

Rationale behind intra-organizational networks: An empirical test of current theories

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ABSTRACT: *Based on the six perspectives underlined intra-organizational network proposed by former research, this study tried to test each theory empirically using three stages of researches. First, we conduct qualitative meta-analysis to construct the framework. This step had successful in appointing transaction cost economies, resource based view perspective, strategic management, stakeholder perspective, learning perspective and institutional theory as potential basis for examining intra organizational network. Second, we use statistical tools to predict which perspective might have better explanation. After excluding those who share low reliability, we then test the model using multiple linear regressions. Having diverse respondents from emerging market, the study found that stakeholder perspective is the most explainable rationale for intra-organizational network. This might imply the importance of positioning stakeholder as vital partner for collaboration while indicating the urgency for network strategic management concept. Network management is needed to ensure that the needs of the stakeholders are already fulfil by the ultimate mission shared on intra organizational alliances. Therefore scholars must consider the vital role of the focal company as the leader who sets the rule for the entire network.*

Keywords: *intra organization; transaction cost; resource based view; strategic management; stakeholder theory; learning management; institutional theory; network strategy*

For the past twenty years, intra organizational collaboration has been one of the top interesting topics on strategic literature (Barringer and Harrison, 2000). Many researches had examined motives behind the decision, the role of each party, relational linkage to competitive advantage and some causal factors which lead to diminishing of network (Prasetyo & Hu, 2016; Eva & Maria, 2011; Skerlavaj & Dimovski, 2007; Reagans & McEvily, 2003; Simonin, 1997; Snow et al., 1992). Some of them succeeded in providing new theoretical concepts, but others failed in testing the model empirically. Most of former research found that the success rate for alliance was only 48.2% (Shelby & Morgan, 2001). Therefore some scholar concluded that the study is still inclusive.

One seminal article was done by Barringer and Harrison (2000). Using qualitative meta-analysis by carefully examining several studies, the paper found categorization for all theory underpinned inter organizational network, ranging from transaction costs economies, resource dependence, strategic choice, stakeholder theory, learning theory and institutional theory. Though each theory provides their strength reasoning framework, but none has claimed which one is the most dominant explanatory. Meanwhile, practical point of view need better explanation so that they might underlie the decision upon firmly-stated considerations.

Our paper tried to solve the problems by testing each theory empirically using diverse respondents from emerging market. The purpose of having this sample is to find clearer evidence concerning how developing-player response to business collaboration. The rest of the paper will be divided as follows: next section will describe each theory proposed to be tested. Section three will explained research method used in the study. The fourth section provides finding, discussion and direction for future research. We enclosed the paper with conclusion.

LITERATURE REVIEW

Transaction cost economies

The first common reason to have collaborations is because company needs to operate productively – we tend to use the terminology of productivity to shows efficient and effective term – upon limited resources (Prasetyo & Hu, 2016). For example, to get more discounts from the supplier, long-term contractual agreement would be needed. This is the first step of collaboration. As the friendship goes on, communication between the twos will lead to mutual understanding, trust building and also loyalty.

Using theory of friendship proposed by Rawlins (1992), similarity of interest would act as the best basis for long-

term relationships. One party might see the other as complementary partner to achieve the common goals which benefited the two. At the level of partnership-intimacy, every party shared their experience and expertise. Therefore this type of collaboration might help companies to gain better understanding for both current and potential market (Barringer & Harrison, 2000; Child & Faulkner, 1998; Williamson, 1991; Kogut, 1988).

Another explanation for collaboration is to provide opportunity to build specialization on one specific competence while letting others to serve on the things that we are not good at. Moreover, the specialization will resulted on lower operational cost, transaction cost or even production cost.

In the case of entering the new market, some alliances with local players may provide advanced knowledge about the current situation and how to deal with some possible circumstance. For some cases, collaboration is not happened on voluntary basis, since the government needs to manage the domestic economic performance. But this still acknowledged as the best way to deal with market hierarchical problems (Koh & Venkatraman, 1991).

