

Improving SMEs - A study on knowledge transfer between Norway and Poland

Leif Estensen¹, Anandasivakumar Ekambaram², Katarzyna Anna Kazimierczuk³

¹Norwegian University of Science and Technology, Norway

²SINTEF, Norway

³University of Warszawa, Poland

Leif.a.estensen@ntnu.no

siva@sintef.no

Katarzyna.A.Kazimierczuk@id-norway.com

Abstract

This paper is connected to a project called "Polish Norwegian cooperation for environmental friendly and innovative solutions in SMEs" (POLNORECO). Energy efficiency and sustainable resources management are success factors of competitive industries in Europe. Poland is still facing challenges in that aspect and Polish SMEs do require of the system approach allowing to introduce good practice and solutions implementing sustainable energy management in the companies. Apart from political targets set up by European Union, energy efficiency is a vivid and important topic for many of small medium size businesses all over Poland. Based on this research project, this will look at transfer of knowledge and technology between Norway and Poland.

Goals of the project that this paper is based on are: (1) to strengthen Norwegian-Polish cooperation and the exchange of knowhow and technologies (2) to increase the energy efficiency of SME and more effective management of recourses (3) to develop sustainable solutions in energy efficiency for participating SME (4) to share the bilateral knowledge and experience in organization of companies support (5) to share and promote best practices in energy efficiency both in Poland and in Norway.

Knowledge transfer between two countries have both opportunities and challenges. Since knowledge is shared/ transferred between two (national and organizational) contexts, the knowledge has to be transformed first. That is, the knowledge has to be de-contextualized from its source and then re-contextualized to fit suitably to the transferred context. This paper addresses the cultural challenges of the knowledge transferring process between the two countries.

There can be several cultural factors that can affect the knowledge transferring process. These factors can be seen from various perspectives. This paper considers systems thinking as an underlying theory to address the theme of this paper along with the description of explicit and tacit knowledge. This paper describes differences in individuals' understanding of the reality due to their own cultural contexts, and discusses some underlying mechanisms that lead individuals to understand their reality differently. Understanding of these mechanisms can serve as a guiding framework for the project to devise actions and strategies to improve the knowledge transferring process. Case studies will be applied as a research method.

Keywords:

Knowledge transfer, Small and medium sized enterprises (SMEs), Collaboration between Poland and Norway, Business development

1. Introduction

Knowledge is considered as a means of obtaining efficiency, effectiveness and / or competitive advantage in modern organizations. This paper is connected to a research project called "Polish Norwegian cooperation for environmental friendly and innovative solutions in SMEs" (POLNORECO).

Energy efficiency and sustainable resources management are success factors of competitive industries in Europe. Poland is still facing challenges in that aspect and Polish SME do require of the system approach allowing to introduce good practice and solutions implementing sustainable energy management in the company. Apart from political targets set up by European Union, energy efficiency is a vivid and important topic for many of small medium size businesses all over Poland.

The project is carried out from January 2016 to October 2017. Leader of the project is Polish Chamber of Commerce in cooperation with Norwegian Partner International Development Norway AS. Regional partners are Chamber of Commerce and Industry in Bialystok Regional Chamber of Commerce in Lublin. The main assumption behind POLNORECO case is to implement two pilot projects, based on SME support concept developed and implemented in Norway (Idésøk of VRI and Network projects, both funded through Innovation Norway) and further on to examine results how knowledge transfer between Poland and Norway works and if Polish SMEs benefit from delivered knowledge the way Norwegian companies do.

The goals of the projects are:

- to strengthen Norwegian-Polish cooperation and the exchange of knowhow and technologies
- to increase the energy efficiency of SME and more effective management of recourses
- to develop sustainable solutions in energy efficiency for participating SME
- to share the bilateral knowledge and experience in organization of companies support
- to share and promote best practices in energy efficiency both in Poland and in Norway.

To address these needs and challenges Polish Chamber of Commerce and International Development Norway AS developed this project, implemented under EEA Grants Programme Energy Efficiency O4 in PL. The target group that the project addresses is SMEs in Poland, with the focus on Eastern regions— Podlaskie and Lubelskie. Project activities include the following:

- Information campaign and recruitment of participants of the project
- Implementation of 2 pilot innovative projects in Lubelskie and Podlaskie Voivodeship - audits, reports, workshops and study visit
- Promotion of environmental innovation: conferences, seminars, e-education

This paper is about cultural challenges related to the knowledge transferring process between the two countries.

