COMPETENCE TRANSFER FROM OLD TIMERS TO NEWCOMERS IN THE CONTEXT OF A TECHNOLOGY COMPANY

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Session A-4

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Keywords: competence transfer, old timer, newcomer, holistic concept of man.

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Suggested track: Managing organizational knowledge and competence

1. Introduction

The new economy is knowledge driven, which implies that the generation and exploitation of knowledge is playing a predominant role in the creation of wealth (e.g. Drucker, 1985). It encompasses all production and service industries, not just those sometimes classified as high-tech or knowledge intensive. This means that some of the crucial characteristics of the new economy are competencies of people in different forms.

Part of the competencies of technology companies are in the form of competencies of old timers. These competencies include old timers' work related know-how, networking capabilities, etc., which all are valuable for enterprises and therefore also include a risk

that firms will lose them when the old timers retire. The situation is particularly bad in the firms that were not able to hire new people during the deep recession at the beginning of the 1990s. The age distribution in many of those companies is like the shape of a camel; a lot of people who are over 50 years old and under 30 years old, but remarkably fewer people who are in the age between those two figures. In other words, in many technology companies it is crucially important to transfer the competencies of old timers to newcomers.

However, in technology companies the transferring of the competencies of old timers to newcomers has probably not yet been sufficiently understood. The fact that a great deal of the competencies of old timers is tied to knowledge that cannot be written down in documents but is realised through the expertise and understanding of old timers, is not taken into consideration at large. Therefore, the companies do not understand what sort on managerial practices they should employ in the transfer of the competencies of old timers to newcomers.

This paper has two goals; to illustrate factors affecting the transferring of the competencies of old timers to newcomers, and to suggest managerial practices that facilitate this transfer. In the pursuit of these goals we first describe the notion of personal competence and how it changes in the course of an individual's working life. Then the discussion goes on to deal with our analytical tool, the Holistic Concept of Man (HCM). After that we analyse with the help of this tool factors that affect competence transfer from old timers to newcomers.

2. Individual's Personal Competence

Competence is a term that is widely used but which has come to mean different things to different people. However, it is generally accepted to encompass knowledge, skills, attitudes and behaviours that are causally related to superior job performance (e.g. Boyatzis, 1982; Hamel and Prahalad, 1994; Boisot et al., 1996). By the definition of Spencer and Spencer (1993:9) competence is "…an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation". Hofer and Schendell (1978:25) describe competence under the heading of resource deployment. Specifically, they define competence as "…patterns of…resource and skill deployments that will help the firm achieve its goals and objectives."

Strictly speaking, individual's competence is simply the particular knowledge and skills that an individual possesses, and the superior way he or she uses them.
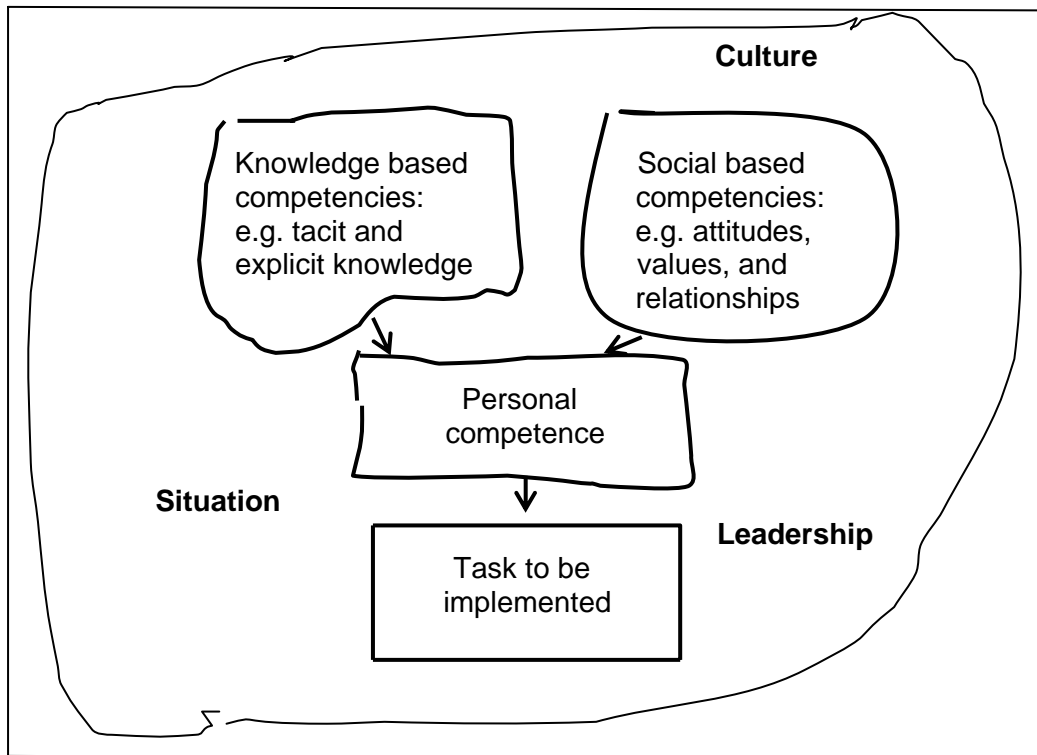
Fig. 1. Individual's personal competence

