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Absorptive Capacity, Creativity Development, and Participation Intention toward SMEs Knowledge Alliances In E-Tech

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Abstract: SMEs need an effective strategy to develop a joint informational knowledge by implementing E-Tech. Knowledge alliances based on E-Tech will assist SMEs to survive strong competitive environment and withstand with various market demand. The objectives of this study it is examined their willingness to manage change from traditional alliance of individual work pattern into a work pattern of E-Tech knowledge-based alliance. This study it to examine on absorptive capacity, creativity development, and knowledge alliance based on E-Tech as the research model to provide guidance in developing and evaluating the continuity of SMEs' knowledge alliance in E-Tech.

Keyword: *Absorptive capacity, creativity development, participation intention, knowledge alliance in E-Tech.*

1. INTRODUCTION

Now days SMEs are facing increasingly strong competition globally. This situation motivated them improving strategies for better competitive advantagr. In creating expansive market globally, an analysis for knowledge advancement and capabilitues are required for strategy development. Join cooperation and strategic alliance were designed to respond aggresively facing to internal and external challenges. Lane & Lubatkin (1998) discovered in their studies that SMEs required to rearchitect their business strategies by using expansive alliance to be ahead in the competition. In order to advance the competition, SMEs need to transform from the traditional to the modern knowledge-based working system by developing a form of alliances knowledge to support their business challenges in order to withstand with global competition. SMEs can change from traditional individual work pattern into alliance based and smart business networks by simply implementing advanced E-Tech frame of works. E-Tech knowledge alliance will be the fundamental cooperations with second or third parties such as SMEs consultants, R & D and independent researchers, and policy makers which all geared to the success of SMEs global competition.

2. BACKGROUND

The development of global knowledge and global fast growing demand lateley had geared SMEs to be more efficient and effective in handling tight competition. Therefore it's extremely important for SMEs to reform networks for mutual cooperation of alliances by using E-Tech. It's highly advised to identify potential markets

and recognize weaknesses that it can be anticipated by using SWOT Anakysis. Through this alliance, business activities can be focused on informational knowledge aspects that can support their ability in business competition supported by E-Technology. However, strategic alliances may face unique challenges due to conventional and conservative characteristics type of SMEs. For the approach to support the alliance, SMEs need to be trained to cultivate their ability to identify, assimilate, and exploit knowledge of their business partners by using a more updated and modern E-Technology applications (Lane & Lubatkin, 1998). SMEs can find ways to build new capabilities primarily through E-learning alliances and repair their business character into a more advance Technology with E-resources based. Here it will be used theoretical foundation of several previous studies on absorptive capacity, creativity development, participation intention, and the Strategic alliance in E-Tech.

3. PURPOSE

The purpose of this paper to explain how SMEs activities in knowledge alliance by using advancement of E-Technology alliance in Jakarta City. How SMEs improve E-Tech based knowledge deposits owned by other members of the alliance issues faced by the alliance members in response to global competition. This study will also analyze some of the conceptual knowledge management practices that occurred in the SMEs business practices and their application in the future both theoretically and practically.

4. RESEARCH QUESTIONS

1. How absorptive capacity can affect the join SMEs knowledge alliance in E-Tech?
2. How creativity development efforts can affect the join SMEs knowledge alliance in E-Tech?
3. How performance of SMEs knowledge alliance can be overcome through creativity development?
4. How SMEs actors consider some aspects (*e.g.*, absorptive capacity, Creativity development, participation intention) will impact on the knowledge alliance in E-Tech?

5. HYPOTHESIS

H_1 : Absorptive capacity have influence on SMEs knowledge alliance in E-Tech.

H_2 : Creativity development have influence on SMEs knowledge alliance E-Tech.

H_3 : Participation Intention have positive influence on knowledge alliance E-Tech

H_4 : Knowledge alliance have influence on Strategic alliance governanceE-Tech.

The hypotheses above can be summarized in the following table.

