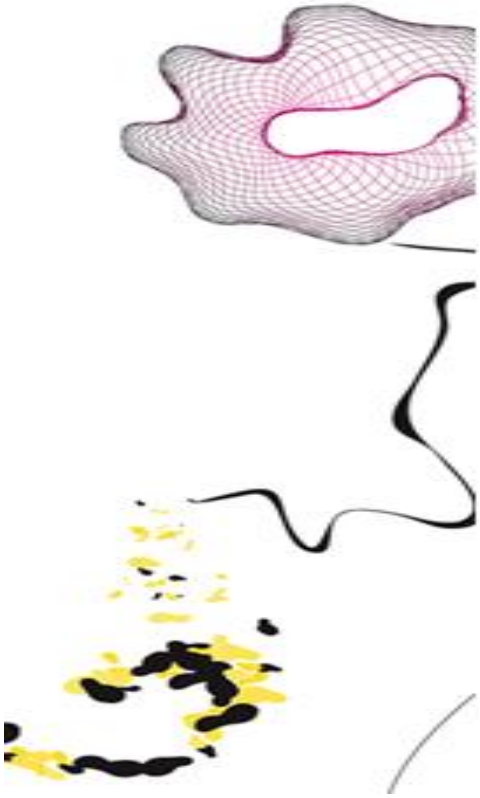
Master Thesis:
Business Administration-Information Management
School of Management and Governance

"What Makes Employee Willing to Share Knowledge via Intranet?"



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Abstract

Knowledge Management (KM) has been increasingly discussed by many scholars and captured the interest of practitioners. Knowledge sharing (KS) is one fundamental aspect in organization knowledge management (KM) practice. It bridges the process of acquisition and utilization of individual knowledge.

The emerging approach of KS suggests that KS can not be managed but evolves in rich social interaction whereas the engineering approach assumes that KS can be stimulated by creating conditions (structures and tools) for the process to occur. The study focuses its attention on technical and social dimensions effect on intention to share knowledge (knowledge sharing intention) via intranet, not the actual behavior regarding knowledge sharing. This concept is different since intention to share does not always followed by actual action of sharing.

We developed a theoretical model based on the Technology Acceptance Model (TAM) and the Social Capital theory. TAM is used to explain the technical dimension through perceived quality of the intranet whereas SC theory is used to explore social (i.e. structural, cognitive, and relational) dimensions of the social network interaction on the intranet.

Through administration of online survey questionnaire as well as close observation to organization intranet system, we test our hypotheses. Moreover, we also gain insight on the actual utilization of intranet with regards to KS purpose. The result of our study reveals that some factors of the social and technical dimension do predict the variation in employees' intention to share knowledge via intranet (i.e. knowledge sharing intention). Besides contributing to theory building in KS, the results of this study inform practitioner on KS practice.

Keywords: Knowledge sharing, knowledge sharing intention, technology acceptance model, social capital theory.

Acknowledgement

One and a half years ago, I started a new phase in my life by deciding to go thousands miles away from my family to study abroad. I was full with excitement yet anxiety on how life would be for me. I thought the first six months will be the hardest time due to high pressure to pass the pre-master and the home sickness. Soon, it reveals that the last six months is the most challenging, frustrating, yet exciting moment of my study. However, I survive. My deepest gratitude to Allah SWT for being able to go through the up and down, the sadness, the joy, the frustration, and the excitement as international student in the Netherlands. This thesis is the last and most important piece of my study. During these times, I owe a great deal of thanks to all people who have contributed in the completion of my master study.

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1. Introduction

Knowledge is seen as crucial resource because firm's tangible assets (i.e. technology) will become obsolete and/or invaluable as market shift. Furthermore, firm's knowledge-based view affirms that the uniqueness of knowledge plays an important role in creating and maintaining company's competitive advantage (Grant, 1996; Liu & Liu, 2008).The issues of Knowledge Management (KM) as a firm's way to increase its competitive advantage have been increasingly discussed by many scholars and captured the interest of practitioners (Hung, Durcikova, Lai, & Lin, 2011). Knowledge sharing (KS) is one fundamental aspect in organization knowledge management (KM) practice. It bridges the process of acquisition and utilization of individual knowledge.

With regards to the importance of KS, how can organization make sure of its occurrence? Hooff and Huysman (2009) discussed two approaches in managing KS; the emerging approach suggests that KS can not be managed but evolves in rich social interaction whereas the engineering approach assumes that KS can be stimulated by creating conditions (structures and tools) for the process to occur. We believe that KS can evolve in rich social interaction as well as stimulated by providing tools which enables communication and interactions among individual actors. Therefore, the study combines the emerging and engineering approach of KS. However, it only focuses its attention on technical and social dimensions effect on intention to share knowledge (knowledge sharing intention) via intranet, not the actual behavior regarding knowledge sharing. This concept is different since intention to share does not always followed by actual action of sharing.

Our study aims to identify what factors influencing employees' intention to share knowledge (i.e. tacit and explicit) via intranet are. We argue that both technical and social dimensions of the intranet are predictors for user's knowledge sharing intention. The technical dimensions are measured by perceived usefulness (PU) and perceived ease of use (PEOU) of the system; while the social dimension comprise of network ties (NET), knowledge self-efficacy (KSE), trust (TRS), and identification towards the organization (IDENT). We believe that employees' are more willing to share their knowledge via the intranet not only when they have rich social interaction through the intranet but also when they perceived that the system is useful and easy to use for KS purpose. Therefore, the main research question which will guide this

study is **"with regards to intranet, what social and technical dimensions are affecting employee's intention to share knowledge with others?"**

This study posits that the social dimensions (i.e. NET, KSE, TRS, and IDENT) and technical dimensions (i.e. PU and PEOU) of intranet are positively affect employee's intention to share knowledge via the systems. To be able to test our hypotheses, a web-based (online) survey questionnaire was addressed to respondents who were selected based on simple random sampling method. Additional secondary data was collected and retrieved from close observation on the intranet system and from organization's website.

Another instrument was used to get insight on actual activities with regards to KS. Close observation to the system was conducted during 14-week period (April-mid of July) to gather data on log in and discussion forum activities. This study provides new insight on study in KS areas, particularly within context of Indonesian government institution, by combining technical and social dimensions of intranet towards intention to share knowledge. It revealed that technical dimension (PU) and social dimension (TRS and IDENT) were the best predictors of knowledge sharing intention within our study. Perceived ease of use (PEOU) was found to indirectly affect KSI through perceived usefulness (PU) conforming to previous studies by Taylor and Todd (1995) and Money (2004). However, inconsistent with previous studies, network ties (NET) and knowledge self-efficacy (KSE) was not found to significantly predict KSI.

The content analysis (based on observation) revealed that the system is mostly used for communication purposes while data sharing is still limited. This probably relates with perceived quality of the intranet system. Additionally, the content of the messages posted in discussion forum mostly categorized into (work-related) information, followed by questions (asking for assistance on specific issues), and sharing of ideas.

2. Theoretical Framework and Research Model

The theoretical framework covers major concepts that are relevant for this study. The concept of knowledge sharing and intranet are discussed followed by a discussion on theory and model which are used as basis in this study. The discussion on the theory and model used in the study are followed by hypotheses formulation. Social Capital Theory and Technology Acceptance Model (TAM) are used as theoretical framework to explain the social and technical dimensions of the intranet in predicting employees' knowledge sharing intention via intranet. Finally, a theoretical model derives from the hypotheses is presented at the end of this section.

2.1. Knowledge Sharing and Knowledge Management

Knowledge sharing (KS) is one of the important parts in organization's knowledge management (KM). According to Lin (2007), KS is "a social interaction culture which involve the exchange of employee knowledge, experiences, and skills through the whole department or organization" (p.315). Similarly, Grace and Rosaira (2008) define KS as "one of the method in KM used for sharing science, techniques, experience, and idea to member of organization or company" (p.1). Prior to discussion on the importance of KS in KM success, understanding the term of knowledge and knowledge management is of importance in this study.

Ruppel and Harrington (2001) define KM as "the strategies and tactics utilized by organizations to capture, manage, and leverage their intellectual capital resource (p.37).Yang and Wan (2004) described KM as the process of collecting & identifying useful information, transferring tacit knowledge to explicit knowledge, storing the knowledge in the repository, disseminating it through the whole organization (i.e. knowledge sharing), enabling employees to easily retrieve it, and exploiting and usefully applying knowledge. More recently, Dalkir (2005) suggest that an integrated KM cycle consist of three interrelated major stages: knowledge capture and/or creation, knowledge sharing and dissemination, and knowledge acquisition and application. We define KM as strategic process of managing (i.e. creating, sharing, and applying) knowledge which resides in individual actors into organization's competitive advantage.

With regards to knowledge, Nonaka and Takeuchi (1995) argue that "knowledge derives from information which is anchored in the beliefs and commitment of its holders", while "information is a flow of messages" (p.58). Davenport and Prusak (1998), in Dalkir (2005), proposed that knowledge is neither data nor information, but relates to both of them. They define

knowledge as "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information", and argue that "we can transfer information into knowledge by means of comparison, consequences, connections, and conversation" (p.48). More current literature in KM, such as the work of Wang and Noe (2010), consider knowledge as "information processed by individuals including ideas, facts, expertise, and judgment relevant for individual, team, and organizational performance" (p.117). From those definitions we can inferred that knowledge constitutes from existing and current information processed and articulated in human mind based on individual beliefs and experiences. In this study, knowledge is defines as ideas, expertise, and information relevant for organization.

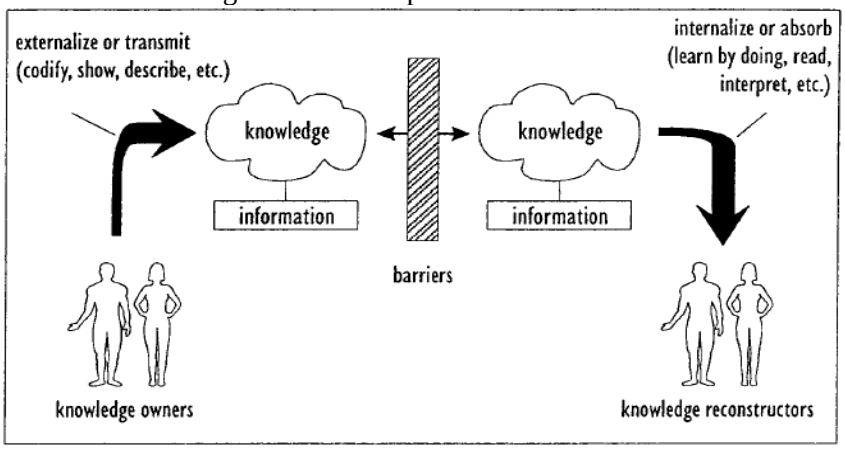
Although the importance of KS is agreeable, individual's willingness to contribute to such practice can not be taken for granted. Grant (1996) claimed that knowledge is deeply ingrained in human minds, while Storey and Barnett (2000) cited in Hislop (2003) argued that knowledge is a powerful asset. Therefore, individuals must have willingness to share it (with others) and to put effort to codify their tacit knowledge into an understandable form of knowledge. Moreover, the power perspective suggest that individuals might want to protect their power and superiority (Wang & Noe, 2010) by not sharing (hindering) their knowledge from others, especially in the culture where individual competition is more emphasized than collaborative and cooperative actions (Ruppel & Harrington, 2001; Wang & Noe, 2010). In order to be able to exploit individual knowledge, organization should encourage employees' intention to participate in knowledge sharing.

The concept of knowledge sharing intention (KSI) and knowledge sharing behavior is different in the sense that KSI does not reflect actual action of knowledge sharing. We define KSI as intranet users' willingness to share their knowledge (i.e. ideas, experience, information) with other members of the organization. To be clearer, user who has strong (behavioral) intention to share knowledge might not actually share his//her knowledge due to particular reasons. This study focuses its attention on employee's intention to share, not their actual action regarding sharing of knowledge.

Hendriks (1999) proposed that externalization and internalization are two important factors involved in KS processes. Individual knowledge owners externalize their knowledge to

be absorbed by knowledge receivers (individuals who acquire knowledge). Some kind of barriers, such as "barriers of space and time, social distance, culture and language, and differences in mental or conceptual frame" (p.92), might exist in KS process. This process can be clearly seen as follows:

Figure 1. The simplified model of KS



Source: Hendriks (1999) p.93

Empirical studies had proven the importance of KS in promoting organization's competitive advantage. Lin (2007) and Liao et al. (2007), for example, claims that employee willingness to contribute in KS practice (by donating and collecting knowledge) improves firm's innovation capability. Another study (Collins & Smith, 2006) reveals that KS increase firm likeliness to perform better in term of revenue and sales growth from new product. That is because KS enables exchange and combination of individual knowledge to improve existing and promote the creation of new knowledge. It, in turn, leads to organizational competitive advantage.

In summary, we could presume that KS is bridging the process of acquisition and utilization of individual knowledge in KM initiative. Without sharing of knowledge, knowledge creation will not occur due to the non existence of link among individual knowledge workers in which knowledge resides (Hendriks, 1999). Similarly, without intention to share (behavioral intention), the actual behavior of sharing knowledge may not occur. Accordingly, from the broad concept of knowledge management, this study will focus on employee's intention to share knowledge.