As Figure 1 suggests, individual's personal competence can be divided into *knowledge based* and *social based competencies.*

Knowledge based competencies are seen to consist of individual's tacit and explicit knowledge (e.g. Nonaka and Takeuchi, 1995). Tacit knowledge is knowledge which an individual has collected while he or she has performed different tasks and duties in different contexts and situations of his or her life. This means that tacit knowledge is acquired by an individual as a result of active work (e.g. Polanyi, 1966). However, tacit knowledge can also refer to distorted knowledge that is culturally assimilated, and thus passively given to an individual (e.g. Popper, 1977). Usually it is difficult to express tacit knowledge directly in words. On the practical level many old timers are often unable to express clearly everything they know and are able to do, and how they make their decisions and come to conclusions.

Unlike tacit knowledge, explicit knowledge can be embodied in a code, or a language, and therefore it can be communicated easily. There is not a dichotomy between tacit and explicit knowledge, but rather a spectrum of knowledge types with tacit at one extreme and explicit at the other (cf. Rauhala 1986, about different kinds of meanings

in human mind: facts, feelings, beliefs etc, which all he defines as information available for the person).

Then, *social based competencies* are seen as abilities to integrate thinking, feeling and behaviour to achieve social tasks and outcomes valued in the context and culture of a company (cf. the notion of emotional intelligence in Goleman, 1995). In a technology enterprise setting, these tasks and outcomes would include accessing the company's mission successfully, and developing transferable skills and attitudes of value in the company. Recent evidence suggests that socially adept personnel contribute strongly to companies' success (e.g. Baron and Markman, 2000). Specifically, companies with people who are especially good at perceiving others' emotions accurately and at expressing their own emotions clearly earned significantly higher income from their businesses than companies with staff which was lower on these skills.

The usefulness of an individual's competence always depends on the context and situation (in Figure 1.: situation, leadership style, culture) in which that competence is utilised (e.g. Koskinen, 2003; Koskinen et al., 2003). Furthermore*,* it must be noticed that "…knowledge is about specific insights regarding a particular topic, competence is about the skill to carry out work" (von Krogh and Roos, 1996:424). This means that the competencies of an individual are not fixed properties. Rather, they are produced continuously in a person's situated practices. In other words, when an individual's performance is seen as his or her dynamic engagement to a task, the personal competence is understood as emerging from situated practices. The focus then is on understanding the conditions (e.g. human, infrastuctural) under which the performance of an individual is more or less likely to be enacted.

3. Old Timer's Competencies

The actual physical age of old timers can vary very much. For example, in some modern industries, like the IT industry, old timers are often quite young, about 30-35 years old. In contrast, in traditional process industries, like the pulp and paper industry, people who are over 50 years old are considered to be old timers. However, in the case when an old timer changes his or her job, it can be thought that he or she becomes a newcomer of a company again. In all, in this study an old timer is defined as an individual who is a lot more experienced than a newcomer regarding the knowledge and skills utilised in the company in question.

The competencies of old timers are often social based and they include a lot of tacit knowledge. This is because old timers have had many chances to work in different

contexts and situations, and therefore they have also had chances to collect experiences that have become their tacit knowledge. This means, for example, that the explicit knowledge which an engineer has gained being as a junior in a university has transformed in the course of his or her life time into diverse tacit skills. This type of reasoning is also supported by significant evidence of Wagner and Sternberg (1985) and Sternberg et al. (1995) according to which old timers and more experienced people tend to utilise more tacit knowledge than juniors and less experienced people. Thus, old timers' competencies often equal practical know-how.

Powerful comprehensive intuition is associated with the competencies of old timers, along with a flexible ability to evaluate the knowledge and know-how required by the situation. Thus, these competencies reinforce old timers' practical preparedness and allows to concentrate on the key activities of tasks, since a part of their activity has become automatic through practice. This kind of competencies, which involve quiet and non-verbal practical know-how, are difficult to study and define. Their structures are difficult to understand and therefore they cannot be fully comprehended or communicated. It is a question of knowing how complicated work situations should be managed and problems tended to.
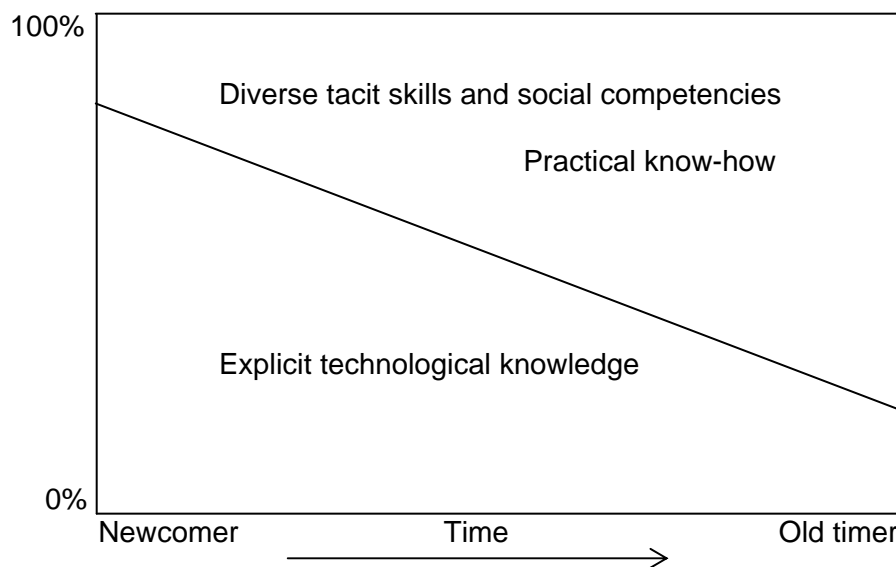

