

# IDENTIFYING FACTORS FOR INTER-ORGANIZATION KNOWLEDGE SHARING

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## Abstract

*Knowledge sharing is important in order for the organization to make decision related to their day-t-day and complicated tasks. Working with different organizations that have different beliefs, culture and work flow will make the knowledge sharing more complex. Thus identifying the influencing factors for the organizations to share their knowledge is important. This paper shows how data based on the interview done from 19 respondents is analysed. Interviews were carried out among the departments that involved in the flood management. The Straussian approach was used in analyzing the data. The results shows the emerging themes were identified while coding the data being technology, organizational, policy and coordination*

*Keywords: knowledge sharing, inter-organizations, analytical analysis*

# **1 INTRODUCTION**

Knowledge sharing is an important activity in any organization. It is important as today's turbulent business environment requires strategic alliances or joint ventures with other similar or complementary business companies (BarNir and Smith, 2002). The knowledge sharing activity occurs at the interpersonal, intra-organization or inter-organization (Yang and Maxwell, 2011). Many literatures on the inter-organization knowledge sharing involve government agencies indicated that knowledge sharing in the inter-organizations is more complex compared to the interpersonal and intra-organization (Dawes, 1996; Gil-Garcia et al., 2007a; Luna-Reyes et al., 2007a; Zhang & Dawes, 2006). This is due to the fact that each agency has its own belief, culture and working environment. In understanding the factors that influencing the knowledge sharing, there are three perspectives used to categorize them. Gil-Garcia and Pardo (2005), Gil-Garcia et al., (2007a), Gil-Garcia et al., (2009), and Zhang & Dawes (2006) categorized them into technology, management and policy. In a another findings by Yang and Maxwell (2011), the researchers had categorized the knowledge sharing perspectives into technological, organizational and political and policy. For the purpose of this study Yang and Maxwell (2011) perspective will be adopted. This paper will report on the coding of the transcribed data in order to identify the most influencing factors that contribute to the knowledge sharing between government agencies in the flood management domain.

The following section (Section2) will discuss on the theme previously found in the literature in the relation of inter-organization knowledge sharing. This is followed by the discussion on how data of transcribed interview is analysed in the research method in Section 3. Subsequently, Section 4 will discuss on the research findings and results. At the end of the paper conclusion is presented.

## **2 LITERATURE REVIEW**

### **2.1 Inter-organizations Knowledge Sharing**

In general, knowledge sharing is the act of making knowledge available to others within the organization (Abzari and Teimouri, 2008). Suppiah and Sandhu (201) argued that to be competitive and productive, knowledge sharing is absolutely necessary and as such organisations with a dominant market culture should have a vibrant knowledge sharing culture. Al-Alawi et al. (2007) suggested that trust, communication, information systems/technology, rewards and organization structure are positively related to knowledge sharing in organizations. However, in this paper in identifying the factors of knowledge sharing, the technological, organizational and policy perspective would be used as the theoretical framework. This is due to the fact that very little research has looked at knowledge sharing in time-critical environments (Mirsha et al., 2012) and flood management is considered as critical.

### **2.2 The technological perspective**

The technological perspective concerns on how the use of IT is believed to help in knowledge sharing activities. Researchers believe that knowledge sharing activities can be considered as IT projects involving information systems construction, organizational structure change, and business process reengineering (Gil-Garcia et al., 2007a). Researchers like Zhang & Dawes (2006) believe that the effectiveness and efficiency of inter-organizational collaboration through knowledge sharing can be enhanced with the advancement of information technology. There are many ways technology in terms of IT could be used to make knowledge sharing more effective. IT Frameworks such as XML, Web

Service, and Service Oriented Architecture (SOA) are example of how IT can be applied in connecting the heterogeneous information systems of different platforms (Bajaj and Ram, 2003, 2007; Gil-Garcia et al., 2009; Su et al., 2005). Apart from the technological perspectives many researchers agreed that technological challenge is less complex when compared with challenges in organizational and political aspects (Atabakhsh et al., 2004; Brazelton and Gorry, 2003; Landsbergen and Wolken, 2001) as more complicated issues involving organization and policy need to be solved before implementing the technologies.