2.2. Intranet and Knowledge Sharing

Although it is indisputable that learning and knowledge creation is mainly about social interaction (Dalkir, 2005; Nahapiet & Ghoshal, 1998), organizations are no longer able to solely rely on traditional way of social interaction in knowledge exchange (e.g. face-to-face communication) which primarily took place in informal ways (Dalkir, 2005). Nowadays, IT infrastructure offers a medium through which employees could share information, expertise, and skills (i.e. knowledge) relevant for organization. Recent study by Wang and Noe (2010) argued that "many organizations have realized the potential benefit of KS; hence they develop knowledge management system (KMS) which use state-of-the-art technology to facilitate the collection, storage, and distribution of knowledge" (p.115).

The American Productivity and Quality Center (APQC) as cited in Dalkir (2005) claims that in 1999, Intranet as one type of networking technology, was used by nine percent (9%) of the company to support KS. Stoddart (2001) defines intranet as "a private network implemented using internet concepts and technology to disseminate and exchange data, sound, graphic, and other media" (p.19). Referring to Ruppel and Harrington (2001), there are three ways through which intranet could support KM: "(1) by providing compression of time and spaces among the users, (2) by offering the flexibility to exchange information, and (3) by supporting information transfers and organizational networking independent of direct contacts between users" (p.38). Put another way, it has the ability to remove barrier of space and time (distance) in KS process (see figure 1).

Other study suggest that intranet has the capability for opening up communication, information, and capability to encourage sharing and participation within an organization through features like group discussion (Cabrera & Cabrera, 2005). In addition, Lai and Mahapatra (1998) as cited in Ruppel and Harrington (2001) proposed that intranet facilitates communication and interaction and creates what has been referred to as "knowledge connection". A more advanced intranet system facilitated KS by promoting interactive discussion group (Hall, 2001; Stoddart, 2001) that encourages knowledge creation, and online training courses (Stoddart, 2001). However, despite of its sophistication, the successfulness of intranet to support KS process is much more than just a technology matters. It depends largely on users' willingness to employ it (Ruppel & Harrington, 2001).

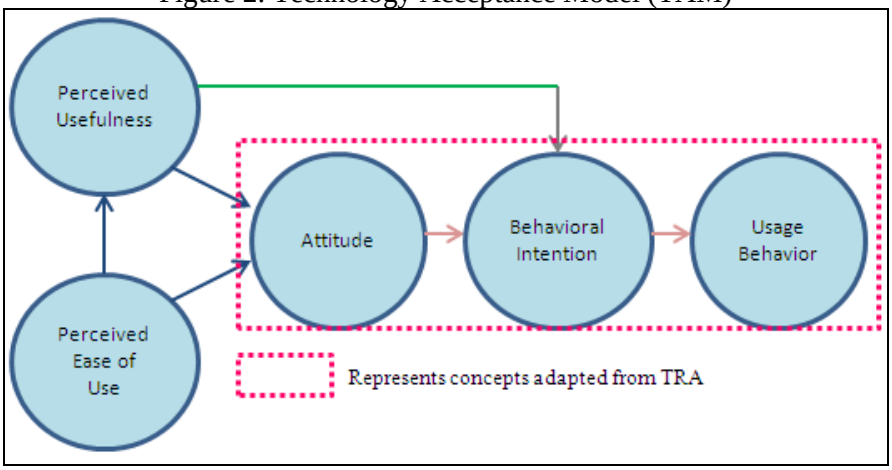
2.3. Technical Dimensions of Intranet

With regards to the engineering approach, KS can be stimulated by providing structures and tools that encourage employee's willingness to share (van den Hooff & Huysman, 2009). Advancement in information technology (IT) makes it easier for organizations to provide tools which support KM practice. Wasko and Faraj (2000) argued that when knowledge is considered as social asset, it suggests that knowledge is highly context dependent and embedded in community. This perspective advocates that "KMS is best utilized to enable discussion, mutual engagement, and exchange between members of community of practice" (p.160). Intranet is one of KMS tools which has role in providing communication channel, thus supporting KM practice. An effective intranet system should properly accommodate these functions. However, employees' participation in using organization's KMS depends largely on their perceived quality of the system. As claimed by Sharratt and Usoro (2003), "technical infrastructure is highly dependent on the value of the content it holds and the relationships it can foster" (p.188). We believe that this concept also applies for intranet.

To better predict acceptance of organization intranet system, we need to know what technical dimensions are affecting employees' intention to use it. Technology Acceptance Model (TAM) is an adaptation of theory of reasoned action (TRA) by Fishbein and Ajzen (1975) which specifically tailored to explain user's acceptance on information system (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). TRA is based on the proposition that individual's behavior is determined by the individual's behavior intention (BI) to perform that behavior, which provides the most accurate prediction of behavior (Chang, 1998). In TAM, behavior (i.e. usage) intention is influenced by attitude toward usage, as well as, direct and indirectly by perceived usefulness and perceived ease of use (see figure 2) while in TRA attitude fully mediates the relationships between beliefs and intention (Taylor & Todd, 1995).

Davis et al. (1989) as cited in Taylor and Todd (1995) argued that "the reason for this deviation is that in work settings, intentions to use IT may be based in anticipated job performance consequences of using the system regardless of overall attitude". (p.148). Put differently, employees might have negative attitude towards a system but still use it because they perceived it to be helpful in improving their job performance (Taylor & Todd, 1995).

Figure 2. Technology Acceptance Model (TAM)



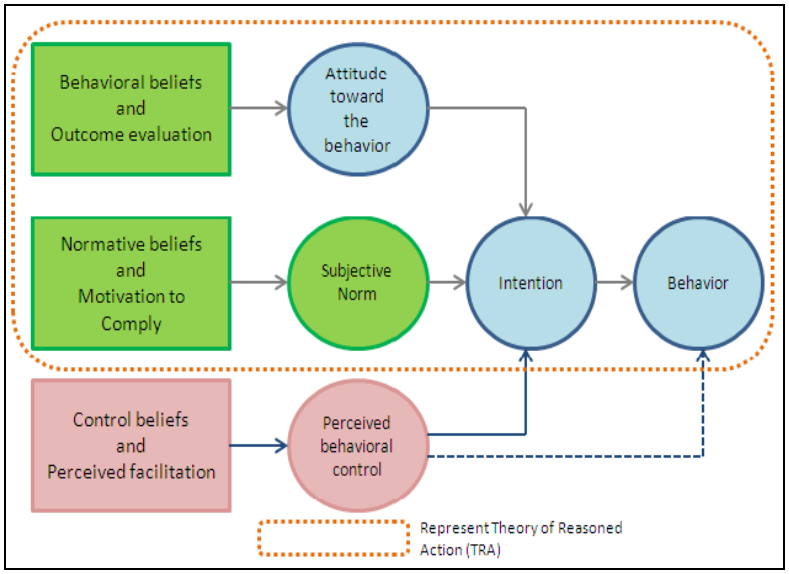
Source: Taylor and Todd (1995), p.146

Davis (1989) empirically tested the model in IBM Canada's Toronto Development Laboratory and found that perceived usefulness (PU) and perceived ease of use (PEOU) had a statistically significant correlation with self reported current usage (r=0.63 and r=0.45 respectively). TAM has become popular model in predicting system usage since then (920.000 results was found in Google scholar using "technology acceptance model" as keyword).

Taylor and Todd (1995) compared TAM with Theory of Planned Behavior (TPB) in their study. Their empirical research found that TPB provide a more complete understanding of intention than did TAM; however they conclude that both TAM and TPB provide similar power in predicting system usage behavior. Altough TPB and TAM are based on TRA, TAM can be seen as simplification of TRA, while TPB is an extension of TRA (see figure 3). TPB added perceived behavioral control as the determinant of behavioral intention, as well as control beliefs which affect the perceived behavioral control (Chang, 1998).

Another study, for example by Malhotra and Galletta (2004), tried to reveal the effect of users' motivation and commitment in a case of organizational transformation supported by IT. It showed that perceived usefulness (PU) and perceived ease of use (PEOU) positively mediated relationship between motivation and commitment and users' attitude towards system use. More specifically, Money and Turner (2004) investigates the applicability of Davis' TAM to user acceptance of a knowledge management information system. Their study reveals that PU and PEOU combined to explain 34 percent of system usage variability, suggesting that TAM may be usefully applied to the KM domain.

Figure 3. Theory of Reasoned Action and Theory of Planned Behavior



Adapted from Chang (1998), p.1826

In conclusion, we agree with Taylor and Todd (1995) that TAM appears to be more appealing to use in predicting system usage because it is both specific and simple since "it suggest a small number of factors which jointly accounts for usage" (p.148). TAM was also proven to be applicable in KM domain (Money & Turner, 2004). Considering those benefits, we adopt TAM in our study to predict employees' intention to share knowledge via intranet. According to TAM, the more an information system is perceived to be useful and easy to use, the more positive one's attitude and behavioral intention towards using the system. In turn, it leads to increase in system usage. These concept leads to our first and second hypotheses.

H1. Perceived usefulness (PU) of the intranet positively affects employees' knowledge sharing intention via intranet

H2. Perceived ease of use (PEOU) of the intranet positively affects employees' knowledge sharing intention via intranet

2.4. Social Dimension of Intranet

With regards to the importance of knowledge sharing (KS) in knowledge management (KM) initiative, managing KS is an important focus for management. However, the emergent approach essentially claims that KS depends largely on social capital of group of people, not on management intervention (van den Hooff & Huysman, 2009). This perspective argues that

employee's intention to share can not be managed but evolves in rich social interactions. What are the social enablers, and why are those important in knowledge sharing?

Social capital (SC) theory offers explanation on the importance of social interactions in creating intellectual capital which, in turns, leads to organization's competitive advantage. Nahapiet and Ghoshal (1998) argued that it is mainly concerned with the importance of relationships as a resource for social action. They define SC as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationship possessed by individual or social unit" (p.243). They proposed that intellectual capital (i.e. knowledge and knowing capability) can be created through two generic processes, that is, combination and exchange. These two processes could emerge if social interaction exists among individual actors.

Nahapiet and Ghoshal (1998) proposed three dimensions of SC; structural, cognitive, and relational. With regards to knowledge sharing, Cabrera and Cabrera (2005) claimed that the first two dimensions of SC relates with the existence of opportunity for individuals to share their knowledge with others. Subsequently, the relational dimension relates with motivation to share.

Wasko and Faraj (2005) claimed that in an electronic network of relationship, a social tie or structural links is shaped by interaction related to message post and respond. When individuals are engaged in a discussion through posting and responding to messages in the intranet, they created a network tie. Adapting from Chiu et al.(2006), we define network ties as "the strength of relationships, the amount of time spent, and communication frequency among members of virtual community" (p.1877) which promotes by intranet technology. Wasko and Faraj (2005), in their study of knowledge contribution in electronic networks of practice, empirically found that the more individual are in regular contact with one another, the more likely they tend to cooperate and act collectively. That is because when individuals spent more time together, more frequent and effective communication takes place (Cabrera & Cabrera, 2005). Therefore we proposed the following hypothesis:

H3: The stronger the social network ties, the greater employee's KS intention via intranet

Regarding the cognitive dimension, Nahapiet and Ghoshal (1998) defined it as those resources enabling sharing of meaning and interpretation among socially-interacted people through (1) shared language and codes, and (2) shared narratives. Language is the means by

which people communicate and share their knowledge. It is through conversation, enabled by a shared language, perspective and understanding, the exchange of tacit knowledge is facilitated (Sharratt & Usoro, 2003). Moreover, they explain that in virtual community, conversation occurs through e-mail and group discussion. Posting a question, or ask for assistance, in the discussion group is the direct mechanism for engaging another member of the group who may posses the knowledge needed (p.189). Wasko and Faraj (2005) claimed that in an electronic network of practice, despite of high motivation to contribute, contribution in KS is unlikely to occur unless individual has the requisite cognitive capital, that is, "knowledge to contribute" (p.42). Knowledge self-efficacy (Kankanhalli, Tan, & Wei, 2005; H.-F. Lin, 2007), which refers to employees' confidence on their ability to provide useful knowledge for others, is in line with this concept. Lin's (2007) study in ten organizations in Taiwan empirically found that KSE (as a construct to measure internal motivation) significantly explains KSI. Similarly, Kankanhalli et al. (2005) also empirically found that "KSE significantly impacted electronic knowledge repository (EKR) usage by knowledge contributors" (p.131). These findings indicate that employees will have greater intention to share knowledge via intranet when they consider themselves as competent and knowledgeable. This leads to our fourth hypothesis:

H4: Employee's knowledge self-efficacy positively affects employee's KS intention via intranet

The third dimension of SC, the relational dimension, exists when members have a strong identification with the community, trust each others, perceive an obligation to participate in the community and act in accordance to the cooperative norms (Molly McLure Wasko & Faraj, 2005). Review on literatures (Chiu, et al., 2006; Kankanhalli, et al., 2005; Nahapiet & Ghoshal, 1998) illustrates that trust and identification are two key factors of relational dimension.