Fig. 2.   Competence transformation of an engineer in the course of working life

Figure 2 illustrates in principle how the competence of an engineer has changed in the course of his or her working life. The explicit technological knowledge that an engineer

has gained in his or her formal education has transformed into diverse tacit knowledge, like work related know-how, relationships between people, business skills, etc.

Old timer's competencies can also be a factor that limits learning. Path dependency (Teece et al., 1992) means that an individual's earlier history limits his or her future behaviour. "Our experiences are not like water in a glass which can be emptied and then refilled" (Flöistad, 1993:73). Thus, a person's knowledge and know-how are often bound to a specific context and era, and therefore they could be difficult to utilise in other enterprises and/or at other times and in other situations. This means that it is not expedient to transfer all competencies of old timers to newcomers. Many old timers possess knowledge and skills which are not anymore 'key competencies' for the company's success. Which competencies are relevant and which ones are not, always depends on the context and situation. Nevertheless, many of the old timers' competencies are beneficial for companies and therefore it is important that they are transferred to newcomers.

4. Competencies Embedded in Technology Companies

Individual's personal competence in a technology company includes the mastery of a body of job-related knowledge and skills (which can be technical, professional, or managerial), and also the motivation to expand, use, and distribute work-related knowledge to others (cf. Spencer and Spencer, 1993:73). Acquisition and sharing of competence depend on motivation as much as on technical knowledge involved. According to Spencer and Spencer (1993), these two aspects of individual's competence are crucial to transforming technical knowledge and skills into effective organisational results.

Pavitt (1987:185) has characterised most technology as "specific, complex, often tacit and cumulative in its development". Its basis may be the same "technological regime" (Metcalfe and Gibbons, 1989:161), but individual firms also develop specific knowledge and experience relating to its products and processes.

For the purpose of this study Rosenberg's (1982:143) description of traditional technological knowledge, accumulated in crude empirical ways with no reliance upon science, provides a good definition of old timers' competencies in technology companies as "…the knowledge of techniques, methods and designs that work in certain ways and with certain consequences, even when one cannot explain exactly why".

For the purpose to analyse factors that affect competence transferring process from old timers to newcomers we introduce in the following section our analytical tool Holistic Concept of Man (HCM).

5. The Holistic Concept of Man

The Holistic Concept of Man (HCM) (Rauhala, 1986; Pihlanto, 2000, 2002) is a concept which consists of an individual's three basic modes of existence: consciousness, situationality, and corporeality. These modes of existence are defined as follows:

* *Consciousness* is existence as a psychical-mental phenomenon, as experiencing; it comprehends the processes of the mind, or to put it simply, "thinking".

* *Situationality* is existence of a person in relation to a certain part of reality, i.e. to the "environment" called his or her situation.

* *Corporeality* is existence as an organism with organic processes, i.e. the body.

The HCM obtains its meaning in its multiple, theoretically generative interconnections with persons, activities, knowing, and the world. The HCM takes into account among other things an individual's knowledge and skills that he or she uses in the implementation of a task, and the knowledge and skills he or she acquires while doing/using different things in different situations.

The Holistic Concept of Man that is clarified in the following three sub-sections is based on the contribution of Pihlanto (2000, 2002), who, in turn, refers to Rauhala's (1986) philosophical works.

5.1   Consciousness

Psychical-mental activities constitute, in the form of a continuous and almost uninterrupted process, the consciousness of an individual. An object in the situation of an individual, for example a task in a project, provides the consciousness with a meaningful content. A *meaning* emerges in the consciousness as this content becomes referred to the object located in the situation in such a manner that a person understands what the object implies. This is, a person can understand an object only in terms of a meaning. The network of all meanings accumulated in the consciousness is called the *worldview of an individual.* The worldview is continuously redefined as new meanings emerge on the basis of new contents from one's situation.

Everything in this process occurs in terms of *understanding*, which means that a person knows, feels, believes in and dreams about phenomena and objects in his or

her situation in terms of their 'being something'. Understanding is complete only after a meaning is generated. Meanings are components from which the world, as people experience it, is constructed. In the consciousness, a continuous restructuring of meanings occurs as a person actively acquires or passively gets information from the situation, e.g. observes and learns new things. Meanings are often forgotten, fading into the unconsciousness and perhaps retrieved into the consciousness anew. An important condition from our point of view is that all aspects of a competence are 'stored' in the worldview of an individual in terms of different kinds of meanings.

5.2   Situationality

Situation is that part of *the reality with which a particular individual forms relationships. Situationality*, then, is the totality of the relationships of this individual to his or her personal situation. It is exactly this personal relatedness that makes situationality an individually accentuated concept: every individual's situation and situationality is unique, because it is only the person in question who lives exactly within this particular personal situation.