Table 1
The relationship between the variables

Absorptive capacity	Variable mediator : knowledge alliance	Strategic alliance governance in E-Tech
Creativity development		
Participation intention		
Knowledge alliance		

6. THEORY AND CONCEPTS

1. **Absorptive Capacity:** Absorptive capacity is defined as skills of the SMEs in detecting forms of knowledge, modeling, products concepts, later will invite business partners to synthesize the joint knowledge that can be codified and capitalized. Successful joint knowledge creation, there is an

incentive element into cooperation that learn can be adopted by all alliances members. Identification of type of existed knowledge redesign strategies by other members of the alliance through their respective absorptive capacity (Lane & Lubatkin, 1998). Alliance members will start to build their unique network structure to learn and recognize the each information advantages owned by other SMEs actors and take measurements of the level of usefulness of the information. Lane & Lubatkin (1998) proposed that the measurement process of the member knowledge can be based on empirical data in order to be synergized.

It is then conducted in long term which drives SMEs actors to sustainably continue to exchange their knowledge and to form the innovational behavior (Nooteboom, 2000). The innovation generated by the distributed learning and knowledge exchange between the actors will make up the knowledge network and ultimately social capital deposit (Nooteboom, 2000). At the same time social capital is a collection of shared resources that are used to form a social alliance that requires an understanding of alliance members and achievement of shared goals by the alliance members. This means that when the knowledge network has been established, SMEs members will be easier to put together their knowledge resources among them and then form a bridge to other members (Nooteboom, 2000).

2. **Creativity Development :** Ott, et al (2010) defined creativity as the attribute mental processes. The mental processes have different levels among SMEs actors which produces different forms of innovation, creative and motivation. Creativity can be assessed from the level of distinctness among them from the business uniqueness and customer diversity. Ott, et. al. (2010) provides a clear insight about creativity as a mentality that encourages SMEs to motivate each other in critical thinking and imagination building. According to Ott, et al (2010), the imagination building will impact on the creativity development and can be developed with ICT support moreover E-Technology that produces creative attitude. To understand this process, it requires an understanding of the SMEs role in the digital tools to support creativity. From the Ott perspective, creativity can be increased if there is an understanding of SMEs regarding which direction can foster creativity among them and how they can gain insight or creation of sudden insight. In addition, Ott, et al (2010) demonstrated that creativity requires creativity-oriented development activities. Thus there needs the dominant and major SMEs actors to drive and promote creativity in the alliance activities.

   However, there are issues as presented by the Chamorro-Pemuzic (2006) that creativityand educational outcomes may often in different context. That is, creativity is not necessarily shaped by the educational environment, but rather formed by conceptualization behavior which characterized by creative thinking or reasoning behavior (Chamorro-Pemuzic, 2006). In other words, more creative actors may come from the result of environment shaped by non-regular and non-formal than formal environment. It appears that the creative interests and attitudes form creative thinking abilities through creative interests and attitudes (Chamorro-Pemuzic, 2006). For example, employees will not dare to be creative in the company unless they dare to risk of accusations of fraudulent and corrupt. Whereas, employers can be more daring to take creative risks because it has become a common trait that business actors should have mindset of active and creative entrepreneurs.

   The interesting thing from Chamorro-Pemuzic (2006) is how creative thinking can encourage formation of knowledge alliances for SMEs and facilitate problem solving, adaptability, and self-expression. In addition, it is important to know the process of SMEs can build cooperation with other and increase their insight of business opportunities. Of course, by borrowing ideas from the Chamorro-Pemuzic (2006) it is also related to the habit of creative thinking that be done by SMEs after they form a knowledge network and able to develop themselves to get out from old box of conventional thinking habits (*e.g.* repetition of content, conventional knowledge) to shifts to new habits of innovative thinking and openness.

3. **Participation Intention :** Yan's (2013) extended definition that participation is a possibility and intention of an individual participating in activities based on willingness to joint alliance, giving recommendation to others, and preference to group together in an alliance process.

