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Inter-organization communication management between organizations in a subsidized fertilizer market in Malaysia

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Abstract

Inter-Organization Communication (IOC) is one of the used communication disciplines to communicate between two or more organizations. It is proven vital to sustain relationship between organizations particularly between consumers and suppliers. However, there is still lack of empirical research and findings in the subsidized market. Malaysian paddy farmers have been receiving fertilizers subsidy since 1971 making the environment of subsidized market stand more than 40 years long. The relation between Area Farmer Organization known as Pertubuhan Peladang Kawasan (PPK) and the subsidized fertilizer supplier has now extended to 30 years. PPKs are responsible on the procurement process of the subsidized fertilizer from the supplier. This paper presents a preliminary findings based on IOC theories of communication management between PPKs and the supplier based on the perspectives of the PPK. It will critically discuss the elements of IOC and communication commitments based on the perspectives of PPKs. Thirteen PPKs from Kemubu Agriculture Development Authority (KADA) granary area were involved in this study. The results indicate organization communication willingness, behaviour, and quality as communication commitment of the PPKs.

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Keywords: IOC; communication; subsidy; consumer-supplier relation; fertilizer

1. Introduction

Numerous studies have proven that communication is a powerful tool in strengthening the relationship between consumers and suppliers. Communications between organizations is generally referred to as inter-organizational communication (IOC), is essentially an important factor in providing support to strengthen the relationship between two organizations (Paulraj, 2008). IOC stresses on information-sharing between the two parties which is beneficial for improvement in the supplier-consumer relationship (Mohr & Navin, 1990; Ronchi, 2003). Paulraj's argument is consistent with findings by different scholars in management and marketing (e.g., Mohr & Nevin, 1990; Mohr et al., 1996; Schultz & Evans, 2002) emphasizing on the important role of communication as vital in fostering the relationship between organizations involved. A good relationship between two parties ensures stability and advancement in terms of product development, cost reduction and delivery process to be timely and precise (Ronchi, 2003), which is especially essential in a supplier-consumer relationship.

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In the context of Malaysian paddy industry, reliance on fertilizer usage to increase yield requires a good relationship fostered between the farmers as consumers, generally represented by farmer organizations, and manufacturers or retailers as suppliers (Zainal, 2008). The relationship does not merely involve purchasing and selling products as it also requires professional advice to the farmers. For instance, in the case of introductions to new technology or products would require feedback from the consumers. The government's effort to strengthen the paddy and rice industry continues to be one of the main agenda. The Ninth Malaysia Plan saw 70% of RM 2.5 billion, and later RM 3 million during the mid-review, allocated to national food security. The paddy sector in Malaysia is a heavily subsidized industry which the summary of the input and fertilizer subsidies is as follows:

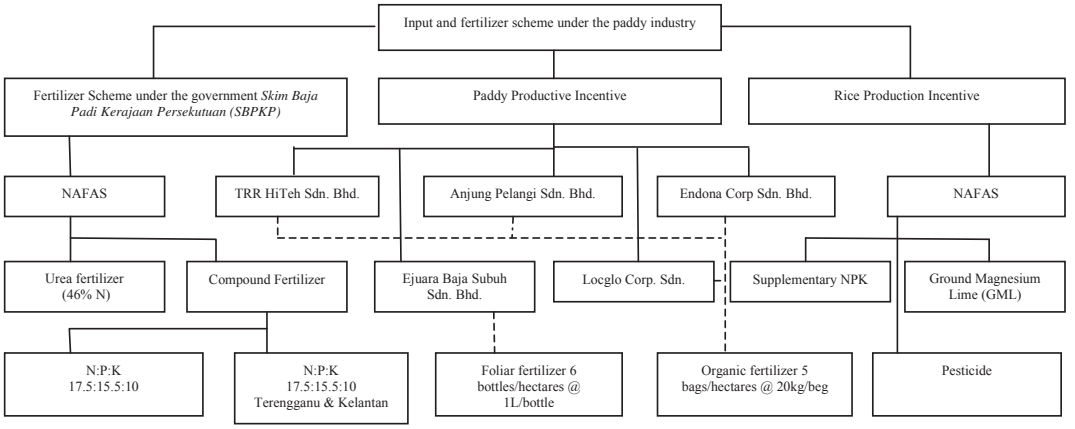

Figure 1: Input and fertilizer subsidy in paddy agriculture
Source: Berita Transformasi Pertanian: Lahir Peladang Progresif, 2012