The situation of an individual consists of a multitude of structural components, which may be concrete or ideal. The former includes all kinds of physical factors, and the latter such things as values, norms, human relationships as experienced contents, etc. Thus, situationality is the totality of the relationships of a person to all concrete and ideal components of his or her situation. According to the HCM situationality is not simply the entity of the relations to the external factors which have a causal influence on an individual, but is more basic in nature: a human actor not only comprises consciousness and corporeality, but also situationality.

This view accentuates the great relevance the particular objects and ideas in a person's situation have in shaping his or her behaviour. For example, all the phases and features in task implementation provide components of situations of individuals working for a task.

In sum, situationality is a useful notion, because it connects an individual actor to his or her "environment" and even assimilates these two. In addition, situationality is linked with and dependent on the other two dimensions of an actor: an occurrence in one of these three has an immediate reflection on the other two. This makes an individual an extremely complex phenomenon – a three-dimensional totality.

5.3   Corporeality

Corporeality must not be dismissed in a task implementation context, due to the fact that all three modes of existence appear inseparably linked: they can never be independent of each other.

While situation is the 'game venue' in which corporeality, but also consciousness (including worldview) is located and dependent on, corporeality establishes the physical side of the existence of a human being and simultaneously makes the other two possible. Consciousness, then, steers the course of one's physical existence in a situation in terms of understanding based on meanings, but is, of course, dependent on the physical processes of corporeality. In more ordinary terms, what we think is dependent both on the information derived from situation in which we are placed and the nervous system, brain and other corporeal functions.

Competence is situation sensitive and embodied in the individual (e.g. Maturana and Varela, 1992). This means in terms of the HCM that competence is "located" in an individual's worldview in the form of meanings and thus it refers to objects in the situation of an individual. In addition, competence is at the same time also a feature of corporeality or the body, because all the three modes of existence are inseparably linked. In particular, in the case of manual skills this bodily connection is self-evident.

6. Competence Transfer

In our case and in terms of the HCM, competence transfer means transferring of the competencies from the old timers' worldviews into the newcomers' worldviews – but as mentioned above, also the bodily dimension is involved. This difficult task is realised via the common situationalities of the old timers and newcomers, and therefore all the three modes of existence of the parties involved participate in the process.

In principle there are numerous different means by which competencies can be transferred. Moreover, these means can be categorised in many ways. A rough way to do that is to divide them into fully facilitated, semi-facilitated, and non-facilitated means.

Fully facilitated competence transfer takes place, for example, by school education or course attendance. This means that fully facilitated competence transfer can mainly contribute to learning about matters dealt with on the explicit knowledge.

By the *semi-facilitated* competence transfer is often meant tutoring and mentoring processes. A common denominator for the semi-facilitated means is a person, an old timer - in our case, who is responsible of the competence transfer to another person, a

newcomer. Semi-facilitated competence transfer emphasises deliberate competence transfer from an old timer to a newcomer – this is, common situations in which a newcomer has an intention to learn competencies from an old timer. This approach also limits the competence transfer to such competencies which are intended to be applied in a way that a newcomer clearly understands (cf. Usher, 1985). In other words, semi-facilitated competence transfer excludes transfer of competencies which are incidental and undertaken simply to satisfy company's explicit requirements.

Non-facilitated competence transfer means learning which takes place at a workplace without help of any specially nominated person.

Because the competencies of old timers include a lot of tacit and socially based knowledge that is only included in their worldviews, competencies cannot be transferred well through fully facilitated means. Therefore, and because this study deals especially with competence transfer from old timers to newcomers, we focus in the following mainly on semi-facilitated competence transfer.
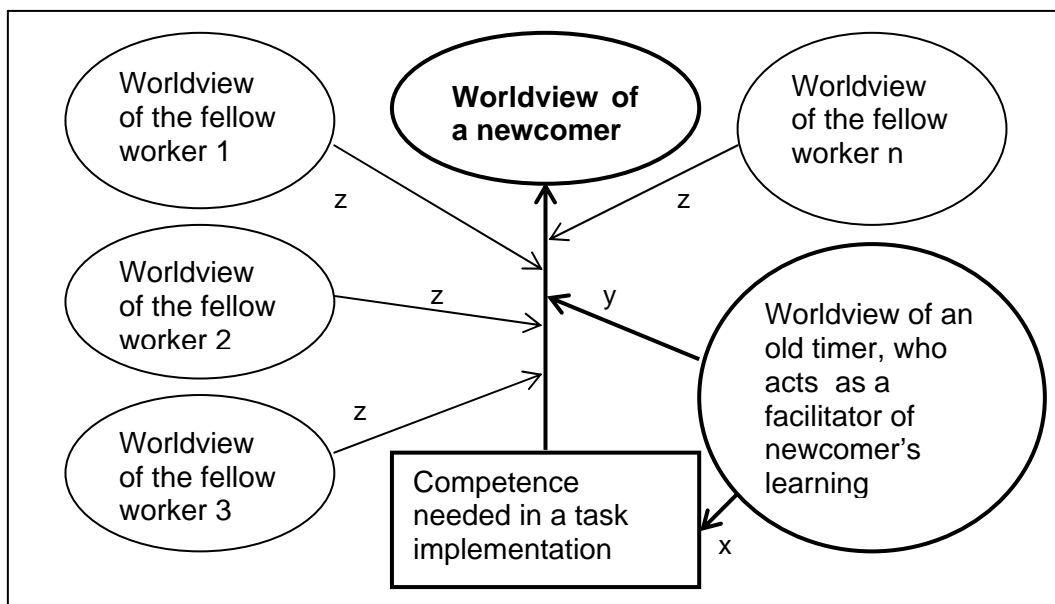

