ENHANCING CONTENT PRODUCTION IN E-LEARNING BY PUBLIC PRIVATE PARTNERSHIPS

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Abstract

This article presents an on-going research, which aims to build a model for enhancing content production in e-learning by public private partnerships. The active partners in the partnership are a publisher and educational institutions. The model is based on five preliminary cases and on a theoretical framework. The preliminary case studies present the problems that the partners are facing. These problems were collected as background conditions for the model. The model focuses on solving these problems, or conditions, by bringing the partners together and advancing mutual learning and knowledge creation. The theory is used for explaining the knowledge transfer and creation mechanisms between the partners. The model is implemented, tested and refined within one case study, which is done between years 2002 and 2004.

Keywords

Product development, Innovations, Customer-centred product design

INTRODUCTION

Stability and conventionality have been characteristic of *educational institutions*. The western individualistic culture has strongly influenced the educational institutions and the school culture; teachers are expected to get through the challenges alone. The *publishing industry* in Finland has been very stable during the last decades. The business has been regulated by government and the customer needs have not changed dramatically. The e-learning business requires knowledge about the new customer needs and the publishers have to be able to adopt new technological innovations in order to stay competitive.

There are currently three different major trends in the technology environment: globalisation, time compression and technology integration. Multinational corporations enter and dominate markets that were previously possessed by domestic companies. Product life cycles and development times shorten and different technologies and practices are combined to create and commercialise products and services. The three trends require managers to adopt a global perspective, enhance the organisational speed of response and work collaboratively within partner networks. This is needed for adapting to technological changes in order to fully exploit the potential of new knowledge. This concerns both the publishing and education industries. (Narayanan 2001.)

For schools it can be difficult to get out of the established practices, and as a consequence, they cannot meet the requirements that the changes in society and business generate. Educational institutions and teachers need not to master all the areas of expertise required in e-learning. By partnering they can concentrate on their core competence, teaching. The publisher – on the other hand – can create a close relationship with the customer and increase the customer loyalty.

Partnering increases the possibilities to distribute knowledge and best practises within the network, which provides added value to all public and private partners. The vision is that this leads into a ‘win-win’ situation, which increases the total efficiency of the network and thus generates competitive advantage to all partners.

The study is conducted as action research focusing on one case study. The aim is to develop new e-learning content (a study module) collaboratively within a network of public and private organisations. The active partners in the case are a publisher, educational institutions and teachers. The research is part of Helmi-research project (Holistic Development of E-Learning and Business Models). The objective is to utilise the findings of the previous case studies in Helmi-research.

The aim of this on-going study is to build a model of enhancing content production in e-learning by public private partnerships. The model is built on a basis of background theory and five preliminary cases of producing e-learning content. After constructing the model it will be implemented and tested in the action research case study.

CONTEXT OF THE RESEARCH

Incremental and Radical Innovations

Innovations differ in terms of the degree to which they introduce practices that depart in a significant way from past practices. Some innovations introduce relatively marginal changes to an existing product or process, whereas others are based on different scientific and engineering principles and thus create new applications and markets. The innovations can thus be categorised as incremental and radical (Narayanan 2001); continuous and discontinuous (Moore 1998) or incremental and breakthrough (Wheelwright – Clark 1992), innovations, where the categories have relatively same meaning. Also other categorisations exist in literature.

Incremental innovations represent minor improvements or changes to the elements of an existing product or organisational practices. Their initiation and implementation require little new organisation knowledge, because they are aligned with existing organisational skills and capabilities. (Narayanan 2001.)

Radical innovations represent revolutionary changes that require clear departures from existing organisational practices and technologies. They are typically not aligned with the organisation's skills and capabilities and thus require significant new organisational knowledge concerning both components of a system and the configuration of the system. (Narayanan 2001.)

In this research, e-learning innovations can be considered as radical innovations. They revolutionise the teachers' work environment and school culture and require new skills and capabilities from the teachers. The role of incremental innovations in this research is to reinnovate or reinvent the product to better match the different dimensions – including needs, skills, culture etc. – affecting the adoption of the innovations and decrease the resistance to change.