Despite the rigorous efforts and initiatives by the Government, Fahmi *et al.* (2013) mentioned that Malaysia's rice production is considered inefficient in terms of cost and production. It has also been noted that there are also issues and challenges specifically on the supply of fertilizer that has an impact on the yield of paddy. Some of the challenges in fertilizer supply revolve around the following issues (reported in Berita Transformasi Pertanian: Lahir Peladang Progresif, 2012): Ensuring that fertilizer is supplied only to eligible farmers, more frequent visits to meet the farmers for monitoring, timely distribution of fertilizer to farmers. Malaysian government spent about 30 million USD annually on chemical fertilizer. As illustrated in Figure 1, National Farmer Association (NAFAS) has been the sole distributor of the subsidized fertilizer to the paddy farmers nationwide (Ammar *et al*, 2012).

There is hence a need to ensure that the subsidized fertilizer is supplied to and received only by eligible farmers which require efficient communication management, specifically between the suppliers and consumers. The selection of eligible farmers is commonly done by the state Farmers Organization Authority Malaysia *(Lembaga Pertubuhan Peladang)*/ Area Farmers Organization *(Pertubuhan Peladang Kawasan).* More frequent field visit is crucial for acceptance verification and monitoring. Shahrina *et al.* (2013) on a similar ground reported that farmers are generally hindered from receiving the latest information which requires more frequent site visits by the relevant bodies including the suppliers.

The late supply of fertilizer could result in farmers' decision to sell off the subsidized fertilizer which could result in a loss to the government. Local newspapers have reported a number of late delivery cases of fertilizer to farmers and had caused a problem (see Zainal, 2008). In ensuring a timely delivery, the Ministry of Agriculture has recently issued a warning that in the cases where the products are not delivered within a specific period of time (Noh, 2012). Otieno *et al.* (2012) asserts that failure in delivering on time could be due to several causes which one of them may be lack of information-sharing. Harvesting information is done by providing good communication process. Lack of communication or bad communication process contributes to poor information sharing between two parties (Paulraj, 2008; Craig, 1999). Hence efficient communications management between the suppliers and the consumers is essential to help address the issues mentioned above. In the context of this study the suppliers are referred to MNF (Malaysian NPK Fertilizer) Sdn Bhd who responsible on supplying subsidized chemical fertilizer to the paddy farmers. The consumers are the PPKs that consist of farmers as representatives. Hence, the inter-organizational communication in this study is the communication between MNF Sdn Bhd as supplier and PPKs as consumers.

2. Literature review

1.1 Inter-organizational Communication (IOC)

Communication entails information sharing between two parties which could be interpersonal, intra-organization, inter-organizations or a public communication. Scholars have done numerous studies in the different disciplines of communication.

Craig (1999) categorized the disciplines of communication into seven groups where it has become one of the indicators to sort the disciplines of communication studies. In the context of Inter Organizational Communication (IOC), the role of communication theory in this area is related to interaction between a firm and another firm. Mohr and Nevin (1990) described IOC as "glue that holds together a channel of distribution" (pp 36). This current section will highlight the importance of communication between firms, how theories of IOC had evolved and empirical findings from previous studies.