### **2.3 The organizational perspective**

Because of the complexity of the relationship between the organizations involved, inter-organizational knowledge sharing relationships rely heavily on trust building between them (Akbulut et al., 2009; Canestraro et al., 2009; Chau et al., 2001; Dawes, 1996; Gil-Garcia et al., 2010; Landsbergen and Wolken, 2001; Luna-Reyes et al., 2007b; Pardo et al., 2004). Trust is built when there is an appropriate exercise of authority, the parties involved are cleared of their roles and responsibility, and there is respect for the autonomy given (Pardo, et al., 2006b).

Another important factor in the organizational perspective is the leadership. Leadership is about providing vision, guidance, and resources, by the top management. This leadership will help to initiate and sustain the knowledge sharing activities (Akbulut et al., 2009; Li and Lin, 2006). According to Gil-Garcia et al. (2007b), leadership can be exercised through executive involvement, formal authority, and informal leadership. As mentioned earlier by Canestraro et al. (2009) and Pardo et al. (2004), due to the fact that different organizations possess different operation procedures, control mechanisms, and work flows, these can increase the complexity of knowledge sharing. Thus, it creates some resistance to change from some individuals (Lazer & Maria, 2005). Hence, a strong and sound policy will help to reduce the resistance if it ever exist.

### **2.4 The political and policy perspective**

It is utmost important for the policymakers to support the inter-organization's knowledge sharing so that this will become a priority and people are aware of the implication of not having their information shared (Dawes, 1996; Zhang et al., 2005). Legal and policy is important in the inter-organization knowledge sharing because they help to facilitate the relationship, risk and trust related issues (Gil-Garcia and Pardo, 2005; Gil-Garcia et al., 2007a; Lam, 2005; Perri et al., 2007). With a policy at hand, related parties will brush off any uncertainty during the knowledge sharing as issues on privacy and confidentiality of the shared information are already take care of. (Atabakhsh et al., 2004; Landsbergen and Wolken, 2001; Zhang & Dawes, 2006) also pointed that policy helps public to trust the government knowledge sharing project. This paper will be discussing the factors found in the flood management domain based on three perspectives mentioned above.

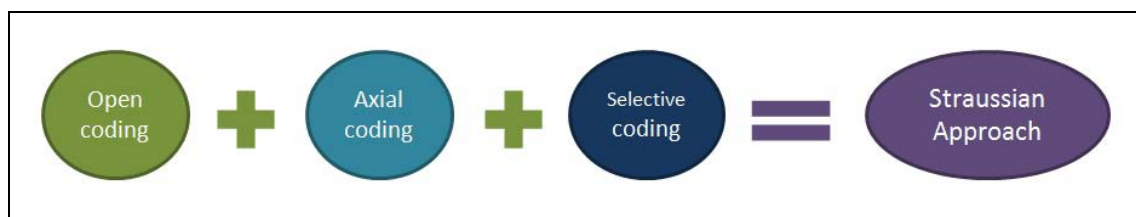
## **3 RESEARCH METHOD**

19 semi-structured interviews were conducted with the key personnel who are directly involved in the organizations knowledge sharing. Each of the interviews lasted between forty to ninety minutes. The interviews were all tape-recorded and transcribed. The respondents were asked questions that revolve on how they conduct the knowledge sharing. Data gathered from the interviews were analyzed based on three perspectives of knowledge sharing as mentioned in previous section. During the interview, handwritten notes were taken along with voice-recording. These notes were also analyzed from which initial broad themes were identified. To assure generalizability of data, interviews were carried out in

various organizations that deal with flood management. Which include officers from the team that involve in rescue (e.g. police, fire), welfare, communication, health and safety.