This is primarily a conceptual paper with relevant industrial examples. This paper addresses the cultural challenges of the knowledge transferring process between the two countries. There can be several cultural factors that can affect the knowledge transferring process. These factors can be seen from various perspectives. This paper considers systems thinking as an underlying theory to address the theme of this paper along with the description of explicit and tacit knowledge.

This paper describes differences in individuals' understanding of the reality due to their own cultural contexts, and discusses some underlying mechanisms that lead individuals to understand their reality differently. Understanding of these mechanisms can serve as a guiding framework for the project to devise actions and strategies to improve the knowledge transferring process.

2. Relevant theories

The term knowledge is defined in many ways. One definition that we take into account regarding this paper is the following:

Davenport and Prusak (1998, page 5) say

"Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms".

According to Davenport and Prusak (1998, page 2), data is "a set of discrete, objective facts about events", and information is "a message, usually in the form of a document or an audible or visible communication".

The definition of knowledge mentioned above seems to suggest the practice-based perspective of knowledge. In our opinion, knowledge is practice-based and that it can be created through reflection, interpretation, action, communication and cooperation. These mechanisms, possibly interacting with one another when knowledge is created, reflect the fluid mix of framed experience, values, contextual information and expert insight that are mentioned in the definition given by Davenport and Prusak (1998).

This definition also points out that knowledge can be explicit and tacit. Polanyi (1966) came up with the notion of tacit knowledge, and he mentioned that the explicit knowledge is just a tip of an iceberg and that much of the knowledge that we have is of tacit nature. Nonaka and Takeuchi (1995) presented a model for knowledge creation in companies. The model also describes mechanisms that are involved in knowledge creation. Figure 1 illustrates this.

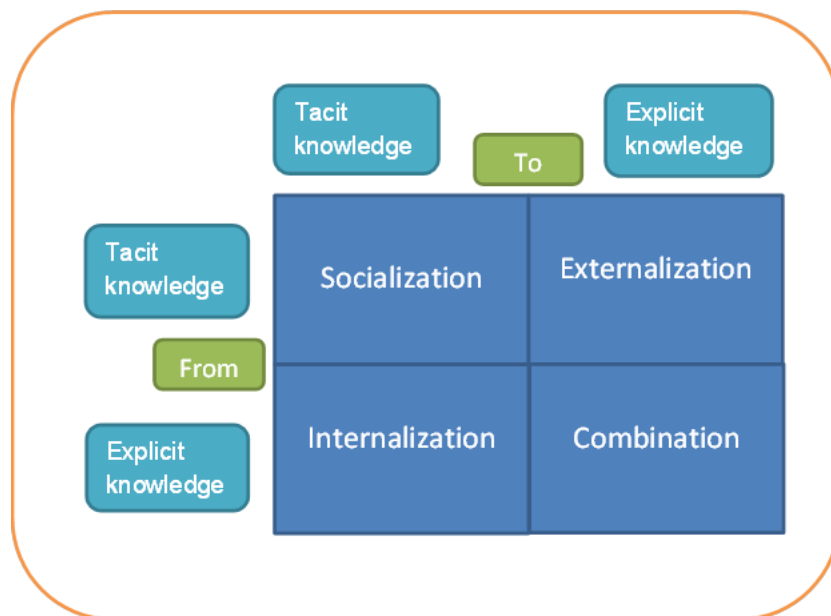


Figure 1: Knowledge creation model

As the model describes, socialization is a process that contributes to transfer tacit knowledge. Externalization is to make the tacit knowledge explicit with words and expressions. Combination is a process that contributes to combine the externalized knowledge with relevant existing (explicit)

knowledge. Institutionalization is about making the newly created knowledge as an integral part of the work practice.