IOC first appeared as a communication in channel functioning in Marketing Communication literature. Though the marketing literature has acknowledged the fact that communication plays a vital role in channel functioning (Grabner & Rosenberg 1969; Stern & El-Ansary 1988), it offers no integrated theory for channel communication. Channel communication can be recognized as communication that takes place in a channel of network, represented by a number of organizations in the channel itself. Communications that happen can be recognized as Inter Organizational Communication (IOC). Mohr and Nevin (1990) agree that communication has been linked in a conceptual way to both structural issues (e.g., the pattern of exchange relationships) and also behavioral issues (e.g., power and climate) in the channel. However in this discipline, empirical research on channel communication is sparse. The role of channel communication as a moderator between structural/behavioral conditions of organizations and channel outcomes (e.g., channel member coordination, satisfaction, commitment levels, and performance) has been largely ignored by marketing scholars (Mohr and Nevin, 1990). For example, the moderating role of channel communication has not been sufficiently acknowledged by scholars in the realm of marketing communication when linking the following channel conditions to channel outcomes: Tighter contractual relationships to higher performance (Reve & Stern 1986). The use of power sources to dealer satisfaction and performance (Gaski & Nevin 1985); Climate to satisfaction levels (Schul, Little, & Pride 1985).

The three relational conditions presented by the researchers are important as these linkages between channel conditions and channel outcomes occur. Furthermore it has been empirically proven that communication is the tool which channel structure is implemented (Brown 1981), climate is expressed (Anderson, Lodish, & Weitz 1987), and power is exercised (Gaski 1984). The development of theories on IOC is contributed not only by communication and organizational theories but also literature in channel relationship (Mohr & Navin, 1990). The two scholars developed a theory in which the level of channel outcomes obtained is contingent upon interaction between communication strategy and given channel conditions. It is further explained in channel literature that channel outcomes may consist of two steps, first qualitative followed by a quantitative step (John, Ruekert, Churchill 1983; Robicheaux & El Ansary 1976, Ruekert & Churchill, 1984). The first step consists of impact of channel conditions on qualitative outcomes such as satisfaction, whereas the second step links the qualitative outcomes to quantitative outcomes such as performance. Therefore they conclude that the impact of the interaction between channel and also communication strategy might be a two-step process (Mohr & Navin, 1990).

3. Research framework

The past studies by different scholars had determined facets of communication for inter organizational communications (IOC). They had come to an agreement that communication willingness, communication frequency, knowledge and support of partners are essential elements for IOC (Mohr & Nevin, 1990; Mohr & Sohi, 1995; Peng et al, 2010). Mohr and Nevin (1990) who first determined the facets of communication before Peng *et. al.* (2010) found the inter-relations between those facets. Both of their findings showed that communication willingness is the most important element as it represents the head start of the whole communication process (Mohr & Nevin, 1990; Peng *et. al.*, 2010). Communication commitment becomes the indicator of success in the communication process. In between the relation, communication behavior and communication quality could be the mediating factors as these two facets will enhance the communication process. Thus it increases the communication commitment by the organizations namely suppliers, consumers or both them. Therefore the study's research framework is as below.

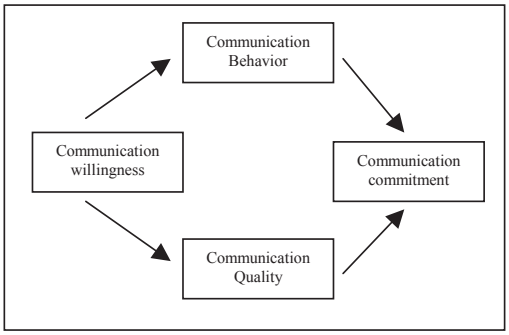

Figure 2: Research conceptual framework

4. Method

The study was conducted using questionnaire as instruments where respondents were required to fill a survey form. The items were measured by using 'Likert Scale' method as it is suggested in order to evaluate the range of sample response to a statements or series of statements (Croasmun & Ostrum, 2011). The scale used was one (1) to five (5) where 1 is strongly disagree while 5 is strongly agree. A 5 scale selection on an instruments or statements is commonly used by researchers throughout their disciplines (Croasmun & Ostrum, 2011).

