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Semiotic Approach to A Practice-Oriented Knowledge Transfer

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Abstract: Knowledge is a valuable asset in organisations that has become significant as a strategic resource in the information age. Many studies have focused on managing knowledge in organisations. In particular, knowledge transfer has become a significant issue concerned with the movement of knowledge across organisational boundaries. One way to capture knowledge in a transferrable form is through practice. In this paper, we discuss how organisations can transfer knowledge through practice effectively and propose a model for a semiotic approach to practice-oriented knowledge transfer. In this model, practice is treated as a sign that represents knowledge, and its localisation is analysed as a semiotic process.

1 INTRODUCTION

Knowledge transfer has become an important topic in knowledge management, but some types of knowledge may not be directly captured and managed, as we cannot always prepare knowledge in a 'transferable' form. We introduce practice as a carrier of knowledge to be transferred. A practice can be characterised as the successful routines in organisation and it can be created through integrating and combining new and available knowledge so as to apply knowledge effectively (Bartlett and Ghoshal, 1989).

The context shapes the knowledge transfer capacities. Although some research addressed the issue of context in knowledge transfer, few take context into account in their analysis (Dinur 2000, Inkpen and Dinur, 1998). Existing literature does not pay sufficient attention to the importance and consequence of context which affects knowledge transfer. We place emphasis on the context based on the application of semiotic approach and social constructivism as our theoretical point of view. Semiotic analysis helps in interpreting and making sense of meanings afforded by different organisations and how these meanings relate to each other, and, in turn, to practice-oriented knowledge transfer processes. Such an understanding supports creation and transfer of knowledge between different organisations and helps in defining the practice-oriented knowledge transfer processes for sustainable competitive advantage.

To analyse such processes, this paper introduces a model for practice-oriented knowledge transfer. This model features the codification of knowledge into practice, transferring of practice, and the reconstruction of knowledge through the interpretation of practice. This paper is organised as follows. First, knowledge transfer in organisational contexts is reviewed, followed by the discussion of a semiotic view of knowledge transfer. Then, an organisational containment analysis of practice-oriented knowledge transfer model is proposed, followed by discussion and conclusion.

2 BACKGROUND

2.1 Knowledge Transfer

Knowledge transfer is the movement of knowledge across the boundaries and it enables an organisation to exploit knowledge created by other organisations. Knowledge transfer has viewed knowledge as an object which is transferred through mechanisms (Liyanage et al., 2009, Parent et al., 2007). Recipient thus can be viewed as a passive actor and hence it often ignores the context in which the knowledge transfer occurs and in which the knowledge is used (Parent et al., 2007, Inkpen and Dinur, 1998).

An organisation has applied knowledge through an efficient integration of knowledge leading to a

routine use of knowledge (Nelson and Winter, 1982). Kostova and Ruth (2002) and Szulanski (1996) discussed that practice is seen as the successful routine in organisation. Accordingly, this research introduces a practice as a vehicle of knowledge to be transferred. This is sometimes referred to as practice transfer, which is considered useful for replication of existing successful practices that enables organisations to take advantage of their value (Bartlett and Ghoshal, 1989). This paper focuses on the transfer of practice as a mode of knowledge transfer. An example of best practice transfer is Szulanski (1996) who studied and characterised transfer as imitation of an internal practice, which is well performed in the organisation, and investigated both the context of transfer and the characteristics of the knowledge being transferred. The focus was on the 'stickiness' of knowledge to illustrate the challenges involved in the transfer, and it was found that most of the difficulties with knowledge transfer are derived mainly from the receiving unit. Inkpen and Darr (1998) found that organisations face problems in transferring practices across organisational units. What is emerging here is the focus on practices as a key feature of knowledge transfer. To address this, this paper introduces a new perspective of knowledge transfer based on semiotic analysis.