This model is relevant for this paper, since we are talking about the barriers to knowledge transfer between two countries. The tacit nature of knowledge contributes to increase the complexity of this transferring process, because of the contextual elements that are integrated with the knowledge that is to be transferred from one context (nation) to another context (nation). The integration of contextual elements with the knowledge itself can be seen as a characteristic of situated learning. Situated learning is based on social learning theory. Learning happens through observations of others' behaviors in social settings (Merriam & Caffarella, 1991). The term situated learning gained much attention from Lave & Wenger (1991). In essence, learning is embedded in contexts. Aspects such as practice and culture play an important role.

Hertmann & Dorée (2015) regard social interactions as contextually embedded and collaborative efforts in projects from which learning occurs. If the knowledge resulted from this learning is to be transferred to another context / situation, it is important to be aware of and deal effectively with the challenges related to knowledge transfer.

3. Research approach and method

The overall philosophy that guides the research approach and method is that energy efficiency in the company should go in parallel with the business development. In this regard, the following model is developed:

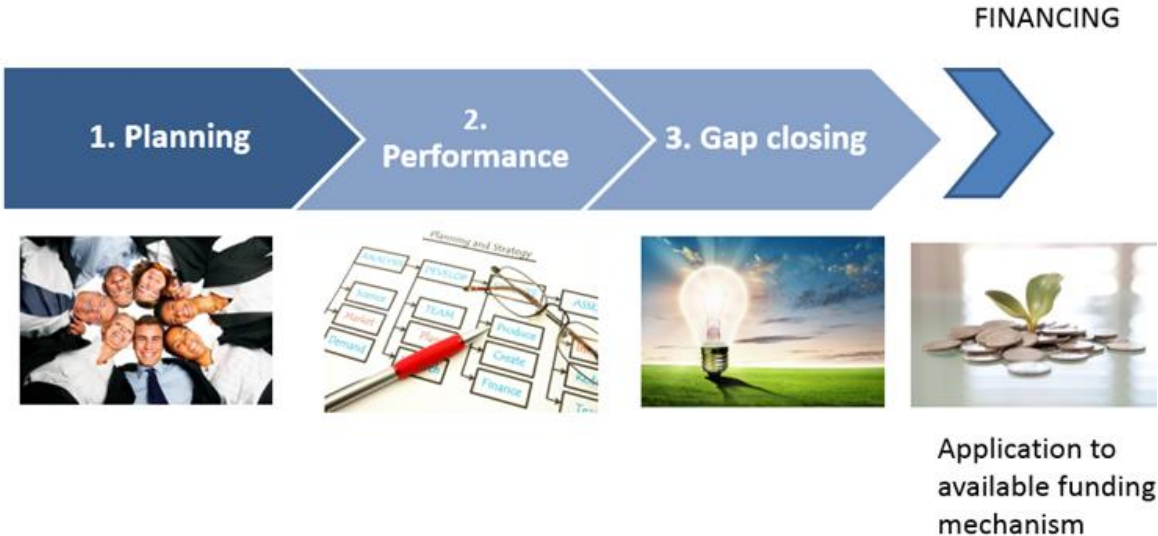


Figure 2: The overall research strategy

The parts that are mentioned in Figure 2 (Planning, Performance and Gap closing) can be described in the following table:

Table 1: Elements of the overall research strategy




<p>Step 1: Pre-visit preparation</p> <ul style="list-style-type: none"> • Confidentiality agreement • Desk study for the company • 1st questionnaire (filled in by local chamber of commerce) 	<p>Step 2: Visit to the company</p> <ul style="list-style-type: none"> • Company visit (3 days) • On site procedures (in depth interviews, documents reviews, workshops) • Milestone : draft report on green business development 	<p>Step 3: Reporting and recommendation</p> <ul style="list-style-type: none"> • Desktop reviews • Identifying technologies and solutions applicable • Issuing draft/final report for the company
		

Table 1 presents the research methods that are involved in the research.

4. Reflection and discussion

Transferring knowledge is a tricky issue, because knowledge is context-based. Learning that takes place in a specific situation tends to integrate the situational elements with the knowledge that is being created in that situation. Hence, there should be a holistic understanding regarding that knowledge, when that knowledge is applied in a different situation. In this regard, it is relevant to refer Senge's description on systems thinking. He says that a system can be understood not only by studying its parts, but also the interrelation between the parts – how the parts affect each other (Senge, 2006). Systemic view is important when we transfer knowledge from one context to another.