   Yan (2013) showed that interpersonal relationship determines the formation of social interaction to get involved (joining intention) and finally participated. Here, it appears that participation in a joint activity need encouragement and satisfaction from the activities result. Even Yan (2013) indicated that participation could be based on the intention of interrelated experiential satisfaction and encourage SMEs members to participate in the alliance activities.

   The interesting thing is their mental activity of participation. According to Yan (2013), the participants will form mental activities of exploration, discovery, creation, and imagination that ultimately shape the perceived usefulness of the activities. The mental activity will form a social need that drives people to participate in a joint activity guided by their knowledge and outcome certainty. Yan (2013) showed that participation intention is also shaped by a goal to obtain problems solution and escape from mental load and uncomfortness. It appears that the activity in the alliance can last a long time if there is a benefit such as lighter workload and reduced burden of their business. Thus, it was shown that the alliance should be shaped as an activity resulting in decreased workload and foster partnership to reduce businesses burden and business expense of all members. By connecting between participation intention and motivation, Yan (2013) gives important idea that SMEs can work better through transformation and combined motivation by simplifying their businesses and reduced workload burden toward their business environment and network.

4. **Strategic Alliance Governance in E-Tech:** Naicker & Saungweme (2009) defined strategic alliance governance as a "long-term partnership of firms that work together to achieve local and international objectives and complement the needs of firm partner." By following them, we redefined the strategic alliance as a form of institutionalized cooperation partnership and supported by a clear governance system that is based on the knowledge management and good corporate governance which understood by all parties in the alliance with E-technology implementation.

   Naicker & Saungweme (2009) showed that the strategic alliance is very important because it encourages the operational resilience of SMEs in the long term morover by using E-technolgy. Some important issue is related to the relationship that can be managed, especially in building collaborative relationships involving trust and commitment. According to Naicker & Saungweme (2009) there are four kinds of aspects of the strategic alliance governance, namely internal and external competition, market entry, speed of information, and customer requirements that make SMEs should be able to cope with the problem of efficient alliance.

   By expanding the insight from Bretherton (2001) & Drucker (1996), Naicker & Saungweme (2009) showed that the strategic alliance would bring market balance between SMEs and consumers. In addition, the alliance can be implemented in a variety of forms ranging from the hotel business, leisure, construction and retail business (Naicker & Saungweme, 2009). From the analytical perspective, it appears that they attempted to show the basic requirement for businesses and partnering firms in the alliance is corporate governance. Therefore, it is important to test how strategic alliance relationship is formed by the presence of four main aspects, namely: pre-alliance planning, governance structure and management, institutional support, and communication protocols (Naicker & Saungweme (2009).

   With the four aspects, Naicker & Saungweme (2009) showed that alliance SMEs can bring convenience to its members, especially in dealing with business disputes and found faster dispute resolution mechanism and benefit to SMEs and customers confidence. Thus, Naicker & Saungweme (2009) concluded that the strategic alliance can produce a wider accessibility, effectiveness cost, and timeliness in forming SMEs knowledge alliances.

Thus it appears that the strategic alliance is part of the management strategy and could eventually be developed into a knowledge management that is based on the alliance governance.

As a form of collective action, it often raises questions about how each SME make adjustment and alliance and how adsorptive capacity impact on the alliance. Judge, et al (2002) showed how the people who are involved in a relationship will feel satisfaction in doing the emotional adjustment of cooperation and collaboration that they can run smoothly. Here, following Judge, et al (2002) when there is an emotional side that is not met, and then there is the possibility of an alliance relationship of knowledge can be abandoned. This means that an alliance of knowledge must be based on a satisfaction achievement or the alliance will be broken. To anticipate this, the parties need immediate updates (renew) the alliance (Judge et al, 2002). Thus, it appears that the renewed interest in the relationship can be formed by fulfilled emotional conditions, especially from their personality in forming the alliance relationship (Judge, et al (2002).