Diffusion of Innovations

The innovation adoption curve has been traditionally presented as a bell-curve, where time is the horizontal axis and frequency of adoption is the vertical axis. The curve has been divided into five different sections representing each different type of market segment. This means that during the time the innovation is adopted by users with different profiles. The customer profiles change in terms of expectations, price, usability, design etc. (Moore 1998.)

Innovators are persons, who adopt new technological products aggressively. They might seek out even before a formal marketing program has been launched. *Early adopters*, like innovators, adopt new product at the early stages of the product life cycle. But, unlike innovators, they may not be considered as technologists, who always need to have the newest technologies. They are people, who are able to imagine and understand the potential benefits of the new products. (Moore 1998.)

The early majority have some ability to figure out the potential of the new technology, but otherwise they are very practically oriented. They need to see references and examples of the product providing value before making investments. (Moore 1998.)

The late majority share concerns similar to early majority and also one major additional one: whereas people in the early majority are not concerned whether they can handle the new technologies, the people in the late majority are. As a result, they wait until something has become an established standard and want to see lots of support and tend to buy from large, well-established companies. The last segment – *laggards* – represents the people who do not want to have anything to do with new technology. (Moore 1998.)

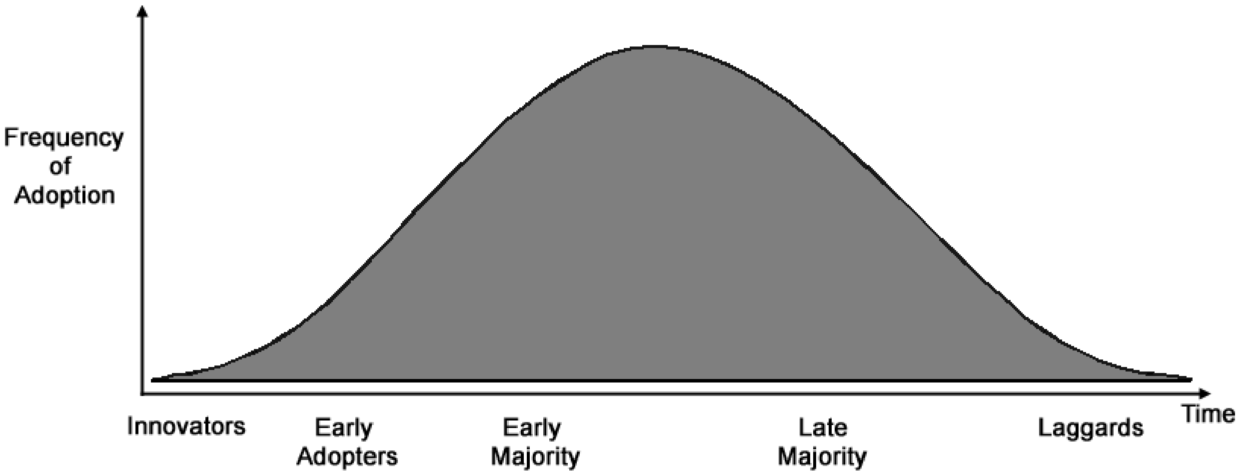

Figure 1. Innovation Adoption Curve (Moore 1998).

This research focuses on the transition from innovators and early adopters to early majority customer segment within e-learning products. The characteristic of different customer segments is a key for understanding the transition. Different problems and issues arise when the early majority segment is adopting the innovations, compared to the earlier segments.

RESEARCH DESIGN

Research Methods

The constructive research approach means managerial problem solving through the construction of a model, diagram, plan etc. The construction refers to entities, which produce solutions to explicit problems. (Kasanen et al. 1991; 1993.)

In the constructive research it is important to tie the problem and its solution with accumulated theoretical knowledge. The objective of the constructive research is to innovate or construct a solution idea and show the theoretical and practical contributions of the solution concepts. It is also important to demonstrate that the construction works and to analyse the conditions, which effect the use of the construction, i.e. examine the scope of applicability of the solution. (Kasanen et al. 1991; 1993.)

Action research demands the researcher to involve in changing the organisation. For the researcher it is not enough simply to study the action of others; action research concerns also intervening in action and involves the researcher in working with members of an organisation. Action research is to satisfy the criterion of being both action oriented and research oriented. (Eden – Huxham 1996.)

