonious fit measures consist of CFI (Comparative Fit Index) and IFI (Incremental Fit Index). The CFI value $\geq$ 0.90 is good fit, 0.80 $\leq$ CFI < 0.90 constitutes marginal fit. The resulting CFI is between 0.82 – 0.91. IFI

value ≥ 0.90 constitutes Good fit, while 0.80 ≤ IFI < 0.90 constitutes marginal fit. In Table 2 it can be seen that the resulting IFI ranges from 0.79 – 0.91.

Finally, Parsimonious fit is measured by using Norm Chi-Square. The resulting norm chi square ranges from 1.44 – 1.70. Norm Chi-Square is a ratio between Chi-Square and the degree of freedom. The suggested values: lower threshold = 1.0, upper threshold = 2.0 or 3.0 (Hair, Anderson, Tatham and Black, 2006). From the GOF indexes shown in Table 2 it can be concluded that the overall fitness of the model is considered a good fit.

Causal Analysis

SEM is an effective tool to explore and to contrast the hypothesis on the causal relationship among the variables. In order to figure out the significance of the relationship among variables, t table value is used on 5 % significance level, and with 114 sample size is $|2{,}00|$. The calculation of t count value of the three hypotheses is $|t| > 2{,}00$.

The testing of hypothesis 1 resulted in a t value coeficient of 5.62 which shows that there is significant influence of the knowledge sharing ability on the employees, and on the company's ability to acquire and assimilate knowledge. Based on the result of the data processing on knowledge sharing ability, it can be seen that knowledge collecting behavior or knowledge gathering is more dominant compared to knowledge donating. It means that the employees will share their knowledge whenever they are asked.

Based on hypothesis 2 testing, the t value was 5.79 which shows that the ability to acquire and assimilate knowledge has a significant influence on the ability to transform and exploit knowledge. The company has intensified efforts to identify and obtain knowledge by discussing with the customers their needs in terms of the required product or service in the future, establising regular contacts with the customers in order to measure the quality of the provided product and service, as well as holding regular meetings with other parties to obtain new knowledge. The company has the ability to assimilate, which means the company always learns from past experience in order to solve the problems encountered and always reviews reports on the desires or expectations of its customers. The ability to acquire and assimilate influences the company's ability to transform knowledge, which means: developing and improving routines to facilitate the incorporation of the existing knowledge and the new knowledge obtained, and exploiting knowledge, which is the effort to improve work routines and create new opportunities.

Based on hypothesis 3 testing, the t value is 6.45 which shows that the ability to transform and exploit knowledge has a significant influence on innovation capability. Based on the data processing, it can be seen that the company has product innovation capability by developing a well-accepted product in the market. The company's ability to manage the knowledge and process innovation capability has enabled the company to succeed in improving its service process to customers.

Table 4. The Interpretation Results of the Structural Equation

Variable	Variable	R^2	t	Interpretation Requirement : | t | > 2.00
Knowledge sharing capability	Potential absorptive capacity	0.68	5.62	H1 is proved.
Potential absorptive capacity	Realized absorptive capacity	0.93	7.08	H2 is proved.
Realized absorptive capacity	Innovation Capability	0.50	6.45	H3 is proved.

Table 4 shows that all the hypotheses are confirmed. The overall relationship among knowledge sharing capability, potential absorptive capacity, realized absorptive capacity, and innovation capability can be seen in Figure 2 which also shows that realized absorptive capacity has more constitution to process innovativeness compared to product innovativeness.