Here we can observe the Judge et al's (2002) idea that the relationship permanence of SMEs knowledge alliance can be dispositional for members who do not obtain satisfaction and benefit. Similarly, for members who are not able to capture the overall framework of the partnership structure, they tend to feel cheated, marginalized and out of the alliance itself. For that, it is very interesting to study from the context of the structure and properties of the SMEs actor personality. Judge, et al (2002) showed that when the personality reckoned it seems the assimilation and integration of knowledge will be faster than without taking the two concepts into account. In short, personality can establish job satisfaction and ultimately support the sustainable knowledge alliance.

Goldberg, 1990 and Judge, et al (2002) proposed five-factor model of personality to measure culture and cooperation, especially cross-industry and business. The interesting thing in the five-factor model can explain about how culture influences people to come together and find solutions together. These numbers are very important in the formation of the knowledge alliance among SMEs. Judge, et al (2002) shows how this model can be associated with job satisfaction which ultimately determines how knowledge alliances will be formed.

7. RESEARCH METHODS

Every research study variables in the model mentioned above are then presented in the form of a questionnaire to each of the variables measured or identified based on the dimensions as listed in Table 2 below.

Table 2
Research Variables In This Study

Construct	*Items/ Scale*	*Reference*
Adsorptive capacity	1-5/ Likert	Lane & Lubatkin (1998)
		Nooteboom (2000)
Creativity development	1-5/ Likert	Chamorro-Pemuzic (2006)
	1-5/ Likert	Ott, et al (2010)
Participation intention	1-5/ Likert	Yan (2013)
Strategic alliance governance in E-Tech		Sun & Luo (2012)

Each variable is described as the following studies:

1. Absorptive capacity is measured by following Lane & Lubatkin (1998) and Nooteboom (2000) with dimensions of Interorganizational learning, R & D spending, knowledge formalization, centralization, compensation, and Research communities.

2. Creativity development is measured on two sides *e.g*. inward and outward. First, Chamorro-Pemuzic (2006) Elaboration, Flexibility, Openness, Conscientiousness for inward orientation; secondly, for outward orientation, Ott, et al (2010) explained creativity education and creativity activities where each theory are complementary each other.
3. Participation intention was measured using a questionnaire by Kishore, et al (2012) and Griffin & Svensen (1996). Griffin & Svensen (1996) showed that the factors affecting someone to have participation intention and membership participation are formed by the Utilities theory and social learning theory where the influence of others is regarded as a major determinant toward the alliances formation.
4. Griffin & Svensen (1996) states that perceived intermentality or perceived effectiveness of alliances and alliance affectivity is a key attitudinal sympathy construct that encourages people to decide to join. From the Griffin & Svensen's (1996) reasoning that people have higher instrumentality when they are experienced with extensive knowledge and can build a culture of high collectivism. The instrument has been widely used by them and has good condition for measuring the alliance and union which will be developed in this paper to explain the SMEs strategic alliances in E-Tech.

In the initial stages of the study, it carried out the questionnaire preparation based on all the research variables mentioned above. Questionnaires were distributed to 400 respondents and processed for the benefit of validity and reliability. The pre-test was conducted to know the construct validity with SPSS 18.0 for reliability testing. The next data collection is done by distributing questionnaires to SMEs actors who involved in SMEs knowledge alliance in Jakarta and West Java. Questionnaires were distributed by using simple random sampling method that is every element in the population possesses an equal opportunity to serve as research subjects (Lane & Lubatkin (1998) Data collection is done online and finally it collected 250 samples from various levels of positions of the alliance population.

All data collected in this study is then processed using method of Principal Component Analysis (PCA). The method was chosen since it involves the analysis of interdependencies among variables which basically tries to simplify the problem. It aims to facilitate the interpretation through the depiction of relationship patterns and data reduction. Factor analysis is a technique that aims to make it easier for further data processing using Structural Equation Modeling (SEM). After processing the data with PCA is complete, then the final data were processed with SEM statistical software. It is chosen because it can estimate a series of related relationships simultaneously, where other multivariate techniques are only able to examine single relationship alone.