Resource based view perspective

The second logic-reasoning can be derived from resource based view perspective. Barney (1991) explained that every company must be able to operate on a specific limited resource, while at the same time they need to deal with the pressure from industry which labeled efficiency. This might open new opportunity to build common bargaining power among players in order to have better dealing scheme with supplier, distributor, government or even customer. Trade alliances, or other economic-based union and organization would be the best example for the perspective.

Using South East Asia (ASEAN) economy community as reflections, alliances between nations provide means to exchange resources in order to fulfill the needs. Surplus-resource country may exchange the goods to another party which in return can provide the country's need. Furthermore, alliance from one region is usable to deal on regional term. This is why some scholar concluded that collaboration may produce better control over limited resources (Jang, 2013; Todeva & Knoke, 2005; Thorelli, 1986).

Another advantage from sharing resources is concerning efficiency and economies of scale. A company with abundant resources is facing low economies of scale, especially if they counted as new comer. Through business alliances, they can utilize their asset at fully capacity and thus, creating more profits.

One of the assets that eventually underperformance is mostly found on research and development facilities, since it require high investment funds. Therefore many companies failed to excludes from negative contribution from their new product. But now, thanks to the sharing concepts, they can create some business alliance that provides rooms for facility sharing. Company such as Pharmacy and bio technology was found to be the most potential player to use this platform. Facility as well as knowledge sharing might lead the company into unique capabilities for future sustainable competitive advantage (Harbison & Pekar, 1998).

Strategic management perspective

The third common reasons for intra organizational network can be derived from strategic management perspective. The need to have better relations with all stakeholders including competitor is growing tremendously for the couple of years. Many scholar had showed evidence that stand-alone player might not be successful over longer term (Barringer & Harrison, 2000; Holm et al., 1999; Shan, 1990). This is why business alliance provides better thoughts of implementing competitive strategy.

Having proper collaboration with the incumbent may result on neutralizing each other's move. On the internalization context, alliances with company from the host country might bring lot of advantages since foreign player can use local image to shorten their adaptation phase. This paradigm highlighted the importance to have appropriate network strategic management perspective. Putting Ansoff (1965) concept of product differentiation on collaboration, one potential alliance can be identified when company decided to enter the new market neither with current nor new product. Difficulties in dealing with new market usually require lots of resources, thereby if the company faced with limited resources, then alliances might be seen as human capital sharing mechanism. On one side, firm's strategy can be implemented as scheduled, on the other side, one might benefited other player.

Unconsciously, success experience from one phase would encourage both parties to prolong the collaboration. Therefore if the first alliance was underperformed by voluntarily basis, then most probably, the next stage tend to use the formal legal-contract which agreed by all parties. In fact, managing alliances is not easy. Each party must devoted themselves to develop the network while see the collaboration as their own. This is why Kale and Singh (2009) stressed on the pivotal concepts that every party needs to transfer their capabilities which later be used by another member to enhance the internal strength, thus creating win-win solutions for all members.

Stakeholder perspective

The role of stakeholder over legitimation for the existence of the company is very important, since they will affect by the decision both direct and indirectly. One possible explanation for this is by addressing the concept of corporate environmentalism (Prasetyo et al., 2016; Banerjee, 2001). Growing social issue upon environment and eco-friendly business has created another obstacle for the company. Trough developmental process of society awareness and knowledge, stakeholder tends to set up the rule of the game. This will be the origin for collaboration. The needs to maintain future sustainability, a company must have good collaboration not only with the incumbents but also to the customer, local community as well as the government agency in order to achieve the common goals (Barringer & Harrison, 2000; Hesterly & Borgatti, 1997). Drawing back from previous concepts, by considering that business network might present negative effects such as coalition therefore positioning stakeholder as central point within network would diminished any improper behavior among members.