2.2 Organisational Context

When practice is applied in the different environment (across countries) from its source (Kostova and Ruth, 2002), it tends to make the adopted practice depart from its original form. Thus, the adopted practice is transformed into a distinct and unique pattern to fit appropriately with local environments. The adaptation in order to fit into a particular environment makes the transfer process difficult (Szulanski, 1996). The adaptation should be based on a proper understanding of the original practice and the source environment.

This research assumes that the organisational context helps to better understand organisation about the situations, events, or information that are related to managing knowledge. It is 'the interrelated conditions in which something exists or occurs' (Kostova and Roth, 2002). Every organisation operates in a specific and unique context and it also differs and can be distinctive among units.

In the following section, we describe organisational semiotics and semiosis as a theoretical lens to analyse the knowledge transfer process.

3 PRACTICE-ORIENTED KNOWLEDGE TRANSFER

This section discusses the relationship between knowledge transfer and practice based on semiotic approach. It begins by describing organisational semiotics starting from semiosis model, followed by an exploration of the practice-oriented knowledge transfer as semiosis.

Organisational semiotics is a branch of semiotics and it aims to study the nature, functions, characteristics and effects of information and communication within organisational contexts (Liu , 2000). It defines organisations as systems where signs are created and used for communication and business purposes (Liu et al., 1999). It deals with the use of signs and the construction of shared meanings within and among organisations (Liu, 2000). Semiosis is the process of constructing meaning from represented signs. The process is shown by the semiosis model, which contains sign, object and interpretant (Liu, 2000). Sign is signification without reference to anything else. Sign depends on an object in a way that enables an interpretation. Interpretant meditates the relationship and establishes the mapping between the sign and the object. Sign is related to its referent or object with the assistance of the interpretant, which is the interpretation process (from sign to object). The sign can be understood or misunderstood in different ways depending on the interpretant. This paper applies this model to analyse the knowledge transfer.

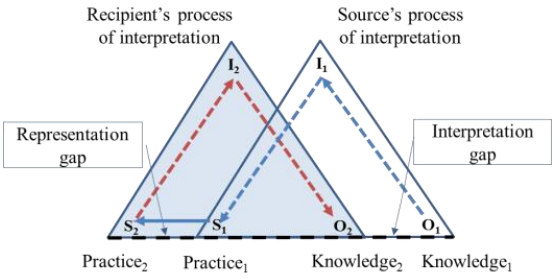

Figure 1: Knowledge transfer as semiosis (Chai -Arayalert and Nakata, 2012).

3.1 Knowledge Transfer as Semiosis

We analyse knowledge transfer by applying semiosis model (Figure 1). Sign (S) represents a practice, which is used as a vehicle to transfer knowledge from the source organisation to a receiving organisation. In Figure 1, S_1 represents a practice at a source organisation and S_2 occurs when S_1 are transferred to a recipient. The representation is to describe something or illustration of a sign. The

representation gap occurs when the two corresponding signs that refer to the same object are not aligned. This may occur when the practice is transferred in the process of localisation. An object (O) is shown as knowledge to be transferred. An interpretant (I) is the processes of knowledge transfer. In source process, knowledge (O_1) is captured as a practice by a process (I_1) of encoding knowledge to practice. Interpretant (I_2) is the process of interpreting knowledge received from the source organisation. At this point, we assume that knowledge is transferred. Some factors affect the achievement of knowledge transfer which are represented by a gap between the knowledge to be transferred in the source organisation (O_1) and transferred knowledge at the receiving organisation (O_2). Based on semiosis, we analyse and identify the possible gap as the interpretation gap. This gap shows the difference of knowledge between source and recipient. It leads to a displacement of object when an understanding of the objects differs and can result in a distorted understanding of the intended meaning. It is important to address these two semiosis gaps. Employing semiosis model can analyse the two processes in knowledge transfer, both the process of encoding and decoding knowledge from practice. Next, we explain details of practice-oriented knowledge transfer.