Trust represent a set of expectation shared by all members of the community which can be conceptualized across dimensions such as integrity, benevolence, and competence (Sue Young Choi, Young Sik Kang, & Lee, 2008). Nahapiet and Ghoshal (1998) claimed that trust that exists between actors will increase their willingness to engage in cooperative actions. Trust is particularly important in an electronic network since the sharing of knowledge can be accessed by all members even if they do not contribute their knowledge (free riding).

Chiu et al. (2006) studied professional virtual community and found that trust had significant impact on KS. Similarly, Kankanhalli et al. (2005) also found that trust is important in

explaining knowledge contribution to EKRs; knowledge contributors are more willing to put effort in contributing their knowledge when they trust (belief) in good intent, competence, and reliability of others with respect to contributing and reusing knowledge. Put differently, codification efforts will not restraint knowledge contribution when trust is high. This leads to the fifth hypothesis:

H5: Trust positively affects employee's KS intention via intranet

Large numbers of employees and geographically dispersed work units might cause members of organization not personally know each other. However, Nahapiet and Ghoshal (1998) argued that the motivation to combine and exchange knowledge is influenced by sense of identification, that is, sense of belonging which leads individuals to see themselves as one with another person in the community. Regarding identification, Chiu et al. (2006) argued that "the perception of social unity and togetherness will elevate one's activeness to share knowledge" (p.1878). This is supported in their empirical study which found that identification increased individual's quantity of knowledge shared. In addition, Kankanhalli et al (2005) found that "when identification is strong, i.e. when knowledge contributors to EKR share the same interests as the organization, they tend to be motivated by organizational rewards". Simply put, even organizational rewards may not motivate knowledge contributors to share their knowledge unless they have strong identification towards the organization. Therefore, our sixth hypothesis is:

H6: Identification towards the organization is positively affects employee's KS intention via intranet

2.5. Research Model

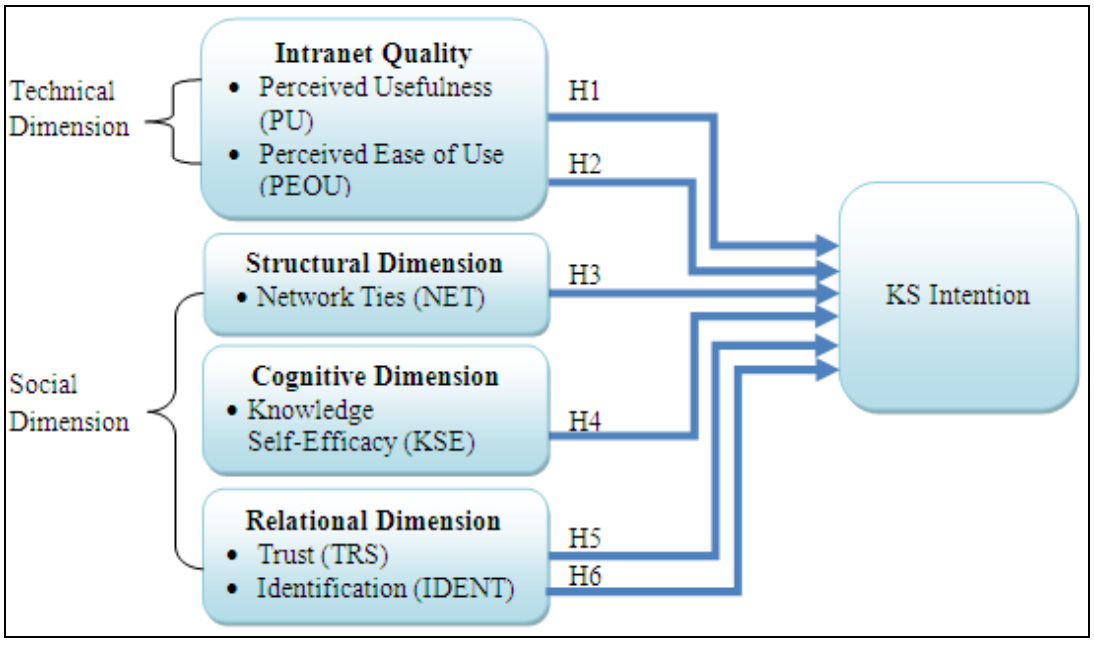
The research model aims to reveal what factors affecting employee's intention to share knowledge via intranet are. We argue that both technical (i.e. perceived quality) and social dimensions of the intranet explain intention to share knowledge via the system. IT (i.e. intranet) support KS by enabling social interactions through share of ideas, information, and discussion between group of people beyond the boundaries of time and spaces (Ruppel & Harrington, 2001). When an information system (i.e. intranet) is seen as useful and easy to use for improving work performance (i.e. for KS purpose), employees are more willing to share their knowledge

via the system. This argument is developed based on Technology Acceptance Model (TAM) by Davis (1989).

However, some studies proposed that IT is not a sole factor promoting KS intention among organizational members. The emergent approach of KS, for example, proposed that KS emerges in rich social interactions (van den Hooff & Huysman, 2009). Social capital theory offers explanation to this approach. It mainly concerned with the importance of relationships as a resource for social action which leads to creation of intellectual capital and, in turn, leads to organization's competitive advantage (Nahapiet & Ghoshal, 1998). Three dimensions of social capital (structural, cognitive, and relational) represent opportunity and motivation for individuals to share their knowledge with others.

This study developed a research model by modifying TAM and social capital theory to represent the technical and social dimensions of intranet which affect knowledge sharing intention (KSI). Finally, based on the hypotheses discussed in previous sections, we developed our research model as follows:

Figure 4. The Research Model



3. Research Methodology

To be able to answer the research questions, hypotheses in previous chapter is tested using survey questionnaire. Additional analysis with regards to utilization of intranet is derives from the fourteen weeks periods (April-mid July, 2012) of observation to the intranet system.

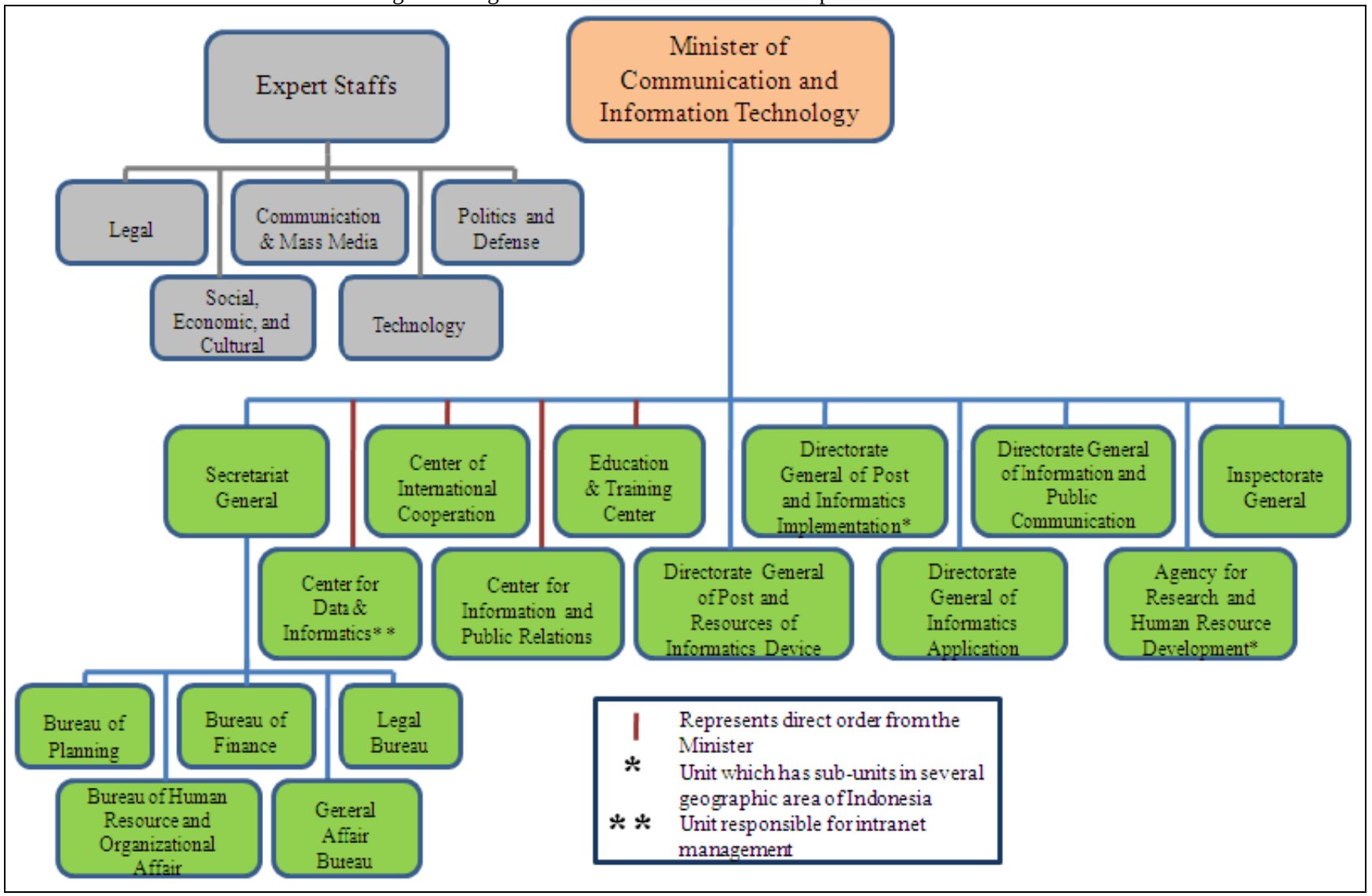
3.1. Context of the Study

This study was conducted in one of the Indonesian government institutions, Kementerian Komunikasi dan Informatika (Kominfo), translated into the Ministry of Communication and Information Technology (MCIT). In this study, we tried to find out what technical and social factors affecting employees' intention to share knowledge with others via organization's intranet system; Intra Kominfo.

3.1.1. Ministry of Information and Communication Technology

As one of Indonesian government institution which leads by a Minister, MCIT's main role is to encourage utilization of ICT by Indonesian government institutions and citizens towards the creation of information society. The Minister assisted by five expert staffs in various fields; legal, social, economic and cultural, communication and mass media, technology, and politics and defense. Eleven departments; one secretariat general, four centers, four directorates general (DGs), one agency, and one inspectorate general is administered by the Minister. The secretariat general is responsible to manage the whole organization such as planning the ministry's programs, and allocating financial and human resources throughout organization. The four centers have both internal and external functions such as: internal HR development, data and IT infrastructure management, external information and public relations, and international cooperation whereas the four DGs responsible to conduct programs and regulate sectors within the authority of MCIT. In addition to internal HR development, MCIT also promotes external HR development through scholarship program and research which govern by the Agency for research and HR development. Finally, the Inspectorate General acts as internal auditor to supervise the implementation of the programs in accordance to applicable regulations. To better illustrate, figure 5 shows the organization structure of MCIT.

Figure 5. Organization Structure of MCIT of Republic of Indonesia



Source: http://www.kominfo.go.id, retrieved on May 15, 2012

3.1.2. Intra Kominfo

The intranet system, Intra Kominfo, is an integrated (web-based) information system which provides a channel for communication among organization members and spaces for organizational database sharing. The system has many features (modules) which classified into several categories:

a. Communication; provides integrated access to web mail, internal message, and a ministry and departmental level group discussion.
b. Public Information; accommodates internal announcement, events and trainings agenda, digital files, and pooling.
c. Internal administration; provides electronic memo, asset management, and HRM-related issues.
d. Network Management; provides technical assistance and other network-related issues.
e. Personal Data Management; useful for managing personal data such as password change, updating education degree, current address, phone number, and management of personal agenda.

Like other information system, access to Intra Kominfo is restricted based on level of authorization related to tasks and responsibilities of respective users which aims in preventing unauthorized access. All registered employees are given a user name and password which allows them to access the system. Password could be change immediately after the initial log in. Once logged in to the system, a user can do several actions such as accessing his/her webmail, participating in group discussion, posting or replying to new message/thread, asking for assistance from other users, and communicate with others. The implementation of Intra Kominfo is managed by the "center of data and informatics" unit (see figure 5).

3.2. Data Collection

Data is collected in two forms, primary and secondary. The primary data collected through administration of online questionnaire. The questionnaire is constructed based on previous studies (Chiu, et al., 2006; Davis, 1989; Kankanhalli, et al., 2005; H.-F. Lin, 2007; Taylor & Todd, 1995) tailored to the context of our study. The secondary data gathered from both MCIT website and from Intra Kominfo. Close observation on the intranet (Intra Kominfo) is conducted to gather required information concerning its utilization.