Stakeholder's engagement also shared another benefit which relates to minimizing environmental uncertainty (Bal et al., 2013). As representation by the engagement, having collaboration with stakeholder may incurred trust, respect and sense of belonging. Therefore once the engagement was successfully build up then the firm may lowered their uncertainty.

Learning perspective

Another potential benefit from intra-organizational network is regarding learning from each other capabilities and experience. Compare to the other perspectives, most scholars concluded that learning must be the very basis reason for living in one specific network (Prasetyo & Hu, 2016; Lazer & Friedman, 2007; Madhavan et al., 1998). The idea lies behind the conclusion is that innovation era tend to put every company into knowledge competition. Only those who own the specific information at the first stage would be the one who will survive, since they acquire the first opportunity to react faster than the other players.

The paradigm was supported by some empirical findings (Hana, 2013, Molina-Morales et al., 2011). Knowledge management identified as collaborative process on twofold sides: internal and externally. On internal process, knowledge acquisition, process, storing and retrieving was done by organizational member from all managerial level. Eventually, to have accurate and productive knowledge, a company must enhance their absorption power from outside. This is why they need to operate within one specific network. Proper network structure may provide adequate information which lead to competitive advantage.

Recalling the concept of intra-organizational learning structure proposed by Prasetyo (2016), mutual relations happened in the network can positively increase the ability of each member to gain higher position within industry. This might reflect as positive outcomes from innovation-collaboration process with the network.

Institutional theory

Originally, institutional theory had stressed on the potential social cohesion in examining organization. Though the paradigm was successfully built from sociological perspective, but most studies showed how well the concept can be implemented on business sector (Crubellate, 2007).

Having considered the pure reason of the existence from business entity, company must collaborate with other institution named community. This is because every business operation has direct impact to the society. For example, mining company tend to underlie its basic operation on natural resource exploration. Retrieving the facts that the local society is somewhat counted as the owner of the resources, then the company shared the responsibility to give return to the community on both financial and non-financial matters. As long as they can play the role properly, then the local society might appreciate the existence of the company.

METHOD

Having considered that the main goal of the paper is to identify which perspective would be best explanation for the intra-organizational network therefore we use two combination of research method. For the first phase, qualitative meta-analysis was conducted through several published articles from 1989 to early 2016. Our aim in using longitudinal study is to identify the trend which had been developed by scholars in advancing the knowledge of intra-organizational phenomenon.

After carefully selected the potential papers by its accuracy, comprehensive-logical framework and numbers of citation, we decided to choose 28 papers which are Prasetyo and Hu (2016), Messerschmidt and Hinz (2012), Eckenhofer (2011), Collinson (2006), Jonson and Kalling (2006), Van de Bunt et al., (2005), Tsai (2001), Barringer and Harrison (2000), Child and Faulkner (1998), Harbison and Pekar (1998), Kumar and Nti (1998), Dickson and Weaver (1997), Deeds and Hill (1996), Harrison and St John (1996), Fisher (1996), Powell (1996), Ring and Van de Ven (1994), Barney (1995, 1991), Koh and Venkatraman (1991), Williamson (1991), Oliver (1990), Osborn and Baughn (1990), Shan (1990), Hennart (1988), Jarillo (1988), Kogut (1988), and Thorelli (1986). The result of this stage then was used to construct the questionnaire which will be tested using 7

Likert-scale with abbreviation 1 as strongly disagree and 7 as strongly agree.

Insert Table 1 about here

The second stage was to test the questionnaire empirically. We selected 10 middle-management professional from Singapore (2 participants), Malaysia (2 participants) and Indonesia (6 participants) to do the pilot study. After three times of revision which focused to have common understanding upon each question, we concluded that our proposed construct was ready to be tested since it signaled high validity.