3.2 Source Organisational System

The process of representing knowledge as practice occurs. Based on semiosis model, this treats knowledge as object to be something, which is carried by a practice as sign. To analyse the relationship of knowledge and practice based on the semiotic approach, we relate practice to knowledge by clarifying the concepts of knowledge and practice. The studies of Nelson and Winter (1982), Szulanski (1996), Davenport and Prusak (1998), Cook and Brown (1999), and Goldkuhl et al., 2001) are a research opportunity in identifying a clear relationship between knowledge and practice. In this paper, organisational containment analysis was applied to analyse social, human and technic views on organisational systems. It consists of three layers: the informal, formal and technical. We apply organisational containment analysis to establish a relationship between knowledge and practice at a source system (Figure 2).

First, the organisation as whole is considered as a source system where values, beliefs and behaviours of individuals play important roles. We refer to Nonaka and Takeuchi (1995) that knowledge is concerned with meanings, context-specific, depending on the situation, created dynamically in social interaction among people. Their work identified that knowledge deals with beliefs and commitments, and that is to be a part of intention. Therefore, knowledge should be analysed as a part of the informal system. Note that this does not exclude the situation where knowledge is more formally captured in other two layers. Second, the formal layer is the way individual actions and business processes should be carried out according to rules in the organisation. We view the practice, as a part of the formal system, which is in line with Goldkuhl et al. (2001) who explained that organisations as the practice systems. According to the definitions of practice, the practice consists of different elements such as unwritten or written rules of how a certain organisational function should be conducted and the rules of practice reflect a set of underlying values and beliefs. Therefore, the practice is seen as a part of the formal organisational system. Third, the technical system, which is outside the scope of this study, is the part of the formal system that is automated through IT system (Liu, 2000). For the reason as mentioned above, the organisational containment model showed how knowledge at the informal system is influenced features of this practice and is embedded in this practice at the formal system.

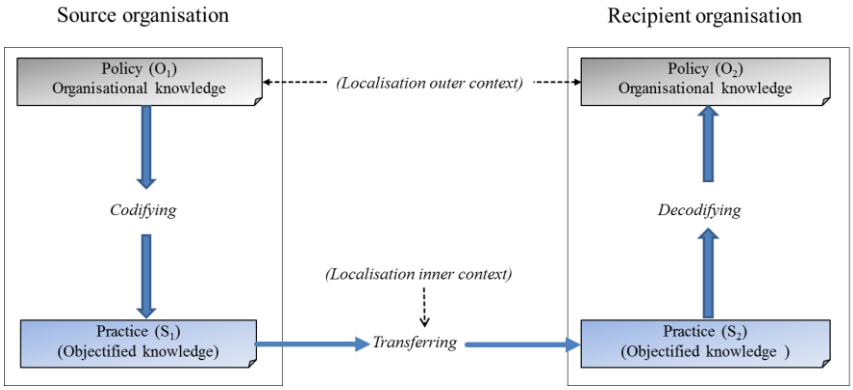

Figure 2: A Practice-oriented knowledge transfer model

3.3 Recipient Organisational System

At the recipient, we can also examine the process based on the organisational containment analysis. When the practice is transferred, it is interpreted and reconstructed as knowledge. There is no knowledge transfer without the decoding process, which relates to the interpretation of codes in the light of specific context. This recipient process comprises the interpretation and construction processes. First, the interpretation is the process of translating situations and development of models for understanding, meaning, and assembling conceptual schema (Daft and Weick, 1984). This process is an active process that interprets knowledge from practice under the prior experiences and social interaction with others in a particular context. Second, we employ social constructivism and semiotic approach to model the reconstruction process. This process focuses on how groups of individuals communicate and negotiate their knowledge through practice. According to the semiosis analysis, the role of practice is treated as a knowledge carrier. Likewise, a constructivism views knowledge as localised and context specific. Thus, they share notions of knowledge that it has no meaning in the real world until it is constructed and the meaning is affected by social interaction. The construction of knowledge in the recipient is a process that is both constrained and enabled by the social relationships and practices of those involved in it. This is the opportunity to understand how members of a receiving organisation can generate new knowledge while simultaneously being constrained by what they have seen before. When a recipient effectively internalised knowledge through constructing their own knowledge based on the conditions of the prior experiences, recipient's context, and the social interactions, the knowledge transfer process is completed.