Fig. 3.   Competence transfer from an old timer's worldview to a newcomer's

worldview

One way to consider semi-facilitated competence transferring process is to see it as an old timer facilitated interaction between the newcomer and the task to be implemented (in Figure 3: way 'x'). Another way is to see it as a straight interaction between an old timer and newcomer (in Figure 3: way 'y'). Non-facilitated competence transfer to newcomers takes place when a newcomer's work fellows contribute his or her learning

without any conscious intention to do so (i.e. workplace learning) (in Figure 3: ways 'x, y, z').

As suggested above, old timers' competencies are often difficult to transfer to newcomers. In general, *communicability* and *motivation* are often identified as factors that facilitate/hinder this transfer (e.g. Spencer and Spencer, 1993; Szulanski, 1996). Therefore the following analysis focuses mainly on these concepts. However, first in the following the concepts of *worldview* and *action learning* are briefly illustrated.

6.1   Old Timer's and Newcomer's Worldviews

The personal worldviews of both an old timer and newcomer - the participants of the competence transferring process - are derived from their previous experiences. They are acquired from the social and cultural environments or situations of the persons, and partly forged by the participants' own awareness and efforts. They contain presuppositions and assumptions which the participants have developed in the past. These worldviews are not something about which the old timer and newcomer can readily give an account. Moreover, part of contents of worldview is totally unconscious, but can still influence behaviour.

What the newcomer brings to the learning situation has an important influence on what he or she can learn from the old timer. This means that newcomer's personal worldview profoundly influences the way by which he or she experiences the task at hand. "…although it is the individual who learns, this individual is one who has a language, a culture, and a history…" (Usher, 1989:32). Then, a newcomer's personal worldview affects, for example, how he or she commits to the task at hand, and what he or she can in the first place understand about the advice given. We always learn in relation to worldview or what we have learned before.

Quite so, Badaracco (1991) claims that a human being cannot take advantage of new information unless he or she has earlier "social software" connected to that information. Also Cohen and Levinthal (1990), who have introduced the "absorptive capacity" concept, claim that an individual's capability to utilise new information in problem solving purposes depends largely on his or her earlier knowledge. For example the chances that a technology company will be successful in an engineering project can be dependent on the staff's experience of similar projects (cf. Koskinen, 2000).

This means that when people in the context of a technology company attempt to solve their problems, they are guided by the knowledge (contents of their worldviews) they have gained from earlier similar problems. The fact that knowledge and know-how

based on experience can be utilised in the engineering of technology products is also supported by findings of cognitive psychology research (cf. Ross, 1989). The results of these studies provide evidence for the important role of specific, previously experienced situations in the engineering of such products. Also Anderson (1983) indicates how people use some earlier situation as a model when they are solving a specific problem.

Old timers have often better and more elaborated representations of the task in their worldviews due to extensive practice and more efficient "chunking," the categorisation of information into one unit, than do newcomers (cf. Eysenck and Keane, 1995). In other words, the old timers have quite different context and situation based worldviews (i.e. the base of competencies) compared with the newcomers. Exactly therefore competence transfer from old timers to newcomers is so hard to implement.

6.2   Action Learning

Action learning is a process through which participants learn with and from each other, by mutual support, advice and questioning, as they work on real issues or practical problems while carrying real responsibilities in real conditions. It is a social process, carried out when a group of learners cause each other to examine afresh ideas that they would otherwise have continued to take for granted. (e.g. Revans, 1982; Nonaka and Taceuchi, 1995; Sveiby, 1997; Allee, 1997)

Within the competence transferring process this means that newcomer's learning is not simply learning by doing or learning by using. This is so because the newcomer not only uses the explicit knowledge that he or she has gained in formal education, but in addition to that also the old timer's tacit knowledge and social skills (in Figure 3: way x, y) (cf. Koskinen and Vanharanta, 2000).

von Krogh and Roos (1996) argue that when the continuity of the performance of a task is interrupted by the appearance of a problem, people seek to interpret the task through their 'current frame of reference'. When the performance of the task is perceived as problematic, the individual is not directly able to make sense of it with his or her current stock of knowledge in the worldview. However, even if the problem is something outside the person's previous experience, it may still be within the range of problems that his or her knowledge can address with the help of some outside guidance. For example, a newcomer might not have earlier experienced the task he or she faces at the moment, but through interaction with an old timer (in terms of action learning) he or

she can acquire new knowledge that helps to understand the task and make the needed 'adjustments' in behaviour in accordance with the new interpretations.