We then used email-based distribution for the questionnaire. By considering the importance of objectivity of the study, we decided to have response from three countries which acknowledged as emerging market: Singapore, Malaysia and Indonesia. One consideration for choosing those three countries was regarding the use of English as means of business communication. The total targeted respondent was 450 with proportional distribution among countries based on percentage of number of company. All targeted respondent should encompass the first criteria which stated that they work on the company with intra-organizational network experience.

After distributing the questionnaire from 2nd of March to 2nd of April 2016, there were 175 complete questionnaires (with response rate up to 39%) that can be tested further. The distribution of the questionnaire received was 31% from Singapore, 20% from Malaysia and 49% from Indonesia. Moreover, the profile of the respondent can be seen on table 2.

Insert Table 2 about here

From the profile we can see that most respondent came from middle management level within company which has upper-stream intra-organizational network. This implied that the company relied on intra-organization network to maintain the operation within turbulence economy. With the experience working on specific network ranging from 5 to 10 years, complement by educational background from graduate level and above, we believe that their opinion might represent the best linkage between conceptual framework and practical basis, thus providing accurate insight to the study.

Having checked the validity and reliability of the questionnaire, we then use the chi-square criteria to determine the most explainable perspective in dealing with the true rationale for intra-organizational phenomenon. The use of this method referred to Diener-West (2008) which explained that method can be used to

identify the association between variables. Therefore we proposed the hypothesis for each perspective as follows: Hypothesis 1: The proposed rationale of intra-organizational network: (a) transaction cost perspective, (b) resource based perspective, (c) strategic management perspective, (d) stakeholder theory, (e) learning perspective, (f) institutional theory, and competitive advantage is not independent

Meanwhile, to identify the contribution of each rationale to the outcome of intra-organizational network which is competitive advantage, we use the following additional statement referring to Gold et al., (2001) – see table 3 for more details. For variables which encompass the reliability test, we deployed multiple linear regressions to have their contribution to dependent variable.

Insert Table 3 about here

Accommodating the role of dependent variable as impacting factor, we then proposed the second hypothesis as follows:

Hypothesis 2: The dominant perspective is positively related to competitive advantage as the ultimate outcome from intra-organizational network

DISCUSSION

Statistical finding for reliability and validity test is shown on table 4. From the six proposed theory, we found that resource based and institutional theory failed to have reliability more than 0.5, therefore we excluded the twos for further test. One possible reason could be related to minimum research work on related-topic which examined the correlation, thus future study must deal with this problem by giving more explanations to the perspective.

From table 4, we can see that the highest reliability count for stakeholder theory. This might imply the importance of using intra-organizational network to have close relationship with every economic-agent from stakeholder. By having this kind of intimacy, stakeholder will give positive response for the existence of the company. This result seems to confirm our finding on table 5.

After excluding resource based and institutional theory, we deployed the multiple linear regressions as seen on table 5 (for correlation) and table 6 for regression coefficient. By taking correlation as consideration, stakeholder perspective found to have greater relations with competitive advantage as an outcome from intra-organizational network. Meanwhile, the highest correlation to competitive advantage happened for strategic management perspective.

Insert Table 4 & 5 about here

The regression result can be seen on table 6. The entire model can explain the competitive advantage as the ultimate goal of intra-organizational network for 18.3% ($R^2 = 18.3\%$, $p < 0.05$). This might implied that 81.7% could be explained by variables not mentioned in the study.

For the partial analysis, all four independent variables are positively significant: transaction cost perspective ($t=1.747$, $p < 0.05$, $x^2=56.02$), strategic management perspective ($t=3.198$, $p < 0.05$, $x^2=68.72$), stakeholder perspective ($t=2.106$, $p < 0.05$, $x^2=84.02$), while learning perspective ($t=1.379$, $p < 0.05$, $x^2=51.12$). Having examining the Chi-square results carefully, we found that all four independent variables are statistically significant, means that we support hypothesis 1 and found relationship between transaction cost perspective, strategic management, stakeholder theory and learning perspective on competitive advantage as the ultimate outcome from intra-organizational network. The highest Chi-square found to be stakeholder theory. This implied that the most explainable rationale behind intra-organizational network was stakeholder's perspective.