In the following section, the importance of localisation context and the approach to diagnose this context is established.

4 DIAGNOSIS OF THE LOCALISATION CONTEXT

Knowledge cannot be effectively transferred if the semiosis gaps, which are analysed using semiosis model, are significant. First, the 'representation gap' occurs when some practices cannot be transferred from source to recipient as they are, or require significant modifications, corresponding to the differences in representations. This can be analysed by identifying factors that relate to the differences at the formal organisational systems covering the differences in rules, regulations, laws, processes, and procedures between source and recipient. Second, the 'interpretation gap' occurs when the transferred practice is interpreted differently from the source by the recipient under the receiving context. This gap corresponds to the difference between the reconstructed knowledge by the recipient and the source knowledge.

The interrelations between different organisational contexts (OC) are illustrated. Each OC contains components belonging to the outer OC and to the inner OC. When transfer of practice takes place, practice is extracted from its original context and moved to recipient context, which may or may not be aligned with the source's context. Organisations face different restricting dimensions across the provided contexts and they will develop different abilities concerning the identification, development, and utilisation practice (Inkpen and Dinur, 1998). If they face similar levels of the restricting dimensions, their contexts will be partially overlapping. When a practice exists within source OC which differs from the recipient OC. Recipient may face the situation of 'eventfulness' or 'stickiness' of the transfer of practices (Szulanski, 1996). This situation requires some level of adjustment or change contexts.

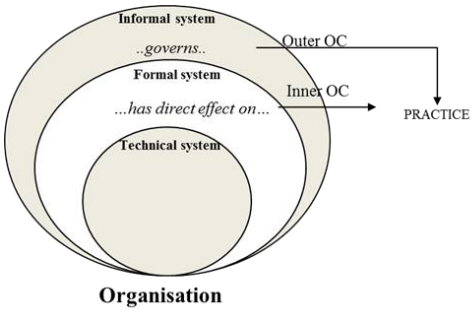

Figure 3: A semiotic view of organisational context layers

Based on the organisational containment model, OC can be analysed in three layers. The first layer is the inner organisational context (inner OC) that is closely relevant to implementing the practice and embedded in organisation, which is the origin of practices. At source, the context elements are formal characteristics system, which relates to the actions and processes, which should be carried out according to rules in the organisation (Figure 3).

The inner OC covers activity, strategy, regulatory constraints, resource, culture, etc. that are seen as the essential context of establishing practices. Practices are established from organisation's activities, processes, procedures, routines, etc. within particular

contexts. The characteristics of practice are inherited from this context (Nelson and Winter 1982, Szulanski, 1996). Practices are repeated actions that follow some rules to achieve specific goals, and they are activities seeking goals, which are conceived as a result of following certain general principles of procedure (Nelson and Winter 1982). In addition, regulatory constraints (rules, regulations, and laws) and resources (supportive budget and technology) are significant specific context to implement practices. Orlikowski (2002) stated that practice is not only established under the existing rules and regulations, but also shaped in particular situations. Furthermore, the organisational culture is another one of the inner OC, which differs from others. The role of culture is to connect inner and outer OC through the use of organisational practices, which are represented as tangible of organisational culture.

The second layer is the outer organisational context (outer OC), which has impact on utilising the practices. According to the characteristics of informal organisational system, the outer OC is more flexible on the situations and environment than the inner OC. The outer OC influences the practice during its operations, but not what is generated as practice. In short, the outer OC governs the operations of the practice in each organisational system.

The outer OC refers to personal competency, which has not direct effects on the establishing organisational practices, but this outer OC is used to govern the practice in organisation. Members play an important role in this model at the recipient side. In this manner, competency as skill and experience has an influence in interpreting and reconstructing knowledge by organisational members (Szulanski, 1996, Bourdieu , 1977, Kostova and Roth, 2002). In summary, on the one hand, the outer OC is seen as the influencing contexts, which indirectly govern the practices at the source side. On the other hand, the outer OC at the recipient side has influence on both interpretation and reconstruction, which relate to culture and members' abilities.