The study employed a convenient sampling method as it is a common practice that a preliminary study of this kind may adopt a minimal sample method (Croasmun & Ostrum, 2011). Thirty (30) respondents were selected from the total population. The scientific priority of any kind of sample method adopted in any social science research is justified by the level which the method can prove the representativeness of the larger population (Croasmun & Ostrum, 2011). Abiding to this, the sample selections were strictly based on the discussion with officers at the Kemubu Agriculture Development Agency (KADA). Respondents were selected among officers from PPKs under KADA supervision who are in frequent contact with fertiliser supplier. The officers involved include:

i. General Manager of the said PPK.
ii. Skim Baja Padi Kerajaan Persekutuan Officers - Officers who manage subsidized fertilizer from the federal government.
iii. Store Manager.

The selection of these individuals are based on their roles in the said organizations which require them frequent meeting with the suppliers. According to Leornard-Barton (1995), employees who possess information on a particular subjects, techniques or dimensions are presenting the organizations knowledge database. Therefore, these individuals or groups will represent organizations when communicating or engaging with other personnel or organizations. It is vital to accurately selected representatives as it will deter the organizations knowledge database and place the organizations goodwill on the stake in the eyes of the other organizations (Mohr & Navin, 1990). Thus, this study avoid selecting individuals/staff who are not closely related in procuring process of the subsidized fertilizer in order to avoid error on the data collected.

5. Results and discussion

The instrument was tested for its internal consistency and the validation of the questionnaire discloses convenient Cronbach Alpha values (see Table 1), which are acceptably high in social science studies requiring minimum alpha value of 0.6 (Pallant, 2001). Furthermore, it was in parallel with findings by Croasmun and Ostrum (2011) where they conclude that items score more than 0.8 for Cronbach's alpha test show a strong internal consistency and reliability.

Most of the respondents are males (92%) which are common in agriculture related industry in Malaysia. Work in the agriculture sector, mostly under the sun, requires strength of man which may result in less number of women in this field. More than half of the respondents (52%) hold college degree/diploma or at least acquired technical certificates from agriculture institutes/polytechnics. This indicates their level of knowledge and suggests that they could be knowledgeable and capable to know their rights as consumer in this sector. With such minimum level of education, they would be able to share their knowledge and experience with the suppliers for any innovation or improvement required on fertilizer products. Eighty one percent (81%) of the respondents are forty (40) years old or older. The numbers show that most of them are highly experienced with half of them have served in the sectors for ten (10) years or longer. Hence the respondents in this industry are highly equipped not only with knowledge in fertilizer and supply chain management but also with highly valuable experience. These factors contribute to strong findings in variables tested for this study.

Table 1. Cronbach alpha values

No.	Dimensions	Number of Variables	Cronbach's alpha (α) Score
1	Communication Willingness	8	0.806
2	Communication Behavior	16	0.928
3	Communication Quality	11	0.814
4	Communication Commitment	14	0.941

Table 2. Score on communication willingness dimension

	Items	Mean	Std. Dev.
1	We are willing to provide proprietary information to our most important suppliers if it is helpful.	4.31	.679
2	We are expected to provide each other with proprietary information that may be of help.	4.46	.508
3	We are not reluctant to engage our partners (suppliers) in communication.	4.46	.761
4	We are willing to share our information with our supplier	4.04	.662
5	We have developed proper linkage for information sharing among our suppliers.	4.27	.667
6	Our suppliers provide technical expert to assist us in resolving problems.	3.54	1.140
7	We provide feedback on technical matters/expertise to our suppliers based on our knowledge and expertise.	3.77	.863
8	Our supplier are willing to share information with us	3.92	.935
	Total mean score		**4.09**

Under the communication willingness dimension which is also the first variable for this study, it can be deduced from the descriptive analysis (see table 2) that most of the respondents are willing to share propriety information with the suppliers (4.31). Willing to communicate is an important factor to propel IOC to be successful in any communication activities between organizations. By having willingness, an organization shows their intention to share information with the other parties. Moreover, this statement was supported by empirical findings which show most of the respondents agree that they are willing to share information with their suppliers (4.04). Information is considered important resource where it could affect the market activities. In some situations, organizations are afraid that information provided to suppliers or buyers may be abused and place their organizations at a competitive disadvantage (Peng et al, 2010).