Insert Table 6 about here

Our finding supported Prasetyo et al., (2016), Barringer and Harrison (2000), Dickson and Weaver (1997), Harrison and St. John (1996) which implied that the logic reason for intra-organizational network comes from the needs to have intimacy with environment element such as supplier, distributor, government, customer, social interest group and also competitor. By joining specific network, organization might experience some advantages such as increasing the influential power to the other party, having proper insight to provide better coordination in achieving the common goals while at the same time reducing uncertainty from externalities and agency conflict-from internalities.

The study confirmed the urgent needs for every organization to have collaboration upon network, thus eliminating one fine concept of stand-alone company. This should be the strength fundamental insight for further analysis regarding relationship marketing, customer relations concept and also intra-network mechanism. By having proper strategy in maintaining all relations, business organization will find more opportunities to strengthen its practical strategy, knowledge management system and improving productivity through lower production and transaction cost.

FUTURE AGENDA

Before further examining upon the relationships to competitive advantage, future research must be able to provide clear insight to the use of resource-based perspective and institutional theory at the context of intra organizational network. This agenda will provide stronger affect to theoretical construct of intra organizational network.

As stakeholder theory act as the best explanatory perspective, we found another important concept which is network strategic management. Retrieving from network-analysis field of study, most research focused on the advantage, consequences of living within network and the key performance that should be used in evaluating productivity without fully considered the importance of having the best method in managing network.

This study signaled the pivotal roles of the focal company in preserving the network. As the leader for the entire network, the focal firm sets up the rules of the game while sharing some targeted dreams which should be achieved through dynamic collaborations.

CONCLUSION

From six potential rationales for intra-organizational network proposed by several former researches, we found that only four of them encompass the statistical procedures: transaction cost perspective, strategic management, stakeholder theory and learning perspective. The study highlighted the importance of stakeholder perspective as dominant rational for intra-organizational network. This implied that the company must give more attention to expand the role of the network to serve the stakeholder better.

Our finding contributed a lot to the current knowledge regarding organization behavior. The study indicated strong needs for network strategic management concepts to be complementary concepts for business policy. The reason is that network should be nurtured by all members in order to utilize the collaboration unto maximum level. For the practical implication, we highlighted the importance of measuring the effectiveness of network collaboration. Business alliance is more than contractual agreement. The key performance indicator for alliance should be measurable so that every member can have objective evaluation.

Our study shared limitation. Though we tried to minimize the potential for variance bias by distributing questionnaire for dependent variable using different respondent, but based on its low R^2 , we still indicate the

probability of having more errors. Future research must deal with this issue.

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Appendix

Table 1
Construct of the questionnaire

Code	Statement	Sources
	Collaboration allows my organization to;	
TC1	Learn from other player's experience and expertise	Child and Faulkner, 1998; Kogut, 1988
TC2	Minimize production cost	Barringer and Harrison, 2000
TC3	Minimize transaction cost	Williamson, 1991; Barringer and Harrison, 2000
TC4	Specialize on one core competence while giving up non-core competence activity to the expert within networks	Barringer and Harrison, 2000
TC5	Avoid market and organizational hierarchy problems	Koh and Venkatraman, 1991, Van de Bunt, 2005
TC6	Entering new market	Hennart, 1988; Jarillo, 1988; Osborn and Baughn, 1990
TC7	Avoid opportunism behavior among players	Jarillo, 1998; Ring and Van de Ven, 1994
RD1	Make exchanges in order to obtain resources	Barney, 1991
RD2	Acquire control over limited resource	Thorelli, 1986; Messerschmidt and Hinz, 2012
RD3	Take advantage of complementary asset such as relevant industry information, legal and technical advice	Fisher, 1996
RD4	Cutting-edge technology for R&D purposes	Barney, 1991, 1995; Collinson, 2006
RD5	Built imitable resources	Harbison and Pekar, 1998
SC1	Neutralizing the moves of other players	Shan, 1990; Barringer and Harrison, 2000
SC2	Share similar strategic perspective with members within networks	Harbison and Pekar, 1998; Eckenhofer, 2011
SC3	Maximize the ability to offer attractive products or services	Koh and Venkatraman, 1991
ST1	Increase the influential power to governing bodies domestically or internationally	Barringer and Harrison, 2000
ST2	Better coordinating stakeholder's interest	Harrison and St John, 1996;
ST3	Reduce environmental uncertainty	Prasetyo et al., 2016; Dickson and Weaver, 1997
ST3	Minimize agency conflict	Barringer and Harrison, 2000