This analysis leads to different conditional schema of organisational contexts. If the inner OC at the source is similar to the inner OC at the recipient, the transfer of practice should be straightforward or transferred with few impediments. Conversely, if inner OC at the recipient is different from the source, then the recipient would require changes. If the outer OC at the source is similar to the outer OC at the recipient, members can interpret and construct knowledge with minimal effort. Conversely, if the outer OC at source is different from the outer OC at the recipient, difficulties arise in interpreting and constructing knowledge, which can lead to misinterpretation and misalignment of knowledge. Accordingly, the recipient organisation has to consider the particular context or 'localisation context' in order to adapt recipient OC to fit with the source OC.

5. CASE STUDIES

Multiple case studies are used and the domain of analysis is the knowledge transfer of Green Information and Communication Technology (Green ICT) practices between universities. This research used the multiple data collection methods including direct observation, interviews, and document analysis. Through analysing the Green ICT practices between UK and Thai universities, localisation context of knowledge transfer was analysed. Green ICT practices were identified as the carriers of knowledge transfer between UK and Thai universities.

We found that the transfer of Green ICT practices faced with the localisation contexts of transfer, as can be seen from the cases in which some of recipients (Thai universities) were not able to adopt some practices from the source of practices (UK university). Data was further analysed and organised to present the localisation context of the transfer of Green ICT practices, involving the existing operations, ICT-related policy, budget, technology, rules and regulations, and support from the executives. Additionally, the adopted practices were interpreted and constructed knowledge, which is represented in term of Green ICT policies. Data was collected at three Thai universities by direct observation and interviews in order to analyse the significant context which influences a recipient's ability to understand, interpret and construct knowledge. Based on the collected data, we found that participants were affected by the particular localisation context, which inhibit or exhibit their abilities to interpret practices and construct their own knowledge. The findings are some recipients were not able to interpret all the adopted practices and construct the Green ICT policies.

5 DISCUSSIONS

This paper introduced a semiotic model developed for the analysis of practice-oriented knowledge transfer. This enabled to the analysis of localisation factors that influence knowledge transfer through a semiotic analysis. This model focuses on practice as a key feature of knowledge transfer. We applied semiosis model to explain this knowledge

transfer process. Furthermore, we analysed this model using an organisational containment analysis. So far this is primarily a theoretical model. However, we are currently applying the model to analyse a case of knowledge transfer in Green ICT, which is an emerging discipline (Chai-Arayalert and Nakata, 2011). This subject is drawn from practices in achieving Green ICT being developed in the public sectors including HEIs in the UK. The case study involves HEIs in UK as a source and universities in Thailand as the recipients. The case study is based on focus groups and interviews to identify the localisation factors. The limitation of the current approach is that while our model delineates the role of human and social functions in determining the effectiveness of knowledge transfer through the use of practices, there are other dimensions that require attention such as the use of technology. The limitation may also provide indications for future research.

6 CONCLUSION

Knowledge transfer is significant in managing knowledge resources, but this is not straightforward as it depends not just on the nature of knowledge itself but also on the process of acquiring and assimilating it. The outcomes of this paper are as follows. First, we applied the notion of semiosis to assist the analysis of knowledge transfer. The result explored the relationship between knowledge and practice. Second, this semiosis model explains the process of knowledge transfer through the use of practice and analysed the influencing factors of knowledge transfer. Third, we proposed a model for a semiotic approach to practice-oriented knowledge transfer. We developed the model of knowledge transfer, and the influencing localisation factors. Through a case study of knowledge transfer, we identify key localisation factors in practice-oriented knowledge transfer. Future work could validate this model by applying other case studies, for example, quality assurance (QA) and the design of new university degree programmes.

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