3.3. Target Population and Sampling Method

Target population of this study was the regular users of Intra Kominfo, that is, employees of MCIT (Kominfo) who logged in to the system at a minimum of two times a month. To gather a list of the target population, we observed user login history (at one point of time) every working day during 8 weeks period (April-May 2012). The observation found that 162 users were eligible to be

included as target population. Simple random sampling was used to select the respondents. In simple random sampling, each user has an equal chance of being selected from the list. Thus, the samples are considered relatively unbiased. A random sample generator tools available in the world-wide-web (http://www.randomizer.org/form.htm) is used to provide a list of random number which then applied to the lists of prospective respondents. Before generating the list, we determined the sample size from the population. The following formula (StatTrek.com) is used to determine the sample size.

$$n = [(z^2 * p * q) + ME^2] / [ME^2 + z^2 * p * q / N]$$

In the study, the size of the populations is known (162 users). We set a confident level of 95% (resulted in a z score of 1.96); a Margin of Error of 5%; and use a proportion (p) estimates equals to 0.5 as suggested by literature when we can be sure of the right value. The computation suggested a number of 114 users as our sample size. We compared our manual calculation result with computer-generated sample size calculator (http://www.surveysystem.com/sscalc.htm) which suggested an exactly same number.

3.4. Instrumentation and Measurement

There are two instruments used in conducting the study; survey questionnaire, and observation to the intranet system. Data acquired from the questionnaire is used to test hypotheses whereas data from observation is used to get insight on actual activities (in the intranet system) with regards to KS.

3.4.1. Survey Questionnaire

The purpose of the survey is to test the hypotheses. In particular, it predicts what factors is mainly affect knowledge sharing intention via the intranet. The items in the surveys were derived from previous studies on the same topic (Bock, Zmud, Kim, & Lee, 2005; Chiu, et al., 2006; Davis, 1989; Kankanhalli, et al., 2005; H.-F. Lin, 2007; Taylor & Todd, 1995) adjusted to the context of our study. All construct were measured using multiple items while all items were measure using a five-point Likert scale.

Six items along five-point Likert scale were developed, for example “Intra Kominfo is an important system to share knowledge (your own idea) with others”, to measure perceived usefulness (PU) whereas five items were developed, for example “learning to use Intra Kominfo is

easy for me", to measure the perceived ease of use (PEOU) adapted from Davis (1989), and Taylor and Todd (1995).

Concerning the social dimensions, the structural dimension was assessed by the strength of relationships, the amount of time spent, and communication frequency among members of virtual community. Three items along five-point Likert scale, for example "I maintain close social relationships with several Intra Kominfo users", were developed to measure network ties (NET) based on Chiu et al.(2006). Moreover, the cognitive dimension was measured by knowledge self-efficacy (KSE), that is, individual's confidence on their ability to provide valuable knowledge to organization. It was measured by four items along five-point Likert scale, for example "I have confidence in my ability to provide knowledge that other users of Intra Kominfo consider valuable", adapted from Kankanhalli et al. (2005) and Lin (2007). Lastly, relational dimension was measured by trust (TRS) and Identification (IDENT). Following Kankanhalli et al. (2005), we define trust as "the belief in good intent, competence, and reliability of employees with respect to contributing and reusing knowledge" (p.123) and define identification as employees perception of similarity of values, membership, and perception as one with another person or group of people (Chiu, et al., 2006; Kankanhalli, et al., 2005). Trust (TRS) and Identification (IDENT) were each measured by five items along five-point Likert scale, for example "I believe that other users of Intra Kominfo will give assistance when I need it", and "I feel a sense of belonging to Intra Kominfo", respectively.

The dependent variable of this study is knowledge sharing intention (KSI) which is defined as intranet users' willingness to share their knowledge (i.e. ideas, experience, information) with others. KSI was measured by four items along five-point Likert scale, for example "I am willing to share knowledge with my colleagues via Intra Kominfo" and "I am willing to share important information via Intra Kominfo with other users of Intra Kominfo", adapted from Lin (2007) and developed based on Bock et al. (2005) respectively. These concepts and its measurements are provided in detail in the table 1.

Table 1. Table of Operationalization

No	Construct and Definition	Measurement Items	Reference(s)
1.	Perceived Usefulness (PU) Individual beliefs in the usefulness of intranet to enable KS; adapted from Davis (1989)	1. Intra Kominfo is important system to share knowledge (your own idea) with others 2. Intra Kominfo is useful in asking for assistance from colleagues about problems, related to my work 3. Intra Kominfo is useful to publish information about work-related issues 4. Intra Kominfo is useful in giving suggestions on work-related issues 5. Using Intra Kominfo makes knowledge sharing easier 6. Intra Kominfo is useful in sharing knowledge with others	1. Developed based on Davis (1989) 2. Developed based on Davis (1989) 3. Developed based on Davis (1989) 4. Developed based on Davis (1989) 5. Adapted from Davis (1989) 6. Adapted from Davis (1989)
2.	Perceived Ease of Use (PEOU) Individual beliefs that using intranet as media for KS is free of effort (easy); adapted from Davis (1989)	1. Learning to use Intra Kominfo is easy for me 2. Applications in Intra Kominfo is easy to understand 3. I find it easy to get Intra Kominfo to do what I want to do 4. I know how to publish a message in Intra Kominfo 5. I know how to reply to a message in Intra Kominfo	1. Adapted from Davis (1989) 2. Developed based Taylor and Todd (1995) 3. Adapted from Davis (1989) 4. Developed based on Davis (1989) 5. Developed based on Davis (1989)
3.	Network Ties (NET) Represents the strength of relationships, the time spent, and frequency of communication promotes by interaction via intranet; adapted from Chiu et al.(2006)	1. I maintain close social relationships with several Intra Kominfo users 2. I actively communicate through Intra Kominfo with several users 3. I know some of Intra Kominfo users on a personal level	1. Adapted from Chiu et al. (2006) 2. Developed based on Chiu et al.(2006) 3. Adapted from Chiu et al.(2006)
4.	Knowledge Self-Efficacy (KSE) User's confidence (beliefs) on their ability to provide valuable knowledge to other users in their organization; adapted from Kankanhalli et al. (2005), and H.-F. Lin (2007)	1. I have confidence in my ability to provide knowledge that other users of Intra Kominfo consider valuable 2. I have the expertise needed to provide valuable knowledge for other users of Intra Kominfo 3. I am confidence that I could provide useful information for other users of Intra Kominfo 4. I believe that I can provide useful answers to some questions published in Intra Kominfo	1. Adapted from Kankanhalli et al. (2005) 2. Adapted from Kankanhalli et al. (2005) 3. Developed based on Kankanhalli et al. (2005) 4. Developed based on Kankanhalli et al. (2005)
5.	Trust (TRS) Refers to "the belief in good intent, competence, and reliability of employees with respect to contributing and reusing knowledge" Kankanhali et al. (2005) (p.123)	1. I believe that users of Intra Kominfo share each others the best knowledge that they have 2. I believe that other users of Intra Kominfo are knowledgeable and competent in their specialization areas 3. I believe that users of Intra Kominfo mutually help each other 4. I believe that other users of Intra Kominfo will give assistance when I need it 5. I believe that users of Intra Kominfo respect each other's contribution	1. Adapted from Kankanhalli et al. (2005) 2. Developed based on Kankanhalli et al. (2005) 3. Developed based on Kankanhalli et al. (2005) 4. Developed based on Kankanhalli et al. (2005) 5. Adapted from Kankanhalli et al. (2005)

6.	Identification (IDENT) Employees perception of similarity of values, membership, and perception as one with another person or group of people; adapted from (Chiu, et al., 2006; Kankanhalli, et al., 2005)	1. I feel a sense of belonging to Kominfo 2. I am proud to be an employee of Kominfo 3. In general, employees of Kominfo are working toward the same goal 4. I think that my values and of Kominfo's values are very similar 5. I am willing to put in a great deal of effort to help Kominfo to be better than before	All items were adapted from Kankanhalli et al. (2005)
7.	Knowledge Sharing Intention (KSI) Intranet users' willingness to share their knowledge (ideas, information, experience) with others; self constructed based on Bock et al. (2005)	1. I am willing to share knowledge with my colleagues via Intra Kominfo 2. I am willing to respond to other user's questions via Intra Kominfo up to my best knowledge 3. I am willing to share important information via Intra Kominfo with other users of Intra Kominfo 4. I am willing to share my job-related experience via Intra Kominfo with other users of Intra Kominfo	1. Adapted from Lin (2007) 2. Developed based on Bock et al. (2005) 3. Developed based on Bock et al. (2005) 4. Developed based on Bock et al. (2005)

3.4.2. Measurements

Most (if not all) of the statistical test underlies its assumption on the normality of the distribution. Three measures of central tendency, the mean, median, and mode, are used to indicate the normality of the distribution. Normal distribution is indicated by the uniformity of the score of the mean, median, and mode. When mean score is greater than median score, the distribution of the data is positively skewed. In contrary, when the mean score is smaller than median score, the distribution is negatively skewed.

Survey reliability was assessed using Cronbach alpha (α). It is used to measure internal consistency reliability among a group of items combined to form a single scale (Litwin, 1995). Based on George and Mallery (2003) as cited in Gliem and Gliem (2003), the rules of thumb in interpreting reliability using Cronbach alpha (α) is "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable" (p.87).

Correlation analysis aims at identifying whether and how strongly pairs of variables are related. Correlation does not indicate causation, that is, a change in one variable does not *cause* change in another. The correlation coefficient (r) ranges from -1 to +1. The closer the score to 1, the more closely the two variables are related. The positive (+) and negative (-) sign indicates the direction of relationship. In practice, constructs are usually correlate with each others and lies somewhere between 0 (no collinearity) and ±1 (perfect collinearity). Masson and Perreault (1991) states that collinearity is almost always present, thus the real issue is to determine the point at which

the degree of collinearity becomes harmful. Common rules of thumb suggest that the presence of one or more large bivariate correlations (0.8-0.9) indicates strong linear association and suggest that collinearity may be a problem (p.270).

Multiple regression (MR) analysis using SPSS (PASW) statistic 18 was used to test hypotheses in this study. It is suitable to test the hypotheses since it intends to investigate the relationship between two or more independent variables (predictors) and a single dependent (target) variable. It was chosen because its superiority in ease of interpretation, and robustness to violations of the underlying assumptions (Masson & Perreault, 1991). In MR, the relationship between dependent (target) variable and any number (k) of independent variables is expressed as:

$$Y = a + b_1X_1 + b_2X_2 + \ldots\ldots + b_kX_k + e$$

Finally, as discussed in Argyrous (2011), the most important parts of SPSS regression output consist of: (1) the multivariate equivalent for the bivariate correlation coefficient (R) which indicates the strength of the relationship between the combinations of predictor variables in the model with the target variable, (2) the adjusted R-square (coefficient of determination) which indicates the amount of variation in the target variable explained by the combination of predictor variables, (3) the regression coefficient (B) which allows us to predicts the value of target variable based on the value of the predictor variables (in terms of the original units of measurement), (4) standardized coefficient (Beta) to see the relative importance of each predictors variable in determining the value of the target variable, (5) the F-test in the ANOVA table to see whether at least some of the predictors in the model is significant, and (6) the t-statistics for each individual variables to see which ones are significant (p.260-263).

3.4.3. Observation

Observation to Intra Kominfo aims in getting insight on actual activities with regards to KS. Log-in history data collected from April through May 2012 were summarized into a list of users in alphabetical manner. It was sorted based on user's frequency of log in. The identified users were then selected based on certain criteria. Since user log in history is observed at one point of time (which only shows the last three hours history), we believe that actual frequency of log in per users might be higher than it was captured by the observation. Therefore, we set relatively low "log in frequency" requirement in our selection process (a minimum of 2 times a month).

Data acquired from the 14-week of observation was used for content analysis. Wasko and Faraj (2005) performed this type of analysis to measure both quantity and quality of knowledge contribution. Help from experts was used to rate the usefulness of replies provided by knowledge contributors. Due to resources limitation, this study analyzed the content only to describe the quantity of messages and categorized it into certain category (i.e. informing particular events, asking for and giving assistance, share of ideas).

3.5. Survey Administration

The questionnaire was addressed to Intra Kominfo users (i.e. employees of the MCIT of the Republic of Indonesia), was originally made in English, but then translated into Bahasa Indonesia. It was done due to several considerations: (1) English proficiency among respondents is varies (not equal), (2) respondents will be more willing to participate in the survey when the questionnaire is written in their mother language (i.e. Bahasa Indonesia) because they need less effort to understand and answer it (i.e. cognitive load), (3) we can minimize bias in answer due to different interpretation of the questions. In other words, the difference in answer among respondents is mostly due to different opinion not due to difference language proficiency, and (4) to increase response rate.

In order to minimize bias (error) in translation, two master students who come from Indonesia were asked to check the translation and conduct backward translation. After quite sure of the result of the translation, we launched the online questionnaire and sent the link via e-mails to our sample respondents. Among 114 questionnaires distributed, 98 valid responses were obtained yielding a response rate of 85.96 percent. Most of the respondents were males (55.1%) and in the age group of 20-30 years (63.3%) with working period of 1-5 years (86.7%). A majority of the respondents had university degree (56.1%) followed by master degree (31.6%), diploma (10.2%), high school degree (1%), while the other one percent of the value is missing due to respondents failed to answer the question. With regards to office location, most of the respondents are working in Jakarta (87.8%) and the rest are working in Bandung (4.1%), Banjarmasin, Bekasi, Bogor, Makassar, Medan, Palembang, Sidoarjo, and Yogyakarta.