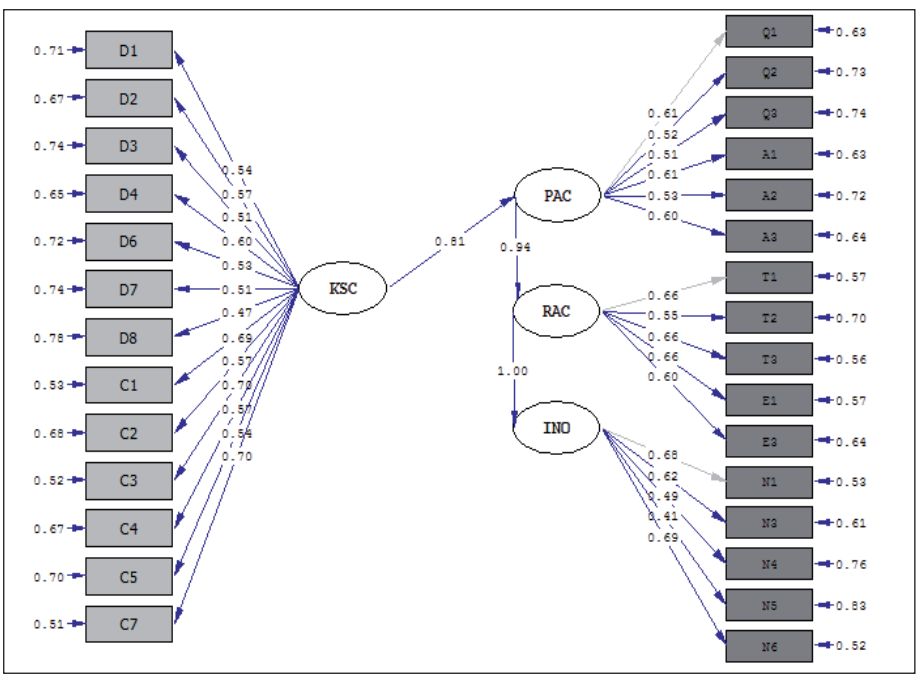

Fig. 2. Result of Model

CONCLUSION

The research demonstrates that there is positive influence from the employee's ability to perform knowledge donating and knowledge collecting on other employees, and on the company's ability to develop its potential absorptive capacity. There is also positive influence from the company's ability to acquire and assimilate knowledge (potential absorptive capacity) on the company's ability to transform and expoit knowledge (realized absorptive capacity). In addition, there is positive influence from the company's realized absorptive capacity on the company's innovation; especially influences process innovation.

Based on the data analysis from the companies surveyed, the employees' knowledge collecting is found to be more dominant than the knowledge donating, meaning that the sharing behavior remains passive; they share only when they are asked. In the knowledge donating dimension, the most dominant element is the employees' behavior is providing explicit knowledge compared to providing tacit knowledge. Meanwhile, when the employees are asked, they eagerly share their skills with other employees.

This research is restricted only to the Indonesian ICT industry, thus the results might not be replicated in the other areas of expertise due to the differences in terms of the environment and other characteristics. This research can be further developed by not only investigating the knowledge sharing capability viewed from the behavior factor, but from the viewpoint of the available technological tools.

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Appendix: The questionnaire questions

The choice of response to each of questions 1–35 was:
(6): Totally agree – (1) Totally Disagree.

I. Knowledge Sharing Capability

1.	D1	Our employees always share their working experiences with other employees within their department.
2.	D2	Our employees always share ideas or suggestion with other employees within their department.
3.	D3	Our employees always teaches the skill they have to other employees within their department.
4.	D4	Our employees are able to inform other employees within the same department on work-related information.
5.	D5	Our employees do not share their working experience with other employees outside their department.
6.	D6	Our employees always share new ideas with other employees outside their department.
7.	D7	Our employees always teach what they know to other employees outside their department.
8.	D8	Our employees always share work-related information with other employees outside their department.
9.	C1	Our employees always share their working experiences with other employees within their department when they were asked.
10.	C2	Our employees always share their ideas with other employees within their department when they were asked.
11.	C3	Our employees always teach what they know to other employees within their department when they were asked.
12.	C4	Our employees always share work related information with other employees within their department when they were asked.
13.	C5	Our employees always share their working experiences with other employees outside their department when they were asked.
14.	C6	Our employees always share their ideas with other employees outside their department when they were asked.
15.	C7	Our employees always teach what they know to other employees outside their department when they were asked.
16.	C8	Our employees always share work-related information with other employees outside their department when they were asked.

II. Potential Absorptive Capacity

Acquisition

1.	Q1	Our company always discusses with the customers to find out the product or service they need in the future.
2.	Q2	Our company always establishes regular contact with the customers in order to measure the quality of the provided product or service.
3.	Q3	Our company holds a regular meeting with other parties (e.g. community or association) to gain new knowledge.
4.	Q4	Our company is always left behind in gaining new knowledge needed.

Assimilation

1.	A1	Our company always studies and reviews the report on what the customer wants or expectation.
2.	A2	Our company always learns from previous experience on problem solving.
3.	A3	Our company always facilitates all employees to participate in a discussion forum which addresses business issues with people from different functional areas (e.g. through internet).

III. Realized Absorptive Capacity
Transformation

1.	T1	Our company always stores and documents all newly acquired knowledge for future reference.
2.	T2	Based on previously owned knowledge, our company evaluates the existing business processes.
3.	T3	Our company understands the necessities of other knowledge to facilitate and improve work-routines.

Exploration

1.	E1	Our company always stores and documents all newly acquired knowledge for future reference.
2.	E2	Based on previously owned knowledge, our company evaluates the existing business processes.
3.	E3	Our company finds new ways to combine the previously owned knowledge with new potencies or opportunities (e.g. new market for products/services offered).

IV. Innovation Capability

1.	N1	Our company always succeeds in developing the product which is accepted well by the market as a result of the company's ability in managing the knowledge.
2.	N2	Our company is able to generate improvement or improvisation out of the existing product or service (the product or service that have been improved where the characteristics are different from the previous ones) as the embodiment of the ideas that the employees have.
3.	N3	Our company succeeds in generating the new product or service as the embodiment of the company's existing knowledge.
4.	N4	By means of the ability to manage knowledge, our company always succeeds in improving service process to the customers.
5.	N5	By means of the ability to manage knowledge, our company succeeds simplifying the activities; hence the administrative process is easier.
6.	N6	With the ability to manage knowledge, our company succeeds in carrying out changes in administrative processes, so they are easier to run.