The purpose of the action research is to develop new approach to the process or topic that is studied. The objective is also to solve the problems on the operational level and to generate actual positive changes in the processes. (Argyris et al. 1985.)

The case study research focuses on understanding the dynamics within single settings or situations (Eisenhardt 1989, 534). A case study research makes it possible to study complex social problems and to create a deep or holistic understanding of the phenomena studied. Instead of statistical generalisations the case study aims to construct a comprehensive view of the case. Case study is preferred when the focus is on a contemporary phenomenon within its real-life context. (Yin 1987.) In addition, the case study approach is appropriate in new topic areas or phenomena that have not been studied extensively before (Eisenhardt 1989, 532).

Methods for interventions and data collection

A process simulation is a participative developmental method of companies' selected business processes. The simulation session is a facilitated group discussion, which aims to create a shared understanding of the process between the participants. The process to be simulated is first analysed, modelled and visualised on the basis of the interviews. In the simulation the process is talked through using the visualised process map, projected on the wall of the simulation room. (Smeds et al. 2001, 173–174.)

The goal of the simulation is to help the project partners to explicate their needs and offerings. The simulation supports the conversation of the participants' tacit knowledge into explicit knowledge. In the simulation the participants share individual experiences and tacit knowledge. The result is a shared process understanding. The simulation helps also the creation of common language between the participants. (Smeds et al. 2001, 173–174.) The theories of organisational learning (e.g. Nonaka – Takeuchi 1995; Wenger 1999) can be considered as background theories of the process simulation.

The debriefing sessions are organised to develop the ideas generated in the simulation session. They are arranged one month after the simulation session. The participants of the session include the key persons of the case project.

The brainstorming sessions are less formal group discussion under a given topic aiming to generate rich ideas about the given topic. Brainstorming sessions bring together people with different backgrounds to discuss and create new viewpoints and approaches to the topic.

Research process

The aim of this study is to build a preliminary model of enhancing content production in e-learning by public-private partnerships. The preliminary model is based on five case studies and on background theory. During the construction process five simulation sessions and three debriefing sessions were arranged. The data was gathered by thematic interviews on teachers, principals, students and representatives from school administration.

After constructing the preliminary model it is going to be tested in a case of public private partnership between educational institutions and a publishing company. The interventions related to the implementation and testing process include three brainstorming sessions, three training simulations related to content production and two dissemination simulations.