Based on his study (1996), Schein says that the word "marketing" will mean

- “Product development” to the engineer
- “Studying customers through market research” to the product manager
- “Merchandising” to the sales person, and
- “Constant change in design” to the manufacturing manager

Here, we are talking about different interpretation of the word "marketing" within one organization. This example illustrates how sub-cultures in an organization differ in understanding terms that apparently seem straightforward and easy to comprehend. This example further suggests the possibility of challenges in communication and cooperation between these sub-cultures – needless to mention the possibility of challenges related to transfer of knowledge between them. One aspect is the context that is integrated with the solution, and the other aspect is the role of communication in transforming and then transferring the knowledge.

When it comes to knowledge transfer between two countries, the transferring process gets more complicated. National culture in addition to organizational culture will also play a greater role in knowledge transfer. In this regard, it is relevant to look at Hofstede's work on national culture; specifically, the six aspects / dimensions that he presents in order to compare national cultures with respect to organizational management. The six dimensions are (<https://www.geert-hofstede.com/national-culture.html>):

- Power distance

- Uncertainty avoidance
- Individualism versus collectivism
- Masculinity versus femininity
- Long Term Orientation versus Short Term Normative Orientation
- Indulgence versus Restraint

These six dimensions can explain the problematic nature of transferring knowledge across different national cultures. Take for example a dimension called power distance. A project participant from country A may be used to high power distance, and this will affect the way knowledge is transferred between this person and his / her manager. If this person works in an international project where the project manager from country B that has less power distance, then we can expect there will be some challenges regarding knowledge and information sharing, because, among other things, the expectations, assumptions, content and form of communication between these two individuals (from country A and B) will probably not be in the same / similar note.

It cannot be possible to find a universal solution to dealing with the challenges of knowledge transfer between two or more countries. However, to look at an underlying mechanism of how we see the reality and why we act differently will provide us some kind of basic understanding that can enable us to devise actions in order to encounter challenges of knowledge transfer between individuals. In this regard, it is relevant to look at the "ladder of inference" (Senge 1994).

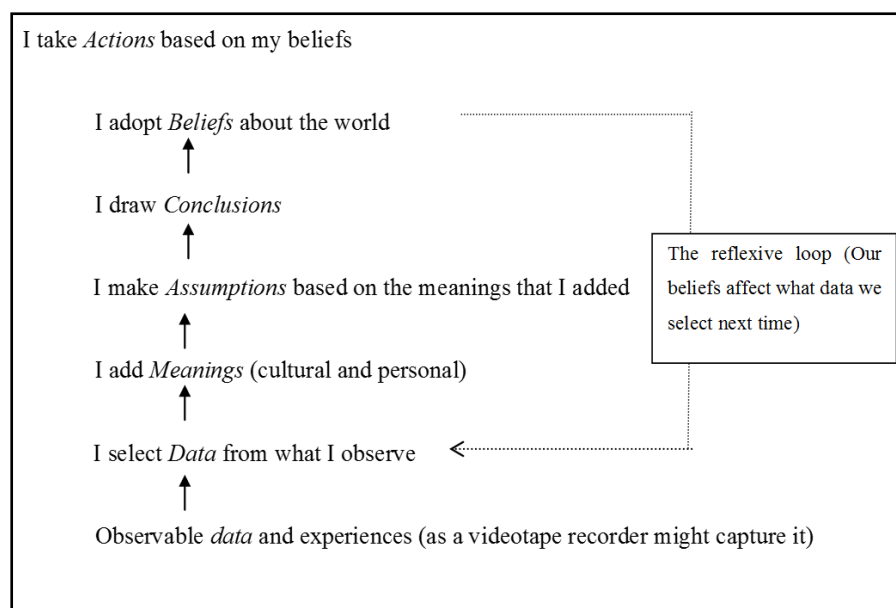


Figure 3: Ladder of inference

Figure 3 shows different stages of a process through which we comprehend the reality and take actions. These stages can be seen as concrete thematic points that we can focus on and communicate in order to create a common ground of understanding – which in turn can lead to improve knowledge transfer. In a cross-cultural collaboration, creating a common ground of understanding is essential.