Voice files were transcribed by the first author and main comments, while transcribing, were noted. After an initial round of interviews the data was analyzed and theory developed. The interviews questions were then amended to explore the h new themes that emerged. Due to the need of anonymity of data, names of interviewees were also replaced by Respondent1 (R1), Respondent 2 (R2) and so on based on the chronological order of interviews conducted.

Coding of the transcribed interview involved only those that most highly referring to codes such as management, technology and policy. The content of the transcribed interview will be analysed based on the three perspective discussed in the literature. The Straussian approach (Strauss & Corbin, 1998) was used in coding the data. This approach has three steps. It started with open coding. The open coding is done to reveal the concepts and properties and the categories of the data. Constructs were derived from an awareness and familiarity from the literatures. This will lead to the emerging of categories. Next step is the axial coding. This process will relate categories to their sub-categories. The last step in coding the data is the selective coding. In this process, core category will be identified. By doing this it will also explain the relationship between categories to provide the overall picture of the factors identified based on the pre-defined theme (piori theory). Figure 1 shows the steps of coding according to the Straussian approach.



*Figure 1. Straussian approach*

Data from the interviews was analysed using the grounded theory analysis by Strauss and Corbin (1998). By using this data analysis approach, it helps to identify the codes, concepts and finally the categories (Allan, 2003) from the transcribed data. These categories were then mapped to the themes mentioned in the earlier section accordingly and it also identified new emerging concept.

## **4 ANALYSIS AND RESULTS**

*“The job scope has been defined in the act. A working committee has to be set up and everybody in the committee knows their roles and responsibilities. A leader must be appointed to oversee the knowledge sharing process. ...” (R4)*

Authors’ interpretation: In order for the organizations to work together, they need to know the goal of knowledge sharing in managing the flood. When the goal is set, it is important for them to work in orderly manner. Working committee must be established to carry out the tasks and person in-charge must be appointed. This is also important for each organization to really understand of their roles and responsibilities. This is made possible when a procedure and guidelines are in place. The entire above

mentioned concept is supported by the leadership as it helps to initiate and sustain the knowledge sharing activities

*“..Depending on how sensitive the data is, all necessary information must be shared. This is to help all parties to achieve their goals and objectives. ..” (R10)*

*“..Even though there is a documented instruction for knowledge sharing, good rapport among respective officers is also important. Sometimes it is necessary to have a coffee break with them after a meeting. When they know us it is easier to collaborate. ..” (R2)*

Authors’ interpretation: Goal decomposition is required to help the people involved in knowledge sharing to further understand their objectives. When they know what their objectives are, automatically they are aware of what information that needed and what their level of secrecy. Procedures and guidelines also help them in achieving their goals. Working with people from different organizations requires trust. As mentioned earlier, trust is built when there is an appropriate exercise of authority, the parties involved are cleared of their roles and responsibility and respect of the autonomy given. Procedures and guideline and clear direction from the management will help the trust building. Apart from that trust can be also gained through good relationships between the staff of different organizations.

*“...the information must be channeled through appropriate channel and it must be quick enough and available wherever and whenever we need them ..” (R8)*

*“.. to know the current water level we can get the information from the official portal..” (R9)*

*“.. the information supplied by the organizations must be presented in a single point of access so that we do not have to look at various sources.. “ (R19)*

*“... currently when there is a flood alert, we will be notified by the authority through our mobile phone. It is so easy because we can get it wherever we are at..” (R6)*

Authors’ interpretation: Knowledge sharing between the organizations must be supported by up-to-date technology but the technology used must be reliable and can be accessed by the users whenever they need them. Having said that, not all information can be shared, security of data must be considered. Workings with various organizations sometimes require them to look at others’ website for information. This is time consuming thus a single point of access is required. In critical and emergency situation, push technology is really needed to notify the respective people. Alerts must be published to only the registered users.