8. OUTCOMES AND ANALYSIS

The Pre-test result showed that from overall 4 statements, the dimension of Absorptive capacity was proved valid. While Creativity development with two items was invalid, so the fourth item is not used in subsequent data collection phase. In Participation intention and SMEs atrategic alliances in E-Tech statements the variable indicated the overall result were valid. As for the participation intention variables showed high validity results, so the fourth statement is not used in the next stage of data collection. Strategic alliance governance by using E-Tech, it demonstrated high validity results with all valid items.

Data processing by using SEM showing path diagrams results summarized in Figure 1 below.

The model fitness is estimated with result from SEM and $\chi 2$ (chi-square). In addition to $\chi 2$, GOF value is also indicated by RMSEA, NFI, CFI, RMR, GFI and AGFI.

Variables of joining intention and intention participation in this study is a moderator variable. Allegedly organizational culture can impact when it is existed relationship among Adsorptive capacity, Creativity development, Participation intention with Strategic alliance governance by using E-Tech. from SEM analysis result, moderator variables cannot be seen from the research model so to measure the moderator variables is done by multiplying the two variables that moderated by the moderator variables, *e.g*., participation intention.

Table 3
GOF Value

GOF	*Standard Value*	*Value*	*P-Value*	*Description*
$\chi 2$	P > 0,05	15,47	0,093	Fit
RMSEA	≤ 0,08	0,027	–	Fit
NFI	> 0,9	0,91	–	Fit
CFI	> 0,9	0,94	–	Fit
RMR	< 0,05	0,032	–	Fit
GFI	> 0,9	0,916	–	Fit
AGFI	> 0,9	0,95	–	Fit

Based on the GOF value, it found that the research model had been fit with the data. Furthermore, to see the significance level or correlation among the variables, we can determine through *t*-value in Figure 3 below.

Through the loading factor between Absorptive capacity and knowledge alliance, it known that the relationship is positive, amounting to 0.15 so that the first hypothesis (H_1) stated that absorptive capacity affected the SMEs knowledge alliance is proved.

The factor loading value between creativity and knowledge development alliance of 0.24 and a positive note, so the second hypothesis (H_2), creativity development which affected development efforts in knowledge alliance SME knowledge is also proved.

Factor loading value between citizenship and knowledge alliance is 0.08 with positive direction, so that the second hypothesis (H_2), namely participation intention affected SMEs knowledge alliance is proved. In addition, the analysis result showed that factor loading value between intention and knowledge joining alliance is 0.15 with positive direction, so the third hypothesis (H_3), namely, knowledge alliance affected SMEs knowledge alliance by using E-Tech is proved.

The analysis result for the tested hypothesis (H_4) is done. Factor loading value between participation and knowledge alliance known intention is 0.26 with positive direction, so that the fourth hypothesis, namely participation intention affected SME knowledge alliance is proved. In addition, the factor loading value between knowledge alliance and strategic alliance governance is 0.42 with positive direction, so the fourth hypothesis (H4), namely participation intention influential knowledge alliance in SME knowledge alliance proved.

The values above showed that all hypotheses have different factor loadings which needed for the sustainability of SMEs knowledge alliances especially for the adsorptive capacity and Creativity development which still low. Referring to Hofstede's (1983) study on the characteristics of SMEs in general to the dimension of adsorptive capacity and creativity development have higher affinity on SMEs knowledge alliance sustainability. This means that in general, SMEs in Jakarta and West Java needs to develop better creativity efforts to organize knowledge alliance. If both factors are combined, then there is a match between joining intention and citizenship which impact on governance development and sustainability of the SMEs alliance.

9. CONCLUSION

Referring to the results of study conducted in Jakarta and West Java, there are some conclusions which important for the sustainable SMEs alliance:

1. Absorptive capacity has positive influence on Strategic Alliance governance.
2. Creativity development has a positive influence on the governance of Strategic Alliance experienced by alliance members in Jakarta and West Java area.

3. Participation intention have a positive influence on the governance of Strategic Alliance experienced by the alliance members in the observed sites.
4. Knowledge alliance as a moderator between absorptive capacity, participation intention has strengthened the creation of Strategic Alliance Governance among SMEs alliance in the region by using E-Tech.

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