6.3   Interaction between Old Timers and Newcomers

As suggested above a newcomer's personal conceptions in his or her worldview form the base on which new competencies are built (e.g. van Manen, 1990:55). Therefore in the beginning of the competence transferring process a newcomer should articulate these conceptions through interaction with an old timer (cf. Reinhartz, 1989). This means that the newcomer's inner speech becomes his or her outer speech (Bohm and Peat, 1989:98).

Transferring competencies presupposes seeing things through other's eyes or worldview, and therefore, the nature of transferring is sensitivity and reciprocity (Malinen, 2000). In transferring two or more descriptions of conceptions, these descriptions are related to each other. This means that a newcomer and an old timer bring to the common situation a 'unique constellation of previous conceptions and experiences' (cf. Usher 1989). Multiple perspectives present in their interaction are thus extremely rich and varied. These descriptions of conceptions are to some degree also controllable from the outside because they are indirect and transferred (cf. Reed 1992). More precisely, what is transferred are not conceptions in themselves, but the first-person's (i.e. either an old timer or a newcomer) descriptions of them (Malinen, 2000). These descriptions, like all knowledge and skills tried to be transferred, is in form of subjectively created meanings, and exactly therefore they may be difficult to understand by the other party.

As Schön (1988:25) puts it, "whatever language we may employ, however, our descriptions of knowing-in-action are always constructions". This seems to mean that competence transfer between an old timer and a newcomer cannot be done in its entirety, since the significance of the feeling or the thought to one participant is likely to be different from its significance to that of the other participant (e.g. Hamlyn, 1970:220). Furthermore, to put oneself in another's position is to imagine oneself in that position, and this is something that cannot be done entirely, because it would require the knowledge of relevant parts of the other's worldview, and situationality as well.

Competence transferring takes place through meanings codified into symbols with an efficiency that will vary with the characteristics of the communication channels used for such transferring. According to Boisot (1983), the process of codifying a message for transferring involves a loss of information. For instance emotional content of it may be

lost. The lost information can perhaps be recovered in situations where the receiver (e.g. a newcomer) associates about the same cluster of meaning with the chosen symbols as does the sender (e.g. an old timer). The transferring of an old timer's tacit patterns, therefore, those that may give rise to uncertain or ambiguous interpretations, requires either the simultaneous activation of several channels of communication, in order to minimise the loss of information implied by the use of a single channel, or a prior sharing of experiences out of which emerges an uncertainty reducing convention for the use of certain symbols (Shannon and Weaver, 1949).

However, the articulation is not an easy task due to uniqueness and variation on meanings and conceptions related on them. Furthermore, tacit ways of knowing are not easily rendered verbal (e.g. Heshusius, 1994). Language in itself is vague and plastic. According to Polanyi (1964:87-88), nothing that we know can be said precisely. This is exactly because our knowledge is in form of different kinds of subjectively created meanings, i.e. a mix of knowledge, feelings, beliefs, etc. Revans (1982:626) argues quite correct that "verbal exchanges are themselves extremely poor at communication".

When competence transferring from an old timer to a newcomer proceeds through informal interaction, it creates ties between these two. Ties are necessary, since rational actors must try to presuppose the 'perspective or worldview of the other' and the interaction of distinct minds (e.g. Roberts 1992, 31, 274-275). Although the old timer and newcomer in an interaction communicate their conceptions, they are all bound to live in somewhat different worldviews and have therefore different perspectives on them and on the common situation altogether. An additional complication arises from the fact that both parties' total situationalities – to a great part unknown to the other – influence the way they understand the conceptions used.

6.4   Motivation to Give and Receive Competencies

Knowledge can be used to take action and to enforce spheres of influence and then passing knowledge to colleagues might grant of these potentials. Those who do not own this knowledge are deprived of the capacity to act or to influence respectively. From a technology company perspective, this applies for instance to knowledge about procedures, methods, technology, suppliers, customers, and individuals from whom to ask. In this sense an old timer who passes his or her knowledge to a newcomer looses the exclusiveness of his or her influence, which might have created some job security and respect.

'Knowledge is power' is a well-known line to describe situations where experts (i.e. old timers) with rare knowledge have the highest reputation and monopolies of knowledge, and which situation causes knowledge hoarding instead of knowledge sharing. According to Davenport and Prusak (1998), especially in situations where job security is low, the knowledge as a power base becomes vital for an individual, and private knowledge might be seen as a kind of insurance against loosing the job.

In special industries like in engineering companies the employees often compete directly with each other through their special knowledge, gifts and talents. It may be part of the individual culture of high performing employees that they are voluntary entering into the competition for scarce seats on the career path because they like to compete and to excel each other on principle (Quinn et al., 1996). But the drawback of the competition is obvious: people would be very cautions to share openly their knowledge with colleagues, because they possibly give up an individual lead. In these companies competition and corresponding incentives and rewards often urge people to build a unique expertise in a certain area, and in order to prove that expertise e.g. to clients, they do not share it with colleagues. However, the idea of 'losing the power' may not really apply at least to the oldest old timers, because they will lose their power anyway when they retire.