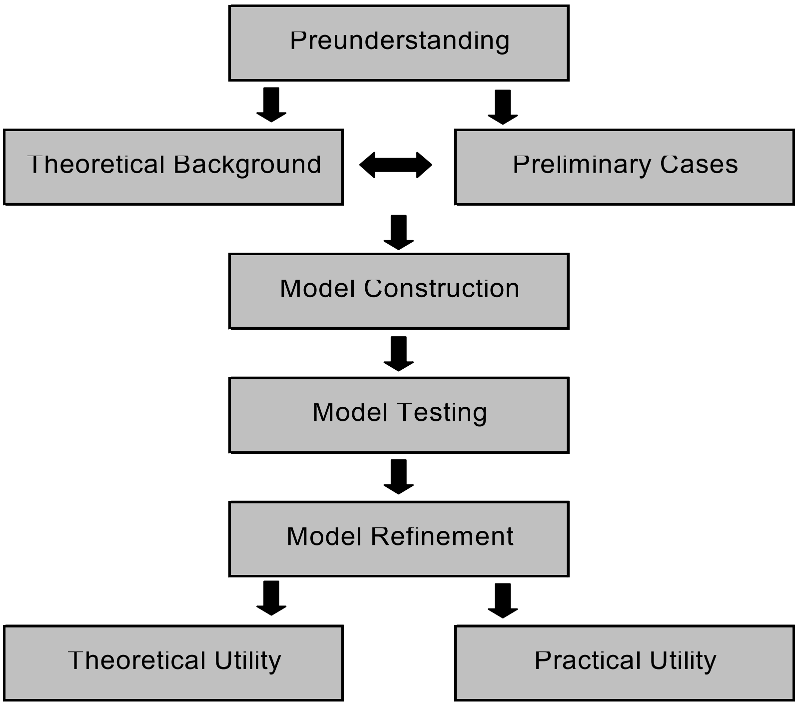

Figure 2. Research Design

MAIN FINDINGS FROM THE PRELIMINARY CASES

The preliminary cases were four e-learning courses implemented in Finnish educational institutions on different educational levels and a case of producing a content module for an e-learning platform. The first two cases were pilot e-learning courses in secondary and upper secondary schools. The third case was an e-learning course in business institute and the fourth case in a polytechnic. The fifth case was done by a publisher, which offers a product package including an e-learning platform and content for elementary education. The findings from the preliminary cases are collected as background conditions as a model and are represented as a table in the end of this section. The findings represent the problems and issues that the organisations – both from public and private sectors – have had when producing e-learning content on their own.

The data from the preliminary cases was collected by thematic interviews, simulation sessions and debriefing sessions. Interviewees included teachers, students, principals and representatives from school administration from the public sector and specialists and management from production and marketing departments of the publishing company. The data from the preliminary cases was gathered between December 2001 and December 2002. The actual unit of analysis in each case was the complete organisation and the process of building and providing the e-learning content.

It became clear that teachers’ core competences were closely related to traditional classroom teaching. School teaching is relative conservative, and stability and conventionality is typical for schools. This means that teaching is teacher-oriented and it emphasises students’ passive role in the learning process. In addition, the structures of the schools are created to serve the traditional classroom teaching, not e-learning (Kilpiö 2002).

The problem is that the teachers usually do not have the basic technical and pedagogical skills needed in e-learning. Although the teachers usually do not master all the areas of expertise required in e-learning, a lot of expectations are often focused on them concerning the technical implementation of the course. Because the teachers lack the technical and pedagogical competences they are dependent on the resources offered to schools. Lack of resources (including technical support, computers and network connections) makes the implementation of e-learning difficult. (Partanen 2002; Kilpiö 2002.)

According to the preliminary cases there was only little interaction between the different actors in the educational industry (Partanen 2002; Kilpiö 2002). The western individualistic culture has strongly influenced the schools and the school culture. This means that the educational institutions have traditionally been places, where people have been working alone, without collaborating with each other. Lack of interaction between different actors and organisations is one of the biggest challenges in the emerging e-learning industry (Partanen 2002). Established practises and negative attitudes among the school personnel and the students increase the resistance of change and restrict the development of teaching methods (Kilpiö 2002).

The publisher recognised, that it did not involve the teachers in the development, for example for concept creation or testing, as much as it could have done. The marketing department – which is continuously working in the customer interface and has the knowledge about how customers are using the product – did not actively provide information for the production department. There is also a capability gap between the skills that are required for using the products and that the skills the targeted customers actually have.

The publisher used freelance teachers' as scriptwriters for the content module. The teachers brought the expertise about the substance, as chemistry in the case. This was considered to be a vital condition for making professional content.

Table 1. Background conditions – based on the problems issues emerged from preliminary cases

Educational Institutions	Publisher
The focus of the e-learning must be on supporting learning, not on building technological solutions	The publisher needs expertise on substance when creating content
Teachers need support and training in using the e-learning products – both in terms of technology and pedagogy – for efficient e-pedagogical solutions	The customer needs are not clear and the publisher does not know how the e-learning product is actually used as a part of every-day work processes
Teachers must be able to focus on teaching, not to become R&D engineers	The targeted customers may not have the skills and capabilities that are needed for using the newly created products
The culture of teamwork must be promoted instead of individualistic culture	
The change from old, teacher-centred culture to new learner-centred culture is hard. Teachers need examples of working solutions to overcome the resistance of change	

THEORETICAL BACKGROUND OF THE MODEL

The theoretical frameworks – that the constructed model is built on – are collected into sections. The background theory gives the shape for the model constructed in this study. The theoretical background defines the *knowledge transfer mechanisms* that are needed for the collaborative development within a public-private network to solve the background problems found from preliminary cases. The knowledge transfer mechanisms proposed by different theoretical frameworks give answers to questions:

- Why to communicate, what is the goal of the communication?
- With whom to communicate?
- How to arrange the communication?
- What to communicate about?

The sections are summarised at the end of each section; the conclusions are market as C1-C7.