The second variable (communication behaviour) comprises of communication frequency and communication medium. The total mean score for this dimension is 3.82 as shown in table 3. In comparison to the first dimension, the mean scores of the respondents' responses to this dimension are generally slightly lower and in some cases are close to uncertainty/neutral for certain items (score=3). For instance, when asked whether supplier responds to their problems frequently, the score for the said item is (3.35) below the average score for a positive response which is (3.5). Despite those findings, the respondents however do not believe that frequent meeting with the suppliers could help to resolve their problems (3.19). Such finding is parallel with arguments stated that too much communication may indicate that there is lack of mutual understanding between the two organizations (Liker, Kamath, Wasti & Nagamachi, 1995; Gueztko, 1965). These respondents act as consumer demand action rather than-meetings without fruitful outcome.

Table 3. Score on communication behaviour dimension

	Items	Mean	Std. Dev.
1	We keep each other informed about events/changes that may affect the other part	3.96	.662
2	We exchange information frequently.	4.00	.800
3	We will respond on our suppliers' problems frequently.	4.27	.604
4	Our Suppliers do respond on our problems frequently.	3.35	1.056
5	We will respond on our suppliers' demand frequently.	4.23	.587

6	Our suppliers' frequently respond on our demand.	4.04	.774
7	We visit our suppliers' frequently to discuss problems within us.	3.65	.936
8	If there is any problems in our business (e.g. late delivery of fertilizer, stock problem) we will discuss it with our suppliers'	4.08	.688
9	Our suppliers' meet us frequently is important to resolve problems between us.	3.19	1.021
10	In the last 12 months, we frequently discuss on product quality control with our suppliers.	3.38	1.061
12	In the last 12 months, we frequently discuss on future product innovation with our suppliers.	3.50	.990
13	In the last 12 months, we frequently discuss on problem resolution with our suppliers.	3.58	.857
14	Media assist us in getting right information	3.88	.864
15	We prefer face to face communication than other media.	4.00	.938
16	We have develop proper communication media with our suppliers	4.12	.653
	Total Mean Score	**3.82**	

From all ten kinds of communication medium asked, all the respondents prefer to use to telephone either to engage with the suppliers or receive any information from them. Still, respondents consensually demand for face to face communication between them and the suppliers (4.00). Respondents however believe that frequent meetings would not necessarily solve any problems, but face to face communication is important to convey the message with limited error. Face to face communication advocate direct transmission of message which resolves uncertainties between two parties/organizations and reduce any miscommunication which might occur if different communication methods were selected (Paulraj, 2008; Mohr & Navin, 1990). However, it will be much better if any meet up between consumer and the suppliers could progressively solve problems between them**.** Furthermore, with frequent communication will induce new information regarding various issues such as new product development and changes in market trend being transmitted between organizations in little amount of time (Peng et al, 2010; Mohr & Nevin, 1990). Thus, it will satisfy organizations involved in the communication process.

Communication quality is divided into two sections in the survey form for this study. Nevertheless, all the data were accumulated during the analysis. As shown in table 4, the respondents overall in average agree that they have a good communication quality with the supplier (Mean Score = 3.85). Despite those findings, respondents agree that they do not have sufficient knowledge on the development of their supplier (3.31). Past research suggested that knowledge on partners' history and development trends is essential to build a good communication process between them (Peng et al, 2010). By having more knowledge it increases the information resource database of the organizations towards their supplier, thus strengthen the trust which is important in the communication process. Despite not having high knowledge on the development of their partners, respondents agree that they farmer organizations and the suppliers do respond to each other's' demands and expectations (4.00). The situation might be explained by the extent of the business relationship between them as consumers and suppliers. All the respondents' organizations have at least 30 years relations with the current suppliers. Furthermore, Huang (2007) stated that age of relationship will increase the organizations knowledge towards their partners.