Developing meanings, assumptions, conclusions and beliefs is a process that is of tacit nature, at least to a certain extent. Workplace culture or national culture that one is accustomed to, guides and strengthens the individual's understanding of the reality. Furthermore, the reflexive loop, which Figure 3 presents, also point out that when the individual starts to work in a cross-cultural project, then he / she tends to adhere to his / her own (cultural) way to select data from a cross-cultural work setting. The selection of data and the consequent steps toward developing beliefs can thus be influenced by a

great deal of tacit understanding. This is why it is important to focus on the socialization part of the knowledge creation process (cf. Figure 1) in order to understand the tacit elements – or, at least to establish a conducive atmosphere that facilitates (and let the involved parties to open up, etc.) the understanding of the tacit elements. This understanding can, as a consequence, lead to the development of a common ground.

The preliminary observations / results suggest the following aspects that characterize the Norwegian organizations (SMEs):

- High labor costs:
- Short distance between employees and management: Generally, there is very little barrier for an employee to talk to his / her employer openly about critical issues. The degree of openness is high.
- Employees who take responsibility: Employees not only take responsibility for the tasks that they are assigned to, but also actively take initiatives to deal with possible changes and uncertainty that are associated with the tasks. They do not normally wait for guidance from the management for small issues.
- Educated people and high competence: Generally speaking, the level of competence is high among the employees.
- High IT competence in the Norwegian population: Employees use IT and its applications and they normally gain / update their knowledge on IT solutions.
- Many SMEs in the Norwegian industry business.
- Culture for collaboration within the company - and also between companies
- Strong focus on sharing knowledge and experience: In general, employees / companies have positive attitudes toward sharing knowledge and learning. It is also to be mentioned here that there are examples of competing companies that would choose to share their knowledge with each other and create new knowledge that is beneficial for them in the future. These companies see greater benefits in collaboration
- Establishment of the steering committee board: The individuals who constitute the board will also include individuals who are external to the company. This can influence the strategic direction of the company, which in turn can influence tactical and operational decisions regarding knowledge sharing.

The preliminary observations / results suggest the following aspects that characterize the Polish organizations (SMEs):

- Polish SME (10-249 employees) sector is smaller than in other EU countries (1.9 per 1000 inhabitants) however still SME (including microenterprises) constitutes 99.8 % of total number of the companies registered in Poland
- National GDB generated by Polish SMEs equals 48.5 % which is average of the results in UE
- Labour costs, especially in Eastern regions are low
- Centralised management style – most of the companies in the project have one or two owners which are also responsible for daily management
- Companies in the project are also in relevant part family companies where at least to generations are involved in daily operation what also seems to illustrate well the characteristic of the sector
- Small culture for external cooperation- however local chamber of commerce as business associations seems to function
- Polish business culture is low trust culture, which is also the result of the historical set up
- Approach towards sharing knowledge and learning is initially reluctant. It takes time to build up the trust in group and convince the participants that delivered knowledge may be relevant and useful for them

- There is a strong and visible difference in approach towards learning and sharing between young (up to 45) generation and older managers, who are rather reluctant to change
- In Poland there is no practice of hiring external advisory board (nor the legal framework for it – being a member of company board is equal to financial responsibility for its performance in case of ineffective procedure of debts recovery implemented toward the limited liability company)

The characterizing aspects of both Norwegian and Polish organizations, presented above, point out differences in national / workplace culture. To go through all these differences is beyond the scope of this paper. Therefore, we would like to present some highlights – a short comparison of Norwegian and Polish SME's, and how the differences can affect knowledge transfer.

However big differences between Polish and Norwegian SME sector are acknowledged, it still seems to be possible to transfer knowledge and experience from Norway to Poland. POLNORECO project has goals for knowledge transfer that are set on two dimensions. The first dimension is the knowledge transfer between partnering institutions, where the focus is on the SME innovation support model (Idésøk and Innovation in Network), and developing POLNORECO's project proposals based on the successful Norwegian models. However, certain conditions should be met:

- Since the trust barrier is recognizable, companies having memberships in local business associations should be the target group as the minimum trust level should be achieved there.
- Period of being part of the network/ workshop group should be longer than the period that was introduced in POLNORECO, in order to successfully build the community.