Transferring of competencies may be seen as an additional work because communication takes time. Some old timers may not expect any reciprocal benefit from transferring their competencies because they do not believe in this benefit or they do not experience it necessary. And even if the old timers do expect payback for their contributions, an answer to the natural question 'what is in it for me' is often not clear for those old timers who suffer from a lack of motivation. According to Quinn et al. (1996), there is a need for employees to have some self-motivated creativity and some sense of "care-why" in order to foster competence sharing.

However, what is said above about the payback, may not apply to old timers, because they are often in situations in which there are no steps left to climb on the hierarchy ladders, or there are only very few other means, if any, to gain benefit. Anyway, for newcomers the situation is reverse. The more knowledge and skills they receive from old timers, the better is their situation in the company. Moreover, it goes without saying that competent juniors are also in a good position in the whole job market.

According to Juuti (2001), however, in many cases the old timers are in situations in which newcomers do not value their competencies. On the contrary, according to Juuti (2001), many newcomers look down upon old timers' competencies and thus weaken

the possibilities of transferring them to newcomers. But by expressing gratitude in response to old timers' competencies, the newcomers can reinforce old timers' motivation for competence transfer. This expressing of gratitude can be, for example, just asking for help in a problem solving situation, as a result of which an old timer gets a feeling of appreciation and respect. In short, it is a question of a need of people skills by the newcomers.

What is said above, works also vice versa: the old timers do not always value newcomers' skills, attitudes, values, etc, which weakens the old timers' motivation to transfer their competencies to newcomers. This would of course be a loss both for newcomers and the company.

7. Newcomer's Workplace Learning

The concept of competence transfer has experienced in recent years great demands to be modified. In particular, learning theorists (e.g. Lave and Wenger, 1999; Wenger, 2001) have introduced the concept of "legitimate peripheral participation" in which knowledge and practice are seen as a social construction. In other words, knowledge has been put back into the context in which it has meaning (cf. Brown and Duguid, 1991). From this perspective, the newcomers can be seen to construct their understanding out of situational context that include ambient social and physical circumstances, as well as the histories and social relations of the fellow workers involved (in Figure 3: ways 'x, y, z') (cf. Brown and Duguid, 1991). This means that what a newcomer learns is profoundly connected to the context and situation in which his or her learning takes place – and of course, as referred to above, also to the contents of their worldview, and corporeality.

About two-thirds of industrial training is not formal at all, but results from day-to-day unplanned interactions between the newcomer and his or her fellow workers. Informal learning is "…any learning that occurs in which the learning process isn't determined or designed by the organization". (Day, 1998:31) It just happens in the common situation of both of the parties.

According to Brown and Duguid (1991), the central issue in workplace learning is becoming a practitioner him- or herself, not learning about practice per se. This means, according to these authors, that the attention is drawn away from abstract knowledge and instead of that, situates it in the practices and workplaces in which knowledge takes the significance as well as the newcomers themselves. In the context of a technology company learning about machinery is best achieved on the shop floor in

which the machinery is used. Lave and Wenger (1999) argue that learning, understanding, and interpretation involve a great deal that is not explicit or explicable, developed and framed in a crucially workplace context. In our terms, not only consciousness and situationality of the newcomer count, but his or her corporeality or the physical practising at the shop floor, as well. All the three modes are activated at the same time in terms of a complicated mutual interrelationship. Taking this stance, learning and competence transferring are not seen as mechanical, formal and "paper tasting" activities, but instead, highly human and practical endeavours.

8. Managerial Implications

As suggested above the competence transferring from an old timer to a newcomer is a hard and complicated behaviourally oriented task. Quite so, much depends on the objectives of the old timer, expectations of the newcomer, and how well the two work together in the company.
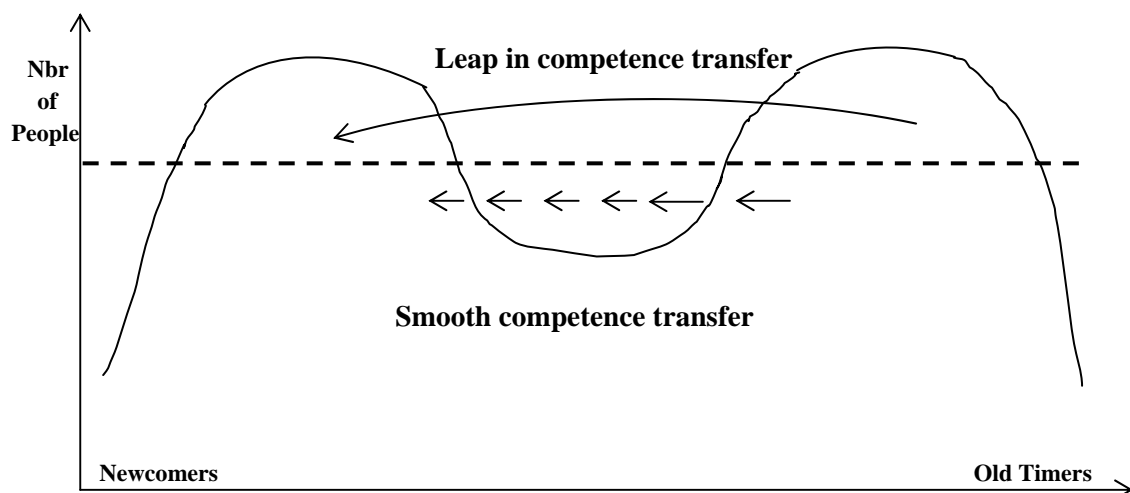

Fig. 4. Age distribution (whole line = actual age distribution, broken line = target age distribution).