Transition from Early Adaptors to Early Majority

The user needs and wants change when shifting from innovators and early adaptors to early majority segment. The customers in early majority segment have some ability to figure out the potential of the new technology, but otherwise they are very practically oriented. They need to see references and examples of the product providing value before making investments. (Moore 1998.)

Reinnovation refers to the dynamic by which an innovation is changed or modified by the users as they adopt and use it. The increasing use of an innovation creates new ideas for improving the innovation. In many instances, changes in the design and performance characteristics of an innovation are a prerequisite for its further adoption beyond those who have already adopted. These changes require a more detailed specification of the user's requirements; some of the requirements will be known only during its initial use by the potential adopters. Learning by using means that a technology's performance ratio improves rapidly as a community of adopters accumulates experience in developing and applying the technology. Market feedback about usability of an innovation leads to improvement in its performance characteristics. (Narayanan 2001.)

C1: The publisher must know the needs of the early majority customer segment and be able to modify the product accordingly. Thus they need to have people representing the early majority customer segment involved in the development.

User-Involvement

The way firm manages communication with the customers may have a significant effect on its ability to impose a dominant design. The firm must be able to learn from the markets by staying close to the customers and observing how their evolving products are actually being used: how they are succeeding or failing to satisfy customer requirements and how design changes might close the gap between product capabilities and user requirements. (Utterback 1994.) Close contact with users during the period of experimentation helps firms determine which product features are truly important to customers. Hippel et al. (1999) have provided a method of involving lead-users in the concept development phase.

Leonard-Barton (1995) introduces four different modes for managing communication and interaction with the customers: 1) delivery mode, 2) consultancy mode, 3) co-development mode and 4) apprenticeship mode.

Delivery mode projects are done without any user interaction; developers design a tool that they themselves would like. The expectation is that the product is completely ready for use and the users are capable of figuring out and customising the new process themselves. In *consultancy mode* developers do periodic consulting with users about features and functions and provide an opportunity for feedback and user input. This happens in situations when work processes in the user environment are relatively well established and therefore domain knowledge is already structured and codified, developers do not believe that users need to be part of the development team. In *co-development* projects users are part of the development team. Continuously, involved the project, from inception to implementation they strongly influence the outcome. Successful development of entirely novel technical systems, production systems or work processes requires heavy use involvement. Co-development is the preferred mode when developers are not quite certain how their new system will interact with work processes and users are not initially certain how they can best redesign work to exploit the full potential of the new technical system. In the *apprenticeship mode* users assume total responsibility for integrating the technical expertise required for building a new tool, drawing upon their knowledge of their own work situation. (Leonard-Barton 1995.)

C2: The model must involve the users in the development using the co-development mode. In the case of e-learning the development happens within a network of private companies and public organisations.

Public-Private Partnership

Public private partnership emerges in joint actions between public and private organisations. Both partners have their own aims and objectives, which they strive to reach in partnership. The public sector partner has developmental objectives while the private sector partner seeks to make a profit. Both partners participate in the partnership at their own financial risk. (The Association of Finnish Local and Regional Authorities 1998.)

Public private partnership means mutual benefit for both partners because the partnership is based on the synergy of the partners' objectives. The public and private partners are dependent on each other, because the objectives cannot be implemented without partnering or the action would not be possible to carry out as effectively otherwise. Combining the resources of both partners in terms of finance and know-how makes it possible to implement more extensive plans. Public private partnership allows the effective use of expertise of both partners whose contributions are essential to the best possible implementation. (The Association of Finnish Local and Regional Authorities 1998.)

Public private partnership is carried out somewhere between business activity and public administration. Therefore it requires flexibility and mutual adjustment from both partners. The public sector must adjust itself to the goals of the companies who need to adapt to the objectives of the public sector partner. Both partners have to accept the different interests of the parties and the partnership requires frequent compromise. (The Association of Finnish Local and Regional Authorities 1998.)

When partnering it is important to consider commitment, risk and interests of all parties involved. The risks entailed in partnership are shared in proportion to the partner's contributions. The commitment is important to avoid free riders. It is notable that if the risk is high the level of commitment will also be high. When the risk is low, there is always a danger of free riders. Openness and sharing of information is essential for the mutual confidence of the partners. (The Association of Finnish Local and Regional Authorities 1998.)