4. Data Analysis and Results

4.1. Statistical Analysis

4.1.1. Reliability Analysis

Prior to the assessment of internal consistency reliability, a pilot testing of the survey questionnaire was addressed. It was administered to some eligible users who were not selected as sample by the random sampling method. Twenty (20) complete responses were used in the assessment of internal consistency reliability of the instrument which resulted in the overall composite reliability of 0.88 (N=32).

Based on George and Mallery (2003) as cited in Gliem and Gliem (2003) regarding rules of thumb in interpreting reliability using Cronbach alpha (α); the composite reliability of PU, and KSI is considered excellent, the reliability of PEOU, NET, KSE, and TRS is considered good, while the reliability of IDENT is considered acceptable. Subsequently, all of the constructs had an adequate reliability therefore all items from the pilot testing survey were included in the final questionnaire. The details of composite reliability per construct (variable) can be seen in the following table:

Table 2. Reliability of Constructs

Construct	Number of Items (N)	Cronbach alpha (α)
Perceived Usefulness (PU)	6	0.96
Perceived Ease of Use (PEOU)	5	0.89
Network Ties (NET)	3	0.82
Knowledge Self-Efficacy (KSE)	4	0.90
Trust (TRS)	5	0.90
Identification (IDENT)	5	0.78
Knowledge Sharing Intention (KSI)	4	0.98

4.1.2. Distribution Analysis

By comparing the three measures of central tendency (mean, median, mode), it can be inferred that the distribution of PU, NET, and TRS score is negatively skewed whereas PEOU and KSE is positively skewed. From the score of the standard deviation (SD), it can be inferred that network ties score is more dispersed than other constructs (SD=0.73). It indicates that the NET score is somewhere between 2.45 and 3.91. The analysis result also suggests that trust (TRS) has the lowest standard deviation (SD=0.49) compares to other variables.

Table 3. Distributions of Variables

Variable	Mean (N=98)	Median (N=98)	Mode (N=98)	Std. Deviation (N=98)
Perceived Usefulness (PU)	3.83	4.00	4.00	0.64
Perceived Ease of Use (PEOU)	3.42	3.40	4.00	0.64
Network Ties (NET)	3.18	3.33	3.00	0.73
Knowledge Self-Efficacy (KSE)	3.35	3.25	3.00	0.54
Trust (TRS)	3.59	3.60	4.00	0.49
Identification (IDENT)	3.80	3.80	3.80	0.54

4.1.3. Correlation Analysis

Concerning our hypotheses, the positive correlation represents that the greater the independent variables (PU, PEOU, NET, KSE, TRS, and IDENT), the greater employees' intention to share knowledge via intranet (KSI) is. In our data, the highest correlation coefficient (r) is between PEOU and NET. With regards to correlation with the target variable (KSI), PU and IDENT was identified to have quite strong relationships followed by TRS, KSE, NET, and PEOU. However, regarding rules of thumb, the collinearity between variables under study are not harmful.

Table 4. Correlation Matrix

Pearson Correlation (r) (Sig. 1-tailed)	PU	PEOU	NET	KSE	TRS	IDENT	KSI
PU	**1.00**						
PEOU	0.254** (0.006)	**1.00**					
NET	0.403** (0.000)	0.519** (0.000)	**1.00**				
KSE	0.402** (0.000)	0.176* (0.041)	0.237** (0.009)	**1.00**			
TRS	0.314** (0.001)	0.219* (0.015)	0.298** (0.001)	0.429** (0.000)	**1.00**		
IDENT	0.351** (0.000)	0.156 (0.063)	0.285** (0.002)	0.309** (0.001)	0.331** (0.000)	**1.00**	
KSI	0.515** (0.000)	0.226* (0.013)	0.315** (0.001)	0.417** (0.000)	0.460** (0.000)	0.516** (0.000)	**1.00**

* Correlation is significant at the 0.05 level (1 tailed)

** Correlation is significant at the 0.01 level (1 tailed)

As previously discussed, Intra Kominfo has many features which accommodate communication, share of public information, internal administration, technical assistance, and management of personal data. The utilization of each features were measured by eleven items (each representing one of the features) using five scale of usage ranging from (1) "never", (2) "hardly ever", (3) "occasionally", (4) "often", to (5) "always". Communication feature was measured by question 1, 2, 3, and 6 concerning access to webmail, participation in forum and group discussion, and use of internal message feature, respectively. Public information was measured by question 4 (publishing message), question 5 (replying to message), and question 8 (checking agenda), while internal administration was measured by whether respondents receive electronic memo from their boss or colleagues (question 7). The last two features, network and personal management, was measured by question 9 (consulting to network management), and question 10 and 11 (updating personal data and managing personal agenda).

Based on self reported usage, the survey indicates that most of the respondents use Intra Kominfo for communication purposes such as accessing webmail and participating in forum discussion. It also indicates that a majority of both male and female respondents were accessing Intra Kominfo in a daily basis (five times a week). Nevertheless, there is a difference in time spent working with Intra Kominfo by male and female users. A majority of male users (50.0%) use Intra Kominfo for less than 30 minutes while a majority of female users (41.5%) use it for more than an hour a day (see table 6). The following tables present detail information on feature usage and utilization of Intra Kominfo by its users.

Table 5. Frequency Tables of Features Usage

N = 98 Valid=98, Missing=0	Mean	Median	Mode	Std. Deviation
Webmail	4.12	4.00	5	0.977
Forum Discussion	2.95	3.00	3	0.935
Group discussion	2.22	2.00	3	0.947
Publishing Message	1.90	2.00	1	0.979
Replying to Message	2.22	2.00	2	0.969
Sending Internal Message	2.50	2.00	2	1.334
Receiving Electronic Memo	2.05	2.00	1	1.247
Checking Ministry's Agenda	2.32	2.00	1	1.109
Consult to Network Management	2.44	2.50	3	1.114
Updating Personal Data	2.45	3.00	3	1.141
Managing Personal Agenda	1.97	2.00	1	0.968

Table 6. Log-in Frequency & Time Spent on Intra Kominfo

Gender	Times log In	Time Spent on Intra Kominfo				Total
		0	< 30 minutes a day	31-60 minutes a day	>60 minutes a day	
Male	Once a week	0	8	0	0	8
	Twice a week	0	3	0	0	3
	Three times a week	0	4	2	0	6
	Four times week	0	2	2	0	4
	Five times a week	1	9	7	14	31
	Total	1	26	11	14	52
Female	Once a week		4	1	0	5
	Twice a week		1	0	0	1
	Three times a week		2	2	0	4
	Four times week		1	1	2	4
	Five times a week		7	5	15	27
	Total		15	9	17	41

4.1.4. Multiple Regression Analysis

The result of MR analysis suggests that the model under study has strength of relationship of 67.6 percent (R=0.676). Moreover, the adjusted R-square indicates the amount of variation in the KSI explained by the combination of predictors in the model is 42.2 percent. The F-test for the model has a significance level of 0.000 (F=12.735, P<0.001) which tells us that at least one of the correlations between the predictors and the target variable is not equal to zero in the population. However, the t-statistic shows that only three independent variables were significant predictors at the 0.05 level (Confident Interval of 95%). Those three variables are perceived usefulness (PU), trust (TRS), and identification (IDENT). The regression coefficient proposes that the model predicts the target variable (KSI) in the following equation:

$$KSI = 0.217 + 0.259(PU) + 0.255(TRS) + 0.325(IDENT) + e$$

The result of hypotheses test suggests that PU had a significant effect on intention to share knowledge via intranet (KSI), thus H1 was supported. PEOU, NET, and KSE were not found to significantly affected KSI, therefore H2, H3, and H4 was not supported. Moreover, TRS and IDENT were found to significantly predict KSI, supporting H5 and H6. Using the standardized coefficient (Beta), the relative importance of each predictor (independent) variables in determining the value of KSI can be seen in table 7 below.

Table 7. Result of Hypotheses Test

	Standardized Coefficient	**Hypothesis Test**
Perceived Usefulness (PU)	0.287**	H1 was supported
Perceived Ease of Use (PEOU)	0.038	Not supported
Network Ties (NET)	0.003	Not supported
Knowledge Self-Efficacy (KSE)	0.109	Not supported
Trust (TRS)	0.213*	H5 was supported
Identification (IDENT)	0.304**	H6 was supported
R^2	0.458	
Adjusted R^2	0.422	
F	12.795***	

* P-value < 0.05
** P-value < 0.01
*** P-value < 0.001

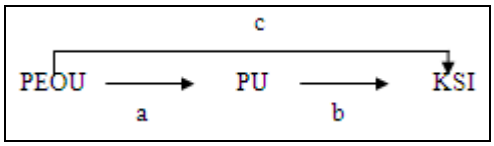
To get the best model in explaining the target variable, the MR was analyzed using stepwise method. In this alternative method, the predictor variables are added or removed in a number of steps to formulate the best combination of variables which has maximum R-square. The backward analysis was used in this study. It is a stepwise method where all the variables in the block are entered in the model in one step and those that do not make a significant contribution to predicting the dependent variable are then removed (Argryous, 2011).

The result of the stepwise regression indicates that the strength of relationship (R) between the combination of independent variables and the dependent variable is 0.669, a slightly lower correlation compares to the original MR test. However, this method aims at providing a model with the best combination of independent variables that maximize the R-squared. This alternative model is able to explain variation in KSI by 43 percent (adjusted R^2=0.430). The F-test is also improved (F=25.362, P<0.001) as well as the standardized coefficient (PU=0.324, TRS=0.253, and IDENT=0.318). Based on this result, the improved model is presented as follow:

$$KSI= 0.378 + 0.293(PU) + 0.302(TRS) + 0.341(IDENT) + e$$

With regards to prior research, for example Davis (1989), that suggests the existence of mediation effect between PU and PEOU. The four-step approach of regression analyses, proposed by Baron and Kenny (1986), were conducted to examine coefficient's significance at each step. The tests were conducted based on this rationale:

Figure 6. Mediation Test



Source: Adapted from Baron and Kenny (1986) p.1176

In step one, a *simple regression analysis* with PEOU predicting KSI was conducted to test path c; followed by testing relationships between PEOU and PU (regressing the mediator on the independent variable). The third step was to conduct *simple regression analysis* with PU predicting KSI to test the significance of path b. Finally, in step four we conducted a *multiple regression analysis* with PEOU and PU predicting KSI. The results are summarized as follows:

Table 8. Test of Mediation Effect

Step	β PEOU (p-value)	β PU (p-value)	R^2
1. PEOU - KSI	**0.226 (0.025)**	-	0.051
2. PEOU - PU	0.254 (0.012)	-	0.065
3. PU - KSI	-	**0.515 (0.000)**	0.265
4. PEOU, PU - KSI	**0.102 (0.263)**	**0.489 (0.000)**	0.275

Steps 1-3 showed that there are significant relationships among the variables ($p < 0.05$ for path c and path a; $p < 0.001$ for path b). In step 4, the result of path b (PU-KSI) was remain significant after controlling for PEOU whereas the result of path a (PEOU-KSI) was no longer significant when PU is controlled for. The finding supports full mediation, therefore we could infer that PEOU indirectly affects KSI through PU.

4.1.5. Extra Findings

The respondents in this study can be categorized based on their gender, age, education degree, and working period. In addition to our main findings, the dispersion of the respondents within that categorization was analyzed. In table 9 respondents are categorized based on their

education degree and age while in table 10 the categorization is based on working period and age, controlled for gender.

Table 9. Education Degree Based On Age of Respondents

Gender	Education Degree of Respondents	Age of Respondents				Total
		20-30 years old	31-40 years old	41-50 years old	> 50 years old	
Male	0		4.5%			1.9%
	High School	3.4%				1.9%
	Diploma (D3)	10.3%				5.6%
	Undergraduate (D4/S1)	51.7%	50.0%	100.0%	100.0%	53.7%
	Postgraduate (S2)	34.5%	45.5%			37.0%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Female	Diploma (D3)	12.1%	22.2%	50.0%		15.9%
	Undergraduate (D4/S1)	60.6%	55.6%	50.0%		59.1%
	Postgraduate (S2)	27.3%	22.2%			25.0%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

From table 9, we can see that the majority of both male and female respondents have an undergraduate degree. The second major educational degree of the respondents is postgraduate. Only a few of the respondents are having a diploma or high school degree. Additionally, table 10 indicates that respondents with longer working period are also older than respondents with shorter working period.

Table 10. Working Period Based On Age of Respondents

Gender	Working Period	Age of Respondents				Total
		20-30 years old	31-40 years old	41-50 years old	> 50 years old	
Male	1-5 years	56.5%	43.5%			100.0%
	6-10 years	60.0%	40.0%			100.0%
	>16 years			66.7%	33.3%	100.0%
	Total	53.7%	40.7%	3.7%	1.9%	100.0%
Female	1-5 years	84.6%	15.4%			100.0%
	6-10 years		75.0%	25.0%		100.0%
	11-15 years			100.0%		100.0%
	Total	75.0%	20.5%	4.5%		100.0%

It was found that age, education degree, and working period were not significantly correlated with KSI. However, there is a significant positive relationship between age of

respondents and their working period (see table 11). This conforms to the result indicates in table 10; the increase in age of the respondents positively correlates with their working period.