Company's management has also an important role to play in the selection and matching process. For example, the management of a technology company might wish to consider a mentoring scheme to clarify the existing needs for the competence transfer.

Due to the fact that old timers often lack the motivation to transfer their competencies to newcomers, it is crucially important that management of the company finds a solution for this motivation problem. Also newcomers may feel some uncertainty,

because they cannot judge whether their working results represent valuable knowledge for others. Therefore we conclude that in many cases a newcomer should be the person, who makes an initiative to learn from an old timer, but in addition also management should have a positive role there.

However, because of the big differences between the worldviews of old timers and newcomers, the above-mentioned measures are often very ineffective in practice. Therefore the management should try to find also other means by which it could lessen the problems in the competence transfer. One possible way to improve the situation is to try to attain an even age distribution among the personnel of the company. By this measure it could be possible to achieve a situation in which the competencies of old timers do not need "to leap" over the generation (and worldviews) gap (Figure 4). In other words, the old timers' competencies then pass on smoothly to newcomers.

This should be organised in such a way, however, that there is not question of age discrimination, e.g. in form of sacking people before the normal age of retirement. Anyway, the best way to handle the problem would be developing of methodologies and culture, which are successful for dealing with the more or less unavoidable "leap in competence transfer between generations".

9. Conclusions

Old timers' competencies are often difficult to transfer to newcomers. This is because the old timers have quite a different context and situation-based worldviews compared with the newcomers. With this paper we have sought to offer an illustration of that problem area.

We used the Holistic Concept of Man (HCM) as a tool for analysing the competence transferring from old timers to newcomers, in particular, the human factors that affect this process. The HCM defines the human individual to consist of three deeply intertwined modes of existence, i.e. consciousness, situationality and corporeality.

Consciousness was defined as existence of a person as a psychical-mental phenomenon, experiencing. It comprehends the processes of the mind, or to put it simply, "thinking". A central aspect of consciousness is worldview, a cumulative stock of earlier experiences in the form of meanings. All the understanding, and therefore also learning by an individual, is based on the background provided by the worldview: people understand on the basis of what they have understood before.

Corporeality, then, is existence of a person as an organism with organic processes, i.e. the body. We consider it helpful to utilise all these three interrelated dimensions when examining a person and his or her communication with other persons – in our case an old timer and newcomer together dealing with the competence transferring process.

We therefore consider both of the parties as three-dimensional actors, who at the work place have certain common components – those involved in competence transferring - in their otherwise individual situationalities. This situational nearness links them together and makes it possible for them to exchange information, knowledge, etc. – in one word, competence.

From the viewpoint of the HCM, the aim of the competence transfer is to move knowledge, often tacit by nature and social-based attitudes, values and relationships, which form the competence in question, from the old timer's worldview to that of the newcomer. This task is difficult and hard to implement, because, first, competence is to a great degree tacit, "soft" and also bodily related, and therefore, even the old timer is not clearly aware of its features. Second, the task is difficult, because these meanings in an old timer's worldview cannot simply be moved to a newcomer like a well-defined piece of explicit knowledge. In other words, the newcomer must genuinely *understand* these meanings and their relations to the relevant task. How successful this understanding will be, depends on the contents of the newcomer's worldview, i.e. is there previous experience about the same kind of skills and other meanings, which would make it possible to understand the relevant features of the competence by the newcomer.

In addition to the worldview, the total position of the newcomer, i.e. his or her situationality also influences the success of competence transfer. Even such short-term situational circumstances as the newcomer's relations to his or her family or colleagues at the moment, may have a role in the process of learning. For instance, if the situationality of a newcomer is unfavourable in a way or another, it is immediately reflected to his or her consciousness and thus possibilities of successful learning, i.e. understanding of new ideas; further, it is also reflected to his or her corporeality.

In general, whichever of the three modes of existence may influence the other two, and then make the competence transfer either easier or more problematic. In other words, 1) in consciousness there may be an experience (meaning), 2) in situationality a component (a person, circumstance), and 3) in corporeality a bodily symptom (e.g. headache) - which may directly and via the other two modes of existence affect the process of competence transferring.

Our point with the above is that when studying competence transferring in practice, these three individual dimensions of an old timer and newcomer should be understood and taken into consideration. With the help of the HCM we would then better realise, how complicated a system the human actor is, and in more detail, that the three dimensions are affected simultaneously as competence is transferred. However, we realise that the HCM cannot provide ready-made answers to transferring problems, but we feel that it can offer a means for analysing human reactions and conditions better than without such a concept.

Because of the big differences between the worldviews of old timers and newcomers, the above-mentioned measures are, however, often very ineffective in practice. Therefore we have also offered another, and more practical, method to lessen difficulties in the competence transferring, namely, to attain an even age distribution among the personnel of the company. By this measure it could be possible to achieve a situation in which the competencies of old timers do not need "to leap" over the generation (and worldviews) gap. In other words, the old timers' competencies then pass on smoothly to newcomers.

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