It is important to define the difference between co-operation and partnership. Co-operation can be considered as an exchange of opinions, while public private partnership is more dynamic and market-based. Communication is usually informal in co-operation and formal in partnerships. (The Association of Finnish Local and Regional Authorities 1998.)

C3: The model should create a common goal for public and private parties. It should also take into account the different sets of skills and values that the different parties have and create a common language to avoid problems in communication caused by misunderstanding each other.

Tacit and Explicit Knowledge

Polanyi (1966) made a distinction between tacit and explicit knowledge. Tacit knowledge is personal, context-specific and therefore hard to formalise and communicate. Explicit or "codified" knowledge is transmittable in formal, systematic language.

Human knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge, which can be called *knowledge conversion.* It is a social process between a group of people, not happening within an individual. Human cognition is a deductive process of individuals, but and individual is never isolated from social interaction when he or she perceives things. Through the social conversion process tacit and explicit knowledge expand in terms of quality and quantity (Nonaka – Takeuchi 1995).

C4: The model must recognise the roles of tacit and explicit knowledge in different stages of the model. The knowledge creation should be considered as a process that amplifies the knowledge created by groups and individuals and crystallises it as a part of the knowledge network of the partnership.

Mutual Adaptation

Mutual adaptation is the simultaneous adaptation of the organisation to use the new technology along with the reinvention of the technology to conform to the adopting organisation. Mutual adaptation requires that managers in charge of implementing the new technologies recognise and assume responsibility for both technical and organisational change (Narayanan 2001).

C5: The model must make mutual adaptation possible, where the users learn new work processes, which can be supported by the product, and on the other hand the product can be modified to support the existing processes.

Product Champions

Incremental change through general and specific evolution and change through insight from organisational therapy mechanisms serve to preserve and enhance the culture as it exists. Changes in the environment create disequilibria that force the organisation and culture to change. It can be managed though: 1) promotion of hybrids within the culture, 2) systematic promotion of selected subcultures, 3) organisation development projects and creation of parallel learning systems and 4) unfreezing and change through technological seduction. By systematically promoting hybrids, who are insiders of the organisation, and whose assumptions are better adapted to the new external needs, the organisation can manage the change gradually and incrementally. Because they are insiders, these individuals embrace much of the cultural core and have credibility in the eyes of other employees. (Schein 1997.)

When feasible, managers should line up sponsors and create expectations of a technology success to take advantage of community effects in diffusion. They should expect resistance to change that may retard the diffusion of new technologies. In order to overcome this resistance, managers should recruit the support of powerful sponsors. (Narayanan 2001.)

C6: The model must produce product champions for the adopting organisation. The champions' role is to promote the new culture within their organisations.

Iterative Knowledge Creation

According to Nonaka and Takeuchi (1995) organisational knowledge creation is a continuous and dynamic interaction between tacit and explicit knowledge. The interaction is shaped by shifts between different modes of knowledge conversion, which are induced by several triggers.

There are four different modes of knowledge conversion: 1) Socialisation – from tacit knowledge to tacit knowledge, 2) externalisation – from tacit knowledge to explicit knowledge, 3) combination – from explicit knowledge to explicit knowledge and 4) internalisation – from explicit knowledge to tacit knowledge. First, the socialisation mode usually starts with building a "field" of interaction. The field facilitates the sharing of members' experiences and mental models. Second, the externalisation mode is triggered by meaningful "dialogue or collective reflection", in which using appropriate metaphor or analogy helps team members to articulate hidden tacit knowledge that is otherwise hard to communicate. Third, the combination mode is triggered by "networking" newly created knowledge and existing knowledge from other sections of the organisation, thereby crystallising them in to a new product, service or managerial system. Finally, "learning by doing" triggers internalisation. (Nonaka – Takeuchi 1995.)