Communication commitment is an indicator to determine organizations commitment towards IOC in different sectors inside their organizations. There are five (5) different sectors measured through fourteen (14) items. It includes problem resolution, product quality, product improvement, technology adaptation and efficiency of delivery. Respondents agreed that they support their suppliers in any problem resolution (3.96) and they are also get propriety information from the suppliers for any problems resolution (3.81). Additionally, they also concur that suppliers support them in product quality control (3.73) and they also support suppliers on the said matter (3.73). However, respondents stated that they do not get sufficient commitment from the suppliers in terms of product improvement (3.50). The inability of suppliers to acknowledge these consumers as important stakeholders would affect the usability and adaptance of the future products by the consumer (Polonsky, 1996). Respondents stated that that both of suppliers and themselves show communication commitment towards technology adaptance and efficiency of delivery as shown in table 5 below. With cooperation from both organizations namely suppliers and consumers it will turn positive on resolving several problems such as late product delivery which were discussed in the earlier sections. Furthermore, commitment to adapt new technology will enhance future product improvement by the suppliers itself as the barriers had been diminished. Polonsky (1996) stated that organizations and personnel tendency on picking traditional method contribute to lack of innovations in certain sectors.

Table 4. Score on communication quality dimension

	Items	Mean	Std. Dev.
1	Information communicated between us and our most important suppliers is timely.	3.77	.710
2	Information communicated between us and our most important suppliers is adequate.	3.69	.679
3	Information communicated between us and our most important suppliers is accurate and credible.	3.92	.560
4	Information communicated between us and our most important suppliers is relevant.	3.96	.599
5	We know well demands, requirement and expectations of our important suppliers.	3.58	1.102
6	Our important suppliers know well of our demands, requirements and expectations.	3.88	.952
7	We have known our suppliers for a while to notice their demand in this business.	4.00	.748
8	Our suppliers know us for a while to notice our demand in this business	3.81	.694
9	We keep record on every transaction that happens between our suppliers and us.	4.50	.707
10	We do have strong knowledge on the development of our suppliers.	3.31	1.011
11	Our suppliers have strong knowledge on the development of us in this business	3.88	.766
	Total Mean Score	**3.85**	

5. Conclusion

The pilot study was successfully executed in determining the internal reliability consistency of items used. Cronbach's alpha values were used to measure the consistency strength of the instrument. The entire dimension used for this study show high Cronbach's alpha values which indicate high consistency of the instrument employed in this study. A post-study interview was done to validate items used in the questionnaire which the details were not discussed in this paper. Therefore, findings from this preliminary study conclude that the instruments used to measure the variables in this study contain sufficient internal reliability consistency and validity to be used in the future full scale study.

Preliminary results from this pilot study show various outcome and findings in all variables used to measure communication willingness, communication behavior, and communication quality and communication commitment. Nevertheless, the data observed was on preliminary stage obtained from a pilot study. A larger data from full scale study which involves more respondents throughout different geographical and demographical areas are required to answer the research questions and fulfill the objectives of the overall research.

Table 5. Score on communication commitment dimension

	Items	Mean	Std. Dev.
1	We get information from our most important supplier which supports us directly in problem resolution.	3.81	.749
2	We support our suppliers on getting the rightful information on matters related to improve timely and precise delivery.	4.00	.693
3	We get information from our most important supplier which supports us directly in product quality control.	3.73	.724
4	We support our suppliers on getting the rightful information on matters related to improve easiness on running task	4.04	.599
5	We get information from our most important supplier which supports us directly in timely and precise delivery.	3.85	.834
6	We get information from our most important supplier which supports us directly in product improvement.	3.77	.863
7	We support our suppliers on getting the rightful information on matters related to improve product quality control.	3.73	.778
8	We get information from our most important supplier which supports us directly in technology development.	3.50	.762
9	We support our suppliers on getting the rightful information on matters related to technology development.	3.62	.697
10	We get information from our most important supplier which supports us directly in easiness on running task.	3.69	.788
11	We support our suppliers on getting the rightful information on matters related to improve the problems resolution.	3.96	.662
12	We get information from our most important supplier which supports us directly in project success rate.	3.58	.857
13	We support our suppliers on getting the rightful information on matters related to product improvement.	3.92	.744
14	We support our suppliers on getting the rightful information on matters related to improve the project success rate.	3.92	.744
	Total Mean Score		**3.79**

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