Table 11. Correlation Analysis: Age, Education Degree, Working Period, and KSI

Spearman's rho N=98 Correlation (r) (Sig. 1-tailed)	KSI	Working Period	Age of Respondent	Education Degree
KSI	**1.000**			
Working Period	0.090 (0.190)	**1.000**		
Age of Respondent	0.159 (0.059)	0.417*** (0.000)	**1.000**	0.005 (0.479)
Education Degree	0.068 (0.253)	-0.118 (0.124)	0.005 (0.479)	**1.000**

*** Correlation is significant at the 0.001 level (1 tailed)

4.2. Content Analysis of Forum and Group Discussion

In this part, analysis with regards to actual knowledge sharing activity which takes place in the forum and group discussion is presented. Since intention to share does not necessarily indicate actual sharing behavior, we believe that content analysis may provide insight on the actual KS activity supported by the intranet. Based on direct observation to the intranet system which conducted in fourteen week period (April-mid of July), a content analysis of the forum and group discussion was executed.

There are two categories of discussion board; forum and group (limited to work unit) discussion. The discussion forum is categorized based on type of discussion such as administration, fund, functional, news, network, spiritual, trade, and free discussion, whereas no categorization in the group discussion. This study analyzes the messages in the forum and group discussion based on its content (both for messages posted and replied). For messages posted, we classified the content into three types: "info", "question", and "idea/suggestion". Three types were determined to classified replies posted by users, that is, "answer", "response", and "idea/suggestion". Explanation on how the categorization is made presented in the following table.

Table 12. Table of Definition on Type of Content

No	Type of Content	Post of Message (Definition)	Reply to Message (Definition)
1.	Info	Post of information about work-related issues or detail-related operational of work (e.g. information about seminar, maintenance announcement)	-
2.	Question	Post of question about work-related issues or detail-related operational of work, including asking for assistance (e.g. access to electronic journal, network access)	-
3.	Answer	-	Direct response to questions posted (problem solving)
4.	Response	-	Responses (statements or questions) on information/knowledge shared (e.g. "thank you", "good luck", " I agree")
5.	Idea/ Suggestion	Include idea, opinion, and suggestions on specific issue (e.g. suggestion on length of session, accessibility of web-mail)	Include idea, opinion, and suggestions on specific issue (e.g. suggestion about electronic journals to be subscribed, cooperation with other institution concerning access to electronic journal)

Based on the classification on message type, the content of the forum and group discussion is summarized in table 13. The table also presents number of users involved in every category of discussion.

Table 13. Content Analysis of Messages in Forum & Group Discussion

Category	No. of Posting	Type of Message			No. of Replies	Type of Message			Users Involved
		Info	Question	Idea/ Suggestion		Answer	Response	Idea/ Suggestion	
Administration	27	22	4	1	41	18	18	5	54
Fund	0	0	0	0	0	0	0	0	0
Functional	5	0	4	1	19	1	16	2	13
News	5	3	2	0	13	6	6	1	16
Network	1	0	1	0	0	0	0	0	1
Spiritual	0	0	0	0	0	0	0	0	0
Trade	0	0	0	0	0	0	0	0	0
Free Discussion	4	1	3	0	3	1	2	0	7
Total Forum Discussion	**42**	**26**	**14**	**2**	**76**	**26**	**42**	**8**	**91**
Group (Work Unit) Discussion	1	0	1	0	0	0	0	0	1
Total Include Group Discussion	**43**	**26**	**15**	**2**	**76**	**26**	**42**	**8**	**92**

The table shows that activities concerning messages and replies posted in the forum discussion are 42 and 76 respectively, whereas only one message was posted in the group discussion with no reply found. By dividing the total number of both groups, we can get the mean. The mean quantity of messages posted was 3 while it was 5 for replies posted (per week). As much as 6 users were involved in the discussion each week. The most popular category in forum discussion was the administration issues. Moreover, the most popular type of post was "information" while most of the reply was "response". The study includes both information and idea as knowledge. Therefore, a total of 36 posts out of 119 (30.25%) can be inferred as knowledge sharing activity taken place within 14-week periods.

5. Discussions and Implications

5.1. Discussion

The study was conducted in Indonesian government institution with case study in Ministry of Communication and Information Technology (MCIT) of Republic of Indonesia based on five major considerations: (1) limited number of study on KM areas within Indonesian government institution context (2) the emerging issues in bureaucratic reform which leads to IT utilization in providing professional services, (3) emerging use of intranet in Indonesian Ministries, (4) the role of MCIT in encouraging the utilization of ICT towards the creation of information society, and (5) access to data.

The intent of this study was to find out what factors of technical and social dimensions of intranet are affecting user's intention to share knowledge via the system. Data from survey questionnaires distributed to employees of MCIT of Republic of Indonesia were used to test the proposed research model. This included behavioral data based on log-in history and messages posts in forum and group discussion, monitored over a 14-week period.

Based on our findings, perceived ease of use (PEOU) did not significantly affect user's intention to share knowledge via intranet (KSI). This might be due to the fact that PEOU has indirect relationship with KSI through perceived usefulness (PU). The result of mediation test verified the existence of mediation relationship between PEOU and PU as suggested by Davis (1989). The mediation relationship is also consistent with result found by Taylor and Todd (1995) and Money (2004). Another explanation can be derived from the survey on respondents' opinion regarding Intra Kominfo. Almost half of the respondents (36 users) expressed negative opinion on its ease of use. They claimed that Intra Kominfo is still not user friendly enough, complicated, and confusing. One of the respondents extremely stated that "Intra Kominfo does not have attractiveness in both design and social interaction features, so it's only used to access webmail".

Inconsistent with Chiu et al. (2006), it was found that social network of relationship (NET) not significantly affect KSI. They define social network ties as "the strength of relationships, the amount of time spent, and communication frequency among members of virtual community" (p.1877). Additionally, Wasko and Faraj (2005) empirically found that the more individual are in regular contact with one another, the more likely they tend to cooperate and act collectively. Those conditions are not found in our data (Mean= 3.18, Median=3.33, Mode=3). Moreover, our data

reveals that 48 respondents (48.9%) do not agree with the importance of the social network of relationship. This is probably because most of the respondents are working in Jakarta (head) office (87.8%), and belongs to the same age group (20-30 years) and working period (1-5 years). This may leads to conclusion that most of them knows each other personally, either because they often (physically) meet in the office or comes from the same year of intake, thus the network of relationships does not necessarily takes place. As indicated in the survey, another sound explanation might comes from use of other media to form a social relationship such as mailing list, black berry messenger (BBM) group, yahoo messenger, and facebook.

Contrary to our fourth hypothesis (H4) and inconsistent with empirical study by Kankanhalli et al. (2005) and Lin (2007), our finding suggested that knowledge self-efficacy (KSE) does not significantly predict KSI. In their study, they incorporated KSE as motivational factor. They proposed that employee who believed in their ability to contribute useful knowledge to their organization is tend to be (intrinsically) motivated to do so. Thus KSE may be a requirement for engaging in KS activities (H.-F. Lin, 2007). In our study, most of the respondents (86.7%) have been working for the organization for 1-5 years, indicating that they are relatively new employees. Additionally, the majority of the respondents (63.3%) are within age group of 20-30 years old. Taking educational degree into considerations, a majority of the respondents are having undergraduate degree which usually completed at age of twenty one; this class of respondents may be fresh graduate students who have limited working experience. This may explains why a large number (44.9%) of the respondents perceived themselves as not knowledgeable enough to contribute useful knowledge for their organization.

Another possible reason is related with the nature of the KS activity. In our study, participation in discussions board is voluntarily and non anonymous. Since the system is accessible to all MCIT's employee ranging from staff to Echelons one (directors level), we propose that individuals who do not have enough confident in their ability to provide useful knowledge will be less willing to share. Additionally, from the perspective of social exchange theory, the cost (time and effort needed to contribute knowledge) and benefit (organizational rewards) should at least be equal in order to motivate someone to do an action (Kankanhalli, et al., 2005).

On the other hand, our study found that perceived usefulness (PU), trust (TRS), and identification (IDENT) are significant predictors for KSI. With regards to PU, Davis (1989)

suggested that when a system is considered as useful in improving work performance, users are more willing to use it (for specific purpose) regardless of its ease of use. As indicated by the survey analysis regarding feature usage, Intra Kominfo is mainly used for communication purpose. Web-mail was revealed as the most used feature with mean of 4.12. This is also supported by analysis of log-in frequency in which most of the respondents claimed that they log-in to Intra Kominfo in a daily basis. This relationship is probably because users have to log in to Intra Kominfo in order to access the webmail. Therefore, despite of their negative attitudes towards the system, they still use still use it. However, our study found that utilization of other features in the system is very low. This is probably because users do not perceived those features as useful for their work. It can be seen from the opinion such as "Intra Kominfo is used only for e-mail, not for other features".

Consistent with previous study conducted by Kankanhalli et al. (2005) and Choi et al. (2008), trust (TRS) was found to affects user's knowledge sharing intention. Trust on reciprocity, that is, when one believes that his/her contribution will be reciprocated by other users when he/she need helps in the future; trust on other users' capabilities in providing useful information; and trust that other users respects each other contribution, are factors affecting willingness to share knowledge with others. Kankanhalli et.al (2005) found that, with regards to social exchange theory, trust was moderating the impact of codification effort for contributing knowledge to EKRs. Therefore, although it requires extra effort to share knowledge, users are willing to do it as long as they trust other users.

As we predicted, identification (IDENT) was found to significantly affects KSI. One possible explanation is that the sense of belonging to their organization makes employees feel that they would do the best for their organization. As mentioned by Kankanhalli et.al (2005), " it appears that if knowledge contributors do not share the interest of the organization (do not identify themselves with their organization), even organizational reward may not motivate them to contribute their knowledge to EKRs" (p.131). This statement indicates how powerful the effect of identification in motivating employees to share their knowledge to other people in the organization is. In accordance to their result, our study found that the higher the level of identification, the stronger user's willingness to share knowledge via organization intranet system.

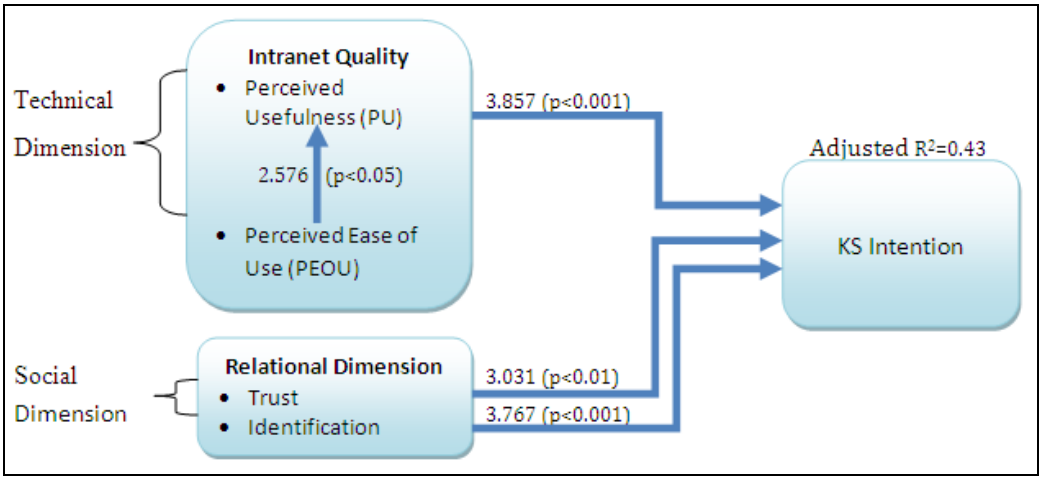
5.2. Implications

5.2.1. Implication for Theory

This study provides new insight on study in KS areas, particularly within Indonesian government institutions context. It indicates that a combination of technical and social dimension of intranet can predict user's knowledge sharing intention. The results of this study supported several hypotheses and rejected the others. One factor of technical dimension and two factors of social dimension (i.e. relational dimension) were found to directly affect KSI. Perceived usefulness (PU) and identification (IDENT) were equally powerful in predicting KSI while trust (TRS) was slightly less powerful.

It was also found that perceived ease of use (PEOU) was indirectly affecting KSI through PU, conforming to previous studies by Taylor and Todd (1995) and Money (1998). On the other hand, the structural (NET) and cognitive dimensions (KSE) of social enablers were not found to significantly predict KSI. This is probably caused by the existence of personal (non structural) relationships between individual actors and the use of other media as competing tools for knowledge sharing. With regards to KSE, the result may primarily due to the context of our study; the majority of the respondents are young and less experienced therefore indicating low level of KSE. Based on our findings, the original research model is revised in the following diagram.

Figure 7. The Revised Research Model



5.2.2. Implication for Practice

Even though the study revealed that users had relatively good intention to share their knowledge with others via intranet system (mean=3.8776), our content analysis of the system

suggest that actual behavior concerning knowledge sharing activity was relatively low. Only 43 messages and 76 replies were posted during 14 weeks of observation yielding a mean of 3 messages and 5 replies posted by approximately 6 users each week.