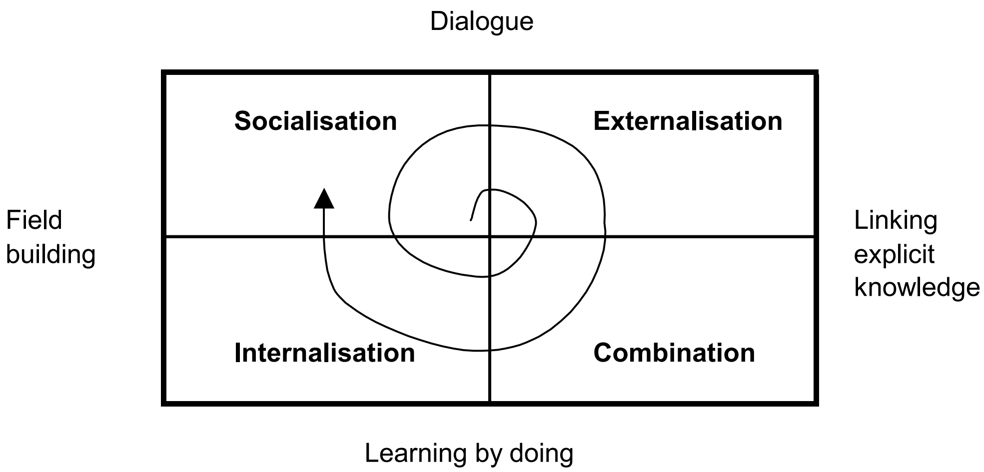

Figure 3. Knowledge creation spiral. (Nonaka – Takeuchi 1995.)

C7: The model must provide an iterative process, where knowledge is accumulated during the iteration cycles in the model. Each iteration should have the best existing knowledge as a starting point and elaborate the knowledge further.

PRELIMINARY MODEL

The model is built both on empirical findings from preliminary cases and theories from existing literature. The model is justified by the background conditions, which are the findings of the preliminary cases. The background conditions state the primary problems and challenges that the parties – the public and private sector partners – have when they try to produce e-learning content on their own. The knowledge transfer mechanisms are based on the existing literature about learning and knowledge creation as a social process.

The model is based on a partnership between private companies and public organisations. The both participate in the partnership at their own financial risk and have their own goals, which they want to achieve. Both parties may actually consist of several independent organisations or companies, which can be called a value network. Within the value networks the risk involved in the action and the value generated by the action is divided according to mutual agreements. In practise, the private sector participants usually involve a company and its subcontractors, which are needed to provide the service. The public sector side in the partnership may consist for example of separate organisations and support functions provided by a commune.

The aim of each iteration in the model is to bring the both partners together to create new knowledge about the phenomenon. In practice, the partners discuss about the product offering based on their previous experience – possibly accumulated from the previous iterations on the model – and try to recreate product to better suit the customer's work environment and processes. On the other hand they also simultaneously create and explicate new work processes, which can be best supported by the new product.

The model is based on two-way knowledge transfer: from customers to developers and from developers to customers. It relies heavily on social development methods, such as social process simulations, rather than on quantitative surveys or other methods that only allow one-way knowledge transfer.

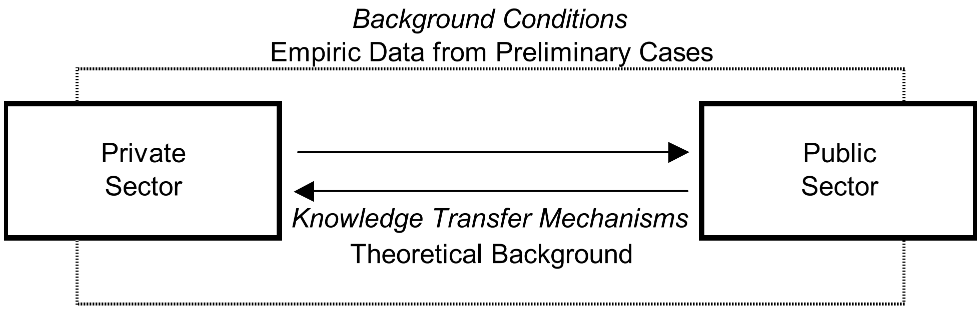

Figure 4. The building blocks of the model

Brainstorming

Brainstorming is used for generating ideas for the adjustments in the generated content. The brainstorming phase involves a bigger group of people, which are brought together to discuss and work on the selected topics. The aim of brainstorming sessions is also to create a common language for communication between the public and private partners that participate in the development project.