LT1	Learning superior knowledge from others	Prasetyo and Hu, 2016; Tsai, 2001
LT2	Acquire new technical skills and technological capabilities	Prasetyo and Hu, 2016
LT3	Join better learning environment which lead to innovative power	Prasetyo and Hu, 2016
LT4	Improve the numbers of new product development	Deeds and Hill, 1996
LT5	Increase knowledge-absorptive capacity	Kumar and Nti, 1998
IT1	Improve legitimacy and conform to prevailing social norms	Oliver, 1990
IT2	Be more acceptable by the stakeholder	Powell et al., 1996; Jonsson and Kalling, 2006

Table 2

Respondent profile

Indicators	%
Managerial level:	
Top management	8%
Middle management	64%
Lower management	24%
Not mentioned	4%
Type of intra-organizational network:	
Upper stream	57%
Down stream	24%
Not mentioned	19%
Duration of the network:	
> 10 years	26%
5 to 10 years	55%
< 5 years	19%
Working experience within network:	
> 10 years	18%
5 to 10 years	58%

< 5 years	25%
Educational background:	
Post graduate program	13%
Graduate program	82%
Bachelor program	4%
Not mentioned	1%

Source: compilation data from statistical process

Table 3

Additional statement for competitive advantage as dependent variable

	By having intra-organizational network, my organizations are able to:
CA1	Create better efficiency in terms of new product development
CA2	Increase productivity in terms of numbers of product differentiation
CA 3	Prolong sustainability for the company

Table 4

Reliability and validity test

Transaction cost perspective		PCA	Alpha
	TC2	0.829	0.875
	TC3	0.899	
	TC5	0.232	
	TC6	0.801	
	TC7	0.706	

Resource based	Excluded from further test since the reliability < 0.5		
Strategic management		PCA	Alpha
	SC1	0.836	0.722
	SC3	0.862	
	* dropped SC2 since the PCA < 0.7		
Stakeholder theory		PCA	Alpha
	ST1	0.944	0.961
	ST2	0.953	
	ST3	0.942	
	ST4	0.953	
Learning perspective		PCA	Alpha
	LT2	0.846	0.754
	LT3	0.760	
	LT4	0.701	
	LT5	0.712	
	* dropped LT1 since the PCA < 0.7		
Institutional theory	Excluded from further test since the reliability < 0.5		

Table 5
Correlation

	Comp adv	Transaction cost pers.	Strat mgt pers.	Stakeholder theory	Learning pers.
Comp adv					

Transaction cost pers.	0.233				
Strat mgt pers.	0.378	0.607			
Stakeholder theory	0.361	0.707	0.644		
Learning pers.	0.290	0.638	0.470	0.651	

Table 6
Regression result

Variable	Coefficient	t	Goodness-of-fit test		
			Chi-square	df	Sig
(Constant)	2.734	6.180			
TC	0.199*	1.747	56.02	2	0.00
SC	0.293*	3.198	68.72	2	0.00
ST	0.236*	2.106	84.02	2	0.00
LT	0.126*	1.379	51.12	2	0.00

Dependent variable: Competitive advantage, *p<0.05