The second dimension of knowledge transfer refers directly to information delivered to the companies (f. ex. LEAN methodology and productivity improvements), and POLNORECO results also show that the transfer is feasible, however it is important to consider the following aspects:

- Knowledge needs to be decontextualized and more focus on putting it in context of CEE countries should be made.
- More focus on presenting economic indicators and achievement: Polish business culture is not based on cooperation but on economic performance. Therefore, in order to prove its effectiveness, it would use that language.
- It was noticed that companies learning ability of participating in the workshops increased on the third meeting and after a trip to Norway, where they got a chance to see daily operations of Norwegian companies in practice, which confirms the argument about of designing longer networking period

The above description points out the need to use adequate time in order to establish a common understanding between the two parties. This will enable them to achieve primarily the following:

- Develop / strengthen trust: This will in turn enhance open communication and better mutual understanding, and hence strengthen mutual trust. In other words, it will a positive spiral.
- Transfer knowledge: As it is mentioned in Figure 1, socialization, externalization and combination can take place in such a way to ensure that the newly developed / transferred knowledge is ready to be internalized into a current practice. Socialization, externalization and combination can contribute significantly to decontextualize knowledge (from the Norwegian context) and then re-contextualize it to the Polish context. This also directs our attention towards systems thinking that emphasizes the need to have a holistic understanding – holistic understanding of the knowledge that is to be transferred. In this regard, we have to consider not only the knowledge per se, but also the contextual issues that are connect to the knowledge.

In order to accomplish these two major activities, adequate attention should be paid to the stages / thematic points that are mentioned in Figure 3.

5. Concluding remarks

Knowledge transfer between two countries generates both opportunities and challenges. Since knowledge is transferred between two (national and organizational) contexts, the knowledge has to be transformed first. That is, the knowledge has to be de-contextualized from its source and then re-contextualized to fit suitably to the transferred context.

This paper is about cultural challenges related to the knowledge transferring process between the two countries. There can be several cultural factors that can affect the knowledge transferring process. These factors can be seen from various perspectives. This paper considers systems thinking as an underlying theory to address the theme of this paper along with the description of explicit and tacit knowledge.

To address all the cultural challenges related to knowledge transfer (within the systems thinking perspective) is beyond the scope of this paper. Therefore, this paper mainly describes differences in individuals' understanding of the reality due to their own cultural contexts, and discusses some underlying mechanisms that lead individuals to understand their reality differently.

Preliminary results suggest that it is important to decontextualize knowledge during the process of knowledge transfer. This means that there should be adequate focus on creating a common ground for understanding. Our discussion in this paper presents important stages / thematic points that are to be looked at in order to devise strategies and mechanisms to deal effectively with creating a common ground for understanding, decontextualizing and transferring knowledge. These thematic points are presented in Figure 3.

Promoting industrial development across nations leads to broader value creation. This paper will hopefully contribute to more understanding on collaboration between two European countries by focusing on knowledge transfer in business / industrial development. This focus can trigger new ideas, and lead to further discussion that can generate new knowledge.

References

Davenport, T. H. and Prusak, L. (1998): *Working Knowledge - How organisations manage what they know*, Harvard Business School Press.

Hertmann, A. & Dorée, A. (2015): "Learning between projects: More than sending messages in bottles", *International Journal of Project Management*, 33 (341-351)

<https://www.geert-hofstede.com/national-culture.html>: Referred 30.april 2017

Lave, J. & Wenger, E. (1991): *Situated Learning: Legitimate peripheral participation*, Cambridge: Cambridge University Press.

Merriam, S. & Caffarella (1991). *Learning in adulthood – A comprehensive guide*, San Francisco: Jossey-Bass.

Nonaka, I. & Takeuchi, H. (1995): *The knowledge creating company – How Japanese companies create the dynamics of innovation*, Oxford University Press, New York.

Polanyi, M. (1996): *The tacit dimension*, London: Routledge & Kegan Paul.

Schön, D. (1998): *The reflective practitioner – How professionals think in action*, Ashgate.

Senge, P. M.; Kleiner, A.; Roberts, C. R.; Ross, R. B.; Smith, B. J. (1994): The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization, Crown Business.

Senge, P. M. (2006): The fifth discipline – The art & practice of the learning organization, Random House.