In the case of e-learning products, the brainstorming group may consist of teachers and e-learning specialists from public sector, and product development specialists from private sector. The target is to involve teachers with different backgrounds, not only the most innovative ones, to cope with the current issues that the early majority customer segment is currently facing. After the brainstorming phase some teachers continue as scriptwriters for the content module.

The aim is to share the tacit knowledge among the participants: the group generates ideas during each brainstorming session. At the end of each session, the most important topics are selected. They are discussed more thoroughly during the next session. The goal of the brainstorming phase is to create a frame for the developed content module, so that it will best support the teachers' current needs and work processes.

Content Production

After finding out the most important issues in the brainstorming phase, the actual content module is produced. The content production process is a complex process, which includes planning, production, testing and releasing phases. The both partners are involved in the content production process, but it is mainly on the publisher's responsibility. The process must include an appropriate amount of interaction between partners: too much interaction causes the temporal and financial limits to be exceeded; too little interaction, on the other hand, causes the potential, that is made possible by the partnership, to be lost. During the content production phase, three simulation sessions are arranged. In each session the goal is two-fold: the group discusses how the previous part of the process has been done, and plans the next steps that are going to be taken in the process.

To achieve the best performance the content production process is arranged so that the tasks are done by individuals or small groups. During the process, the teachers work as experts in the substance of the content. The publisher provides technical expertise, including e.g. programmers and graphics designers. The publisher is also responsible for supervising the content production process and takes care so that the schedule is met. The simulations bring together all parties that take part in the process to discuss the issues on more abstract level. The content production phase is a heavy learning experience for the teachers that participate in it and turns them into product champions.

Mobilization

The mobilization phase again involves a larger group of people from the customer side. The created content is piloted in the chosen educational institutions. In this phase, the teachers knowledge is increased as they learn by doing as they gain experience about using the produced content in real life situation.

The participants of the mobilization phase can be the same people from public sector that took part in the brainstorming phase.

Dissemination

In the dissemination phase the knowledge and best practises accumulated during the previous phases are disseminated. The dissemination is arranged as a two simulation sessions, where the target is to share the tacit knowledge created in the previous phases. The key actors during the development and implementation of the content module are gathered together to discuss the positive and negative things about the module. Also other people, for example, teachers with less experience can participate the sessions to learn from the experiences.

The goal of the dissemination simulations is also two-fold: the aim is to create knowledge both from development (brainstorming and content development phases) and use (mobilization phase). During the first session the development team shares the new ideas that they got during the development. During the second session the pilot customers explicate the new work processes that were created during the mobilization phase and communicate them to other customers and to publisher.

FIRST RESULTS AND FUTURE RESEARCH

When starting the partnership it was really challenging to motivate and commit the teachers to the project. It seemed that teachers who could be categorised as innovators, early adopters or lead-users of the new technological innovations had already committed to numerous different projects and did not have time to participate in the brainstorming sessions and other meetings. Teachers with normal technical skills and interests on the contrary did not identify themselves with the topics that were relevant in the partnership and could not recognise the benefits for their everyday work or professional development.

It was worth consideration that only few teachers had experience of e-learning or using the web in the teaching. Therefore it was difficult for them to discuss the technical and other issues concerning e-learning. Instead the teachers were experts of the substance and familiar with the everyday life in schools. For the publisher it was really rewarding to hear the teachers to tell the realities and constrains of the schools concerning the e-learning. It was also noteworthy that the teachers and the representatives of the publisher did not have a common language in the beginning and they had to accustom themselves to use concepts that were familiar to all the participants.

All participants were really motivated and enthusiastic about the brainstorming and the discussion within the partner network. According to the participants working together with people on different backgrounds was encouraging and rewarding and they thought that the brainstorming phase was a success.

During the next two years the aim of the research is to study the implementation of the model. The objective is to test the model in practise and to refine the model on the basis of gathered information and knowledge. The theoretical focus is on the mechanisms that make possible the knowledge transfer between the public and private partners and which in consequence bring closer the different actors in the partner network. The aim is to help the learning partnership succeed and to provide information about the needs and offerings of different actors when participating in cross-organisational public private business processes. The research questions are going to be answered are 1) what do organisations offer for other partners, 2) what do they expect from each others, 3) do the expectations meet the offerings and 4) does partnering create a 'win-win'-situation.

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