The findings from this paper also shows that while the perspectives proposed by Yang Maxwell (2011) are relevant, there is a new theme or perspective that emerged from the data analysis done. Table 1 shows an example of the coding process and the emergence of the new theme. Based on the transcribed interviews of 19 respondents, 14 concepts were identified and were grouped under four different themes. Apart from the three themes mentioned earlier, the study identifies one new theme which is coordination. As described by Malone and Crowston (1990), coordination is about how activities can be coordinated and how actors can work together harmoniously. Managing the shared resources (including task assignments), managing producer/consumer relationship (in this study those who produce knowledge and use the knowledge), managing simultaneity constraints (such as meeting scheduling) and managing tasks and sub tasks relationship are categorized as coordination process (Malone and Crowston, 1994). Thus based on the data, the authors had interpreted them into concepts like “established committee and person in-charge” and “goal decomposition” that fit the coordination process of managing shared resources and managing task/subtask relationship respectively.

Table 1 shows the results of the coding process.

Data Extract	Concepts	Themes
<p>“The job scope has been defined in the act. A working committee has to be set up and everybody in the committee knows their roles and responsibilities. A leader must be appointed to oversee the knowledge sharing process. ..” (R4)</p>	<ul style="list-style-type: none"> <li>Identifying goal</li> <li>Established committee and person in-charge</li> </ul>	Coordination
	<ul style="list-style-type: none"> <li>Clear goal of mission and vision of the operation</li> <li>Procedure/ Act / Direction from Management</li> </ul>	Political and Policy
	<ul style="list-style-type: none"> <li>Leadership</li> </ul>	Organizational
<p>“..Depending on how sensitive the data is, all necessary information must be shared. This is to help all parties to achieve their goals and objectives. ..” (R10)</p> <p>“.. Even though there is a documented instruction for knowledge sharing, good rapport among respective officers is also important. Sometimes it is necessary to have a coffee break with them after a meeting. When they know us it is easier to collaborate. ..” (R2)</p>	<ul style="list-style-type: none"> <li>Goal decomposition</li> </ul>	Coordination
	<ul style="list-style-type: none"> <li>Level of secrecy</li> <li>Procedure/ Act / Direction from Management</li> </ul>	Political and Policy
	<ul style="list-style-type: none"> <li>Good rapport between agencies</li> <li>Trust</li> </ul>	Organizational
<p>“...the information must be channel through appropriate channel and it must be quick enough and available wherever and whenever we need them ..” (R8)</p> <p>“.. to know the current water level we can get the information from the official portal..” (R9)</p> <p>“.. the information supplied by the organizations must be presented in a single point of access so that we do not have to look at various sources.. “ (R19)</p> <p>“... currently when there is a flood alert, we will be notified by the authority through our mobile phone. It is so easy because we can get it wherever we are at..” (R6)</p>	<ul style="list-style-type: none"> <li>Level of secrecy</li> </ul>	Political and Policy
	<ul style="list-style-type: none"> <li>Single point of reference</li> <li>Push technology</li> <li>Accessible information</li> <li>Mobile</li> </ul>	Technological

Table 1. Results of coding process

## 5 CONCLUSION

Three themes from the previous literature were identified from the analysis they are organizational, technological, political and policy. The data analysis also had identified a new theme from the data analysis which is coordination. Coordination manages the dependencies between the activities. This new theme is derived through the use of the grounded theory analysis by Strauss and Corbin (1998). We believe that this is an appropriate approach used in identifying factors for inter-organization knowledge sharing. This is due to the fact that we are dealing with qualitative data and it requires interpretation from the researchers. Furthermore this analysis views data holistically and develops clear relationships among concepts and themes. By using this method of data analysis, it will produce systematic, clear audit trail, robust, rigorous and valid findings.

This finding helps the researcher to understand the factors for inter-organization knowledge sharing in the context of the flood management. We believe that these concepts and themes identified could be related to our next investigation on inter-organization knowledge sharing, and could help us in formulating our research framework.

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