Low level of system quality characterized by not update content, limited number of users, and limited use of features, are major factors found to inhibiting KS in our study. As cited in Hall (2001), a report by Cap Gemini and Cranfield university, demonstrate that the critical mass has to appear in three key areas: (1) success can only comes from people using the intranet (users), (2) there has to be ever-more useful and relevant material available (content), and (3) utilization of intranet in which a minimum of 40% of potential users need to connect to the intranet for the real value generation to begin (p.141)

Moreover, TAM suggests that perceived quality of the system (usefulness and ease of use) predicts system usage. As discussed earlier, almost half of the respondent stated that the system is not easy to use (i.e. confusing, and not user friendly) reflecting low level of ease of use. Additionally, analysis on respondents' opinion regarding feature usage indicates that the system is considered mostly to be useful for communication purpose. Data sharing is not common yet. Security issues, lack of policy concerning types of data that can be shared across organization, and fully autonomous nature of the work units, may be potential issues with regards to perceived usefulness of the intranet as KS tool. Moreover, content analysis of messages posted in discussion forum revealed that Intra Kominfo users still prefer to share data directly (one-to-one) to other users whom he/she knows personally through personal e-mail rather than share it openly in the system. As stated by one respondent "the security level is not adequate...document management (ordinary/limited/secret) has not been applied".

In conclusion, in order for the system to be successful (for KS purpose) in the implementation, management should totally and proactively improve and manage it. Technical factors (i.e. system security) should be improved. Additionally, the social dimensions should be triggered to flourish. In order to improve social network interactions, clear policies concerning intranet as a tool for knowledge sharing should be formed, followed by adequate socialization and involvement of high level of management in its utilization.

5.3. Limitations and Future Studies

Results of this study should be understood in the context of its limitations. First, it was conducted based on cross sectional data. With regards to target population, data was gathered based on observation on log in history. It was conducted at one point in time every working day during 8-week period. Since the system only shows the last 3-hours log in history, it is possible that some potential users were omitted from our target sample.

Second, based on a sample of 98 respondents several significant results have been achieved. Nevertheless, a larger sample would be more convenient to use for a more complicated statistical analysis and expected to provide better prediction.

Third, since our study is conducted in one of Indonesian government institution (i.e. MCIT) which usually has typical structure with other Indonesian government institutions, the result will be potentially generalized.

Finally, although the technical and social dimensions of intranet in our model could explain 44.7% variance in knowledge sharing intention, our study did not predict user's behavior towards knowledge sharing. Additional concept, for example theory of planned behavior, social exchange theory, organization structure and culture, might be incorporated to better predict employee's intention to share knowledge with other members of organization. It can also be extended to further predict behavior towards KS.

6. Conclusions

This study develops and tests a theoretical model that explains KSI by combining technical and social approach. The statistical analyses of the survey data revealed that the hypotheses in our research model were partially supported. In addition, content analysis to the data acquired from 14-week observation was used to support (explain) consistency (inconsistency) indicated by statistical analysis with regards to previous studies. However, the study has found that both technical and social dimensions of intranet affect users' intention to share knowledge via intranet.

From the technical approach, PU was directly affects KSI whereas PEOU was indirectly affects KSI through PU. This mediation effect is in accordance with previous studies (Money & Turner, 2004; Taylor & Todd, 1995). From the social approach, the study found that structural (NET) and cognitive (KSE) dimension were not significant predictors of KSI due to possible personal relationship among the respondents (as they worked in the same location and comes from the same age group) as well as the use of other (more popular) media in which social network ties formed. In accordance to our hypotheses, relational dimension (i.e. trust and identification) were found to significantly affect intention to share knowledge. Users who have high level of trust on reciprocity, benevolence, and on capability of other users in providing useful knowledge are more willing to share their knowledge via organization intranet system. Moreover, identification to organization was found as powerful predictor of KSI. Individuals who feel a sense of belonging or identify themselves with their organization are more eager to do their best for the organization. Thus, with regards to KS, they will tend to have greater intention to share their knowledge with others for the sake of the organization.

Finally, this study demonstrates the value of using technology acceptance model (TAM) and social capital theory in predicting users' intention to share knowledge via intranet. This study contributes to theory building in the area of KS, particularly within Indonesian government institution context. It is also found that our results (i.e. PU, PEOU, TRS, and IDENT) are comparable with other studies conducted in different context, except for two factors (NET and KSE). The result of this study also offers useful implications for practitioners and for the organization in particular.

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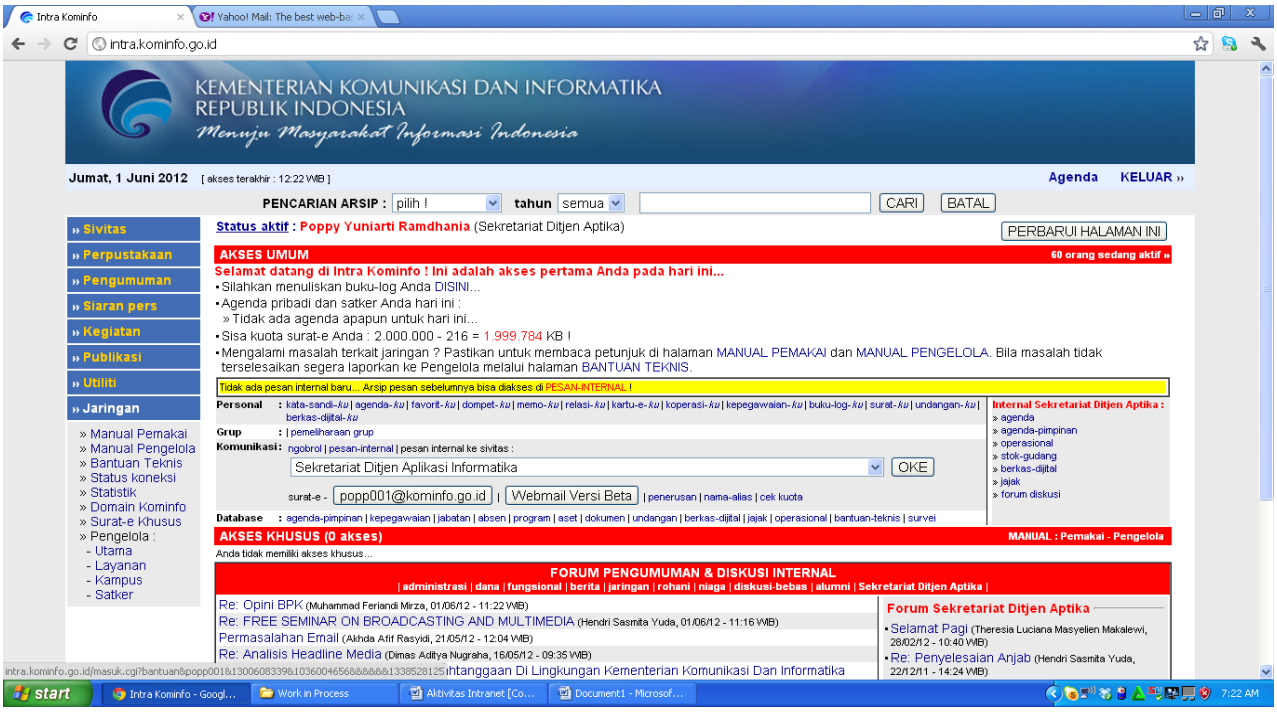
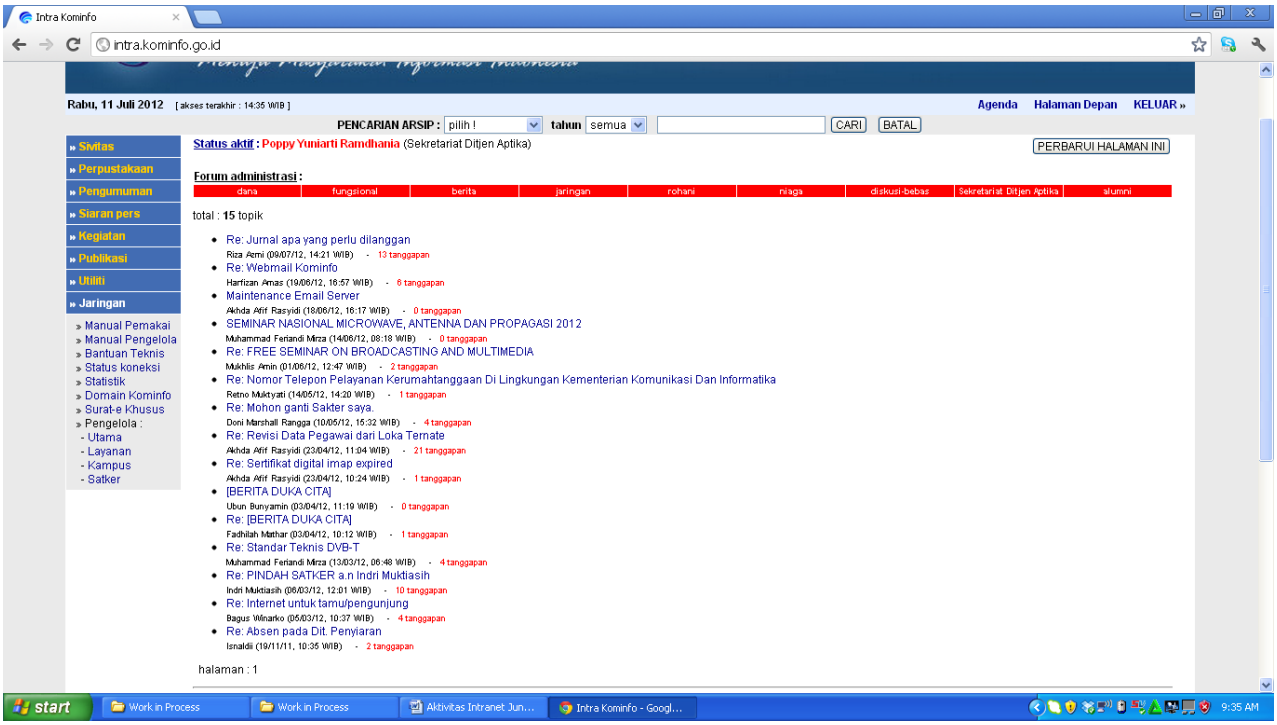
8. Appendices

Appendix A. Intra Kominfo

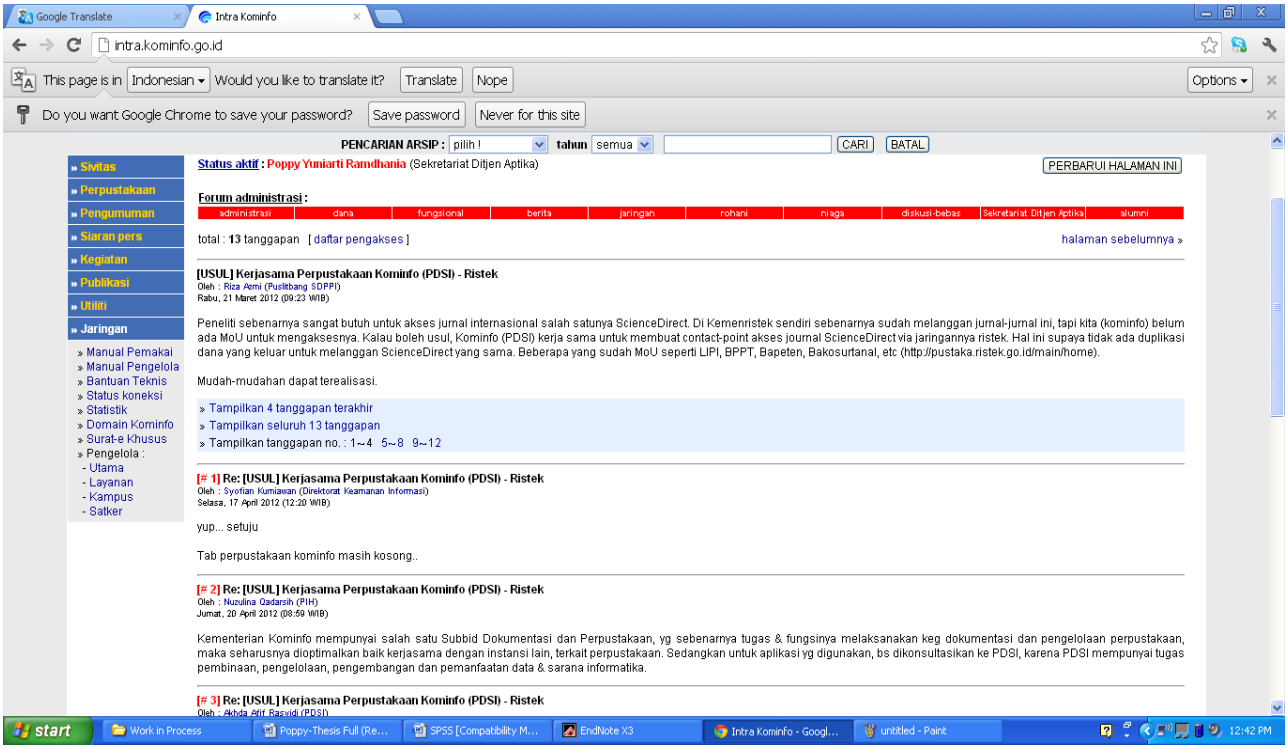
Front Page



Forum & Group Discussion



Example of Content of Forum Discussion



Appendix B. Survey Questionnaire

A. Perceived Usefulness (PU)
In a scale of five "(1) I Strongly Disagree, (2) I Disagree, (3) I Neither Agree Nor Disagree, (4) I Agree, (5) I Strongly Agree", to what extent do you agree with the following statements?

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
Intra Kominfo is an important system to share knowledge (your own idea) with others	○	○	○	○	○
Intra Kominfo is useful in asking for assistance from colleague about problems, related to my work	○	○	○	○	○
Intra Kominfo is useful to publish information about work-related issues	○	○	○	○	○
Intra Kominfo is useful in giving suggestions on work-related issues	○	○	○	○	○
Using Intra Kominfo makes knowledge sharing easier	○	○	○	○	○
Intra Kominfo is useful in sharing knowledge with others	○	○	○	○	○

Next

B. Perceived Ease of Use (PEOU)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
Learning to use Intra Kominfo is easy for me	○	○	○	○	○
I find it easy to understand features in Intra Kominfo	○	○	○	○	○
I find it easy to get Intra Kominfo to do what I want it to do	○	○	○	○	○
I know how to publish a message in Intra Kominfo	○	○	○	○	○
I know how to reply to a message in Intra Kominfo	○	○	○	○	○

Next

C. Network Ties (NET)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
I maintain close social relationships with several Intra Kominfo users	○	○	○	○	○
I actively communicate through Intra Kominfo with several users	○	○	○	○	○
I know some of Intra Kominfo users on a personal level	○	○	○	○	○

Next

D. Knowledge Self-Efficacy (KSE)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
I have confidence in my ability to provide knowledge that other users of Intra Kominfo consider valuable	○	○	○	○	○
I have the expertise needed to provide valuable knowledge for other users of Intra Kominfo	○	○	○	○	○
I am confidence that I could provide useful information for other users of Intra Kominfo	○	○	○	○	○
I believe that I can provide useful answers to some questions published in Intra Kominfo	○	○	○	○	○

Next

E.Trust (TRS)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
I believe that users of Intra Kominfo share each others the best knowledge that they have	○	○	○	○	○
I believe that other users of Intra Kominfo are knowledgeable and competent in their specialization areas	○	○	○	○	○
I believe that users of Intra Kominfo mutually help each other	○	○	○	○	○
I believe that other users of Intra Kominfo will give assistance when I need it	○	○	○	○	○
I believe that users of Intra Kominfo respect each other's contribution	○	○	○	○	○

Next

F. Identification (IDENT)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
I feel a sense of belonging to Kominfo	○	○	○	○	○
I am proud to be an employee of Kominfo	○	○	○	○	○
In general, employees of Kominfo are working toward the same goal	○	○	○	○	○
I think that my values and of Kominfo's values are very similar	○	○	○	○	○
I am willing to put in a great deal of effort to help Kominfo to be better than before	○	○	○	○	○

Next

G. Knowledge Sharing Intention (KSI)

	I Strongly Disagree	I Disagree	I Neither Agree Nor Disagree	I Agree	I Strongly Agree
I am willing to share knowledge with my colleague via Intra Kominfo	○	○	○	○	○
I am willing to respond to other user's questions via Intra Kominfo up to my best knowledge	○	○	○	○	○
I am willing to share important information via Intra Kominfo with other users	○	○	○	○	○
I am willing to share my job-related experience via Intra Kominfo with other users	○	○	○	○	○

Next

Please choose an answer that suit you best

	Never	Hardly Ever	Occasionally	Often	Always
I check my web-mail	○	○	○	○	○
I read message(s) and information in the discussion forum	○	○	○	○	○
I participate in my department (Unit Kerja) group discussion	○	○	○	○	○
I initiate discussion in the forum by posting message	○	○	○	○	○
I replying to message(s) in the information and discussion forum	○	○	○	○	○
I send internal message(s) to other employees via "internal message" features	○	○	○	○	○
I receive electronic memo (nota dinas) from my boss (or colleague) via Intra Kominfo	○	○	○	○	○
I check the "agenda" features to find out about upcoming events/training	○	○	○	○	○
I consult to "technical assistance" features when I get technical problem	○	○	○	○	○
I updated my personal database	○	○	○	○	○
I manage my agenda on my personal database	○	○	○	○	○

Next

How often are you log in to Intra Kominfo?*

- ◯ Once a week
- ◯ Twice a week
- ◯ Three times a week
- ◯ Four times a week
- ◯ Five times a week

How much time do you spent working with Intra Kominfo?*

- ◯ Less than 30 minutes a day
- ◯ 31-60 minutes a day
- ◯ more than an hour a day

What do you think about Intra Kominfo in general?*

What other media do you usually use to facilitate knowledge and information sharing?
(For example: Black Berry Messenger, Yahoo messenger, mailing list)
You may write more than one answer.

Appendix C. SPSS Output

Distribution Analysis

Statistics

		PU	PEOU	NET	KSE	TRS	IDENT
N	Valid	98	98	98	98	98	98
	Missing	0	0	0	0	0	0
Mean		3.8282	3.4163	3.1803	3.3520	3.5939	3.8000
Median		4.0000	3.4000	3.3333	3.2500	3.6000	3.8000
Mode		4.00	4.00	3.00	3.00	4.00	3.80[a]
Std. Deviation		.64503	.63744	.72616	.54541	.48775	.54413
Skewness		-.283	-.144	-.209	.312	-.721	.160
Std. Error of Skewness		.244	.244	.244	.244	.244	.244
Kurtosis		.509	.139	.152	.770	1.234	-.019
Std. Error of Kurtosis		.483	.483	.483	.483	.483	.483

a. Multiple modes exist. The smallest value is shown

Correlation Analysis

Correlations

		PU	PEOU	NET	KSE	TRS	IDENT	KSI
PU	Pearson Correlation	1	.254**	.403**	.402**	.314**	.351**	.515**
	Sig. (1-tailed)		.006	.000	.000	.001	.000	.000
	N	98	98	98	98	98	98	98
PEOU	Pearson Correlation	.254**	1	.519**	.176*	.219*	.156	.226*
	Sig. (1-tailed)	.006		.000	.041	.015	.063	.013
	N	98	98	98	98	98	98	98
NET	Pearson Correlation	.403**	.519**	1	.237**	.298**	.285**	.315**
	Sig. (1-tailed)	.000	.000		.009	.001	.002	.001
	N	98	98	98	98	98	98	98
KSE	Pearson Correlation	.402**	.176*	.237**	1	.429**	.309**	.417**
	Sig. (1-tailed)	.000	.041	.009		.000	.001	.000
	N	98	98	98	98	98	98	98
TRS	Pearson Correlation	.314**	.219*	.298**	.429**	1	.331**	.460**
	Sig. (1-tailed)	.001	.015	.001	.000		.000	.000
	N	98	98	98	98	98	98	98
IDENT	Pearson Correlation	.351**	.156	.285**	.309**	.331**	1	.516**
	Sig. (1-tailed)	.000	.063	.002	.001	.000		.000
	N	98	98	98	98	98	98	98
KSI	Pearson Correlation	.515**	.226*	.315**	.417**	.460**	.516**	1
	Sig. (1-tailed)	.000	.013	.001	.000	.000	.000	
	N	98	98	98	98	98	98	98

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Multiple Regression Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676[a]	.458	.422	.44287

a. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU, MeanNET

b. Dependent Variable: MeanKSI

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.057	6	2.510	12.795	.000[a]
	Residual	17.848	91	.196		
	Total	32.906	97			

a. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU, MeanNET

b. Dependent Variable: MeanKSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.217	.445		.489	.626
	MeanPU	.259	.083	.287	3.118	.002
	MeanPEOU	.035	.083	.038	.423	.673
	MeanNET	.003	.078	.003	.032	.974
	MeanKSE	.116	.097	.109	1.201	.233
	MeanTRS	.255	.107	.213	2.378	.019
	MeanIDENT	.325	.093	.304	3.518	.001

a. Dependent Variable: MeanKSI

Stepwise Multiple Regressions with Backward Criterion

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU, MeanNET[a]	.	Enter
2	.	MeanNET	Backward (criterion: Probability of F-to-remove >= .100).
3	.	MeanPEOU	Backward (criterion: Probability of F-to-remove >= .100).
4	.	MeanKSE	Backward (criterion: Probability of F-to-remove >= .100).

a. All requested variables entered.

b. Dependent Variable: MeanKSI

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676[a]	.458	.422	.44287
2	.676[b]	.458	.428	.44046
3	.675[c]	.456	.433	.43867
4	.669[d]	.447	.430	.43985

a. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU, MeanNET

b. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU

c. Predictors: (Constant), MeanIDENT, MeanKSE, MeanTRS, MeanPU

d. Predictors: (Constant), MeanIDENT, MeanTRS, MeanPU

e. Dependent Variable: MeanKSI

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.057	6	2.510	12.795	.000[a]
	Residual	17.848	91	.196		
	Total	32.906	97			
2	Regression	15.057	5	3.011	15.523	.000[b]
	Residual	17.848	92	.194		
	Total	32.906	97			
3	Regression	15.010	4	3.752	19.501	.000[c]
	Residual	17.896	93	.192		
	Total	32.906	97			
4	Regression	14.720	3	4.907	25.362	.000[d]
	Residual	18.186	94	.193		
	Total	32.906	97			

a. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU, MeanNET

b. Predictors: (Constant), MeanIDENT, MeanPEOU, MeanKSE, MeanTRS, MeanPU

c. Predictors: (Constant), MeanIDENT, MeanKSE, MeanTRS, MeanPU

d. Predictors: (Constant), MeanIDENT, MeanTRS, MeanPU

e. Dependent Variable: MeanKSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.217	.445		.489	.626
	MeanPU	.259	.083	.287	3.118	.002
	MeanPEOU	.035	.083	.038	.423	.673
	MeanNET	.003	.078	.003	.032	.974
	MeanKSE	.116	.097	.109	1.201	.233
	MeanTRS	.255	.107	.213	2.378	.019
	MeanIDENT	.325	.093	.304	3.518	.001
2	(Constant)	.216	.440		.490	.625
	MeanPU	.260	.080	.287	3.239	.002
	MeanPEOU	.036	.073	.040	.494	.622
	MeanKSE	.116	.096	.109	1.207	.230
	MeanTRS	.255	.106	.214	2.409	.018
	MeanIDENT	.326	.091	.304	3.567	.001
3	(Constant)	.281	.419		.672	.504
	MeanPU	.266	.079	.295	3.385	.001
	MeanKSE	.118	.096	.110	1.227	.223
	MeanTRS	.261	.105	.219	2.499	.014
	MeanIDENT	.327	.091	.306	3.601	.001
4	(Constant)	.378	.412		.917	.362
	MeanPU	.293	.076	.324	3.857	.000
	MeanTRS	.302	.100	.253	3.031	.003
	MeanIDENT	.341	.090	.318	3.767	.000

a. Dependent Variable: MeanKSI

Test of Mediation Effect

Step 1.Path c' (PEOU-KSI)

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MeanPEOU[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MeanKSI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.226[a]	.051	.041	.57029

a. Predictors: (Constant), MeanPEOU

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.684	1	1.684	5.177	.025[a]
	Residual	31.222	96	.325		
	Total	32.906	97			

a. Predictors: (Constant), MeanPEOU

b. Dependent Variable: MeanKSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.171	.316		10.048	.000
	MeanPEOU	.207	.091	.226	2.275	.025

a. Dependent Variable: MeanKSI

Step 2.Path a (PEOU-PU)

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MeanPEOU[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MeanPU

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254[a]	.065	.055	.62707

a. Predictors: (Constant), MeanPEOU

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.609	1	2.609	6.636	.012[a]
	Residual	37.749	96	.393		
	Total	40.359	97			

a. Predictors: (Constant), MeanPEOU

b. Dependent Variable: MeanPU

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.949	.347		8.498	.000
	MeanPEOU	.257	.100	.254	2.576	.012

a. Dependent Variable: MeanPU

Step 3.Path b (PU-KSI)

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MeanPU[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MeanKSI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.515[a]	.265	.258	.50181

a. Predictors: (Constant), MeanPU

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.732	1	8.732	34.675	.000[a]
	Residual	24.174	96	.252		
	Total	32.906	97			

a. Predictors: (Constant), MeanPU

b. Dependent Variable: MeanKSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.097	.307		6.839	.000
	MeanPU	.465	.079	.515	5.889	.000

a. Dependent Variable: MeanKSI

Step 4.PEOU & PU-KSI

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	MeanPEOU, MeanPU[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MeanKSI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524[a]	.275	.260	.50111

a. Predictors: (Constant), MeanPEOU, MeanPU

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.050	2	4.525	18.021	.000[a]
	Residual	23.855	95	.251		
	Total	32.906	97			

a. Predictors: (Constant), MeanPEOU, MeanPU

b. Dependent Variable: MeanKSI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.869	.367		5.090	.000
	MeanPU	.442	.082	.489	5.416	.000
	MeanPEOU	.093	.083	.102	1.127	.263

a. Dependent Variable: MeanKSI