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Reducing Resistance to Change through Knowledge Management: A Conceptual Approach

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ABSTRACT

Within a strong organisational focus, current Knowledge Management (KM) models place emphasis on aspects such as learning, knowledge creation, knowledge administration and dissemination. However, there is no universal view on individual behaviour. This limits the operative value of these models, taking into account that often, management fails due to the uncooperative behaviour of the employees. This paper proposes a conceptual approach to identifying uncooperative behaviour. The new concept combines parameters of individual decision behaviour with KM by extending traditional models. A salient contention made in the paper is KM turns into an important HR tool, which helps to manage knowledge based processes such as innovation and change through identifying in advance individual barriers of cooperation.

INTRODUCTION

Knowledge has become a primary topic in strategic management and human resource policies, since it is considered as the major source of competitive advantage (Grant 1996). An overview of research on knowledge shows that most studies emphasise on the organisational dimension, discussing creation, administration and dissemination of knowledge (Lee, Lee & Kang 2005). Different theoretical streams back up the organisational view and can be classified into three groups: a) organisational learning theory (Fiol & Lyles 1985, Senge 1990), b) resource based theory of the firm (Prahalad & Hamel 1990, Williamson 1999), and c) knowledge creation theory (Polanyi 1966, Nonaka & Takeuchi 1995, Davenport & Prusak 1997). The objective of knowledge management theories (KM) has been to create organisational knowledge so as to increase, on the one hand, the effectiveness of human capital through knowledge sharing and knowledge synergies, and on the other hand, to improve organisational flexibility concerning change and innovation.

Traditionally, the academic discussion has dealt mainly with organisational details. Indeed, management problems resulting from individual behaviour have not been included into KM. This restricts the utility and practicability of a model which intends to manage human capital as the most important production factor. Regarding the theories of individual behaviour, whether people cooperate or not depends on their set of preferences. In addition, the economic theory of institutions discusses the influence of the institutional environment on individual behaviour. Institutions, as defined by the rules, standards or traditions within organisations give stability and security, but the replacement of these through organisational change increases uncertainty. The theory of economic evolution states that individual adaptation towards change is path oriented and is based on experience (Neale 1988). The conclusion is that the more drastic the change and the less the individual experience, the more difficult the individual adaptation. Fast changing environments, may cause severe problems, particularly where the percentage of unknown or uncertain variables and relationships are difficult to define, and are highly subjective (Hall & Paradise 2005). Such a situation can result in change rejection, and, therefore, in inefficiency and missed opportunities. Considering preferences and institutions as drivers of behaviour then both need to be analysed in order to assess whether people cooperate or not in management processes.

The objective of this study is to develop an instrument which helps business decision makers to improve corporate management by reducing individual resistance to innovation and change. The core component of such an instrument is the traditional concept of knowledge management, because it manages the key parameter for innovation and change – knowledge. But traditional KM is mainly focussed on organisational issues and refers to

the establishment of organisational parameters to stimulate knowledge creation and information sharing. The assumption is that parameters which influence individual behaviour should be integrated into a modified extended model of KM in order to discover personal barriers of change. This new tool helps decision makers to improve efficiency in managing human capital, and as a result, maintain or increase the competitive advantage of the company. This contention is made by Lee, Lee and Kang (2005) who wrote "A firm can increase its flexibility and adaptability in a rapidly changing business environment by focussing on the efficiency of KM activities." (p. 470).

The paper is presented in two main stages. The study is based on a literature survey, including in a first stage, the economic theories of human behaviour. This helps to define parameters of behaviour and to explain in which direction – against or in favour of change – they influence behaviour. The disadvantage that economic theory of individual behaviour reduces the complexity of behaviour must be contrasted with the fact that the homo oeconomicus is a construct to measure decision behaviour. Therefore, the theory enables the drawing of some clear conclusions concerning behaviour in changing environments. In the second stage of the paper, the results from the former analysis are integrated in a model of KM in contrast to traditional models. The newer model focuses on decision behaviour. The different parameters of behaviour will not only be identified, but also put into a conceptual structure in order to assure the logical coherence of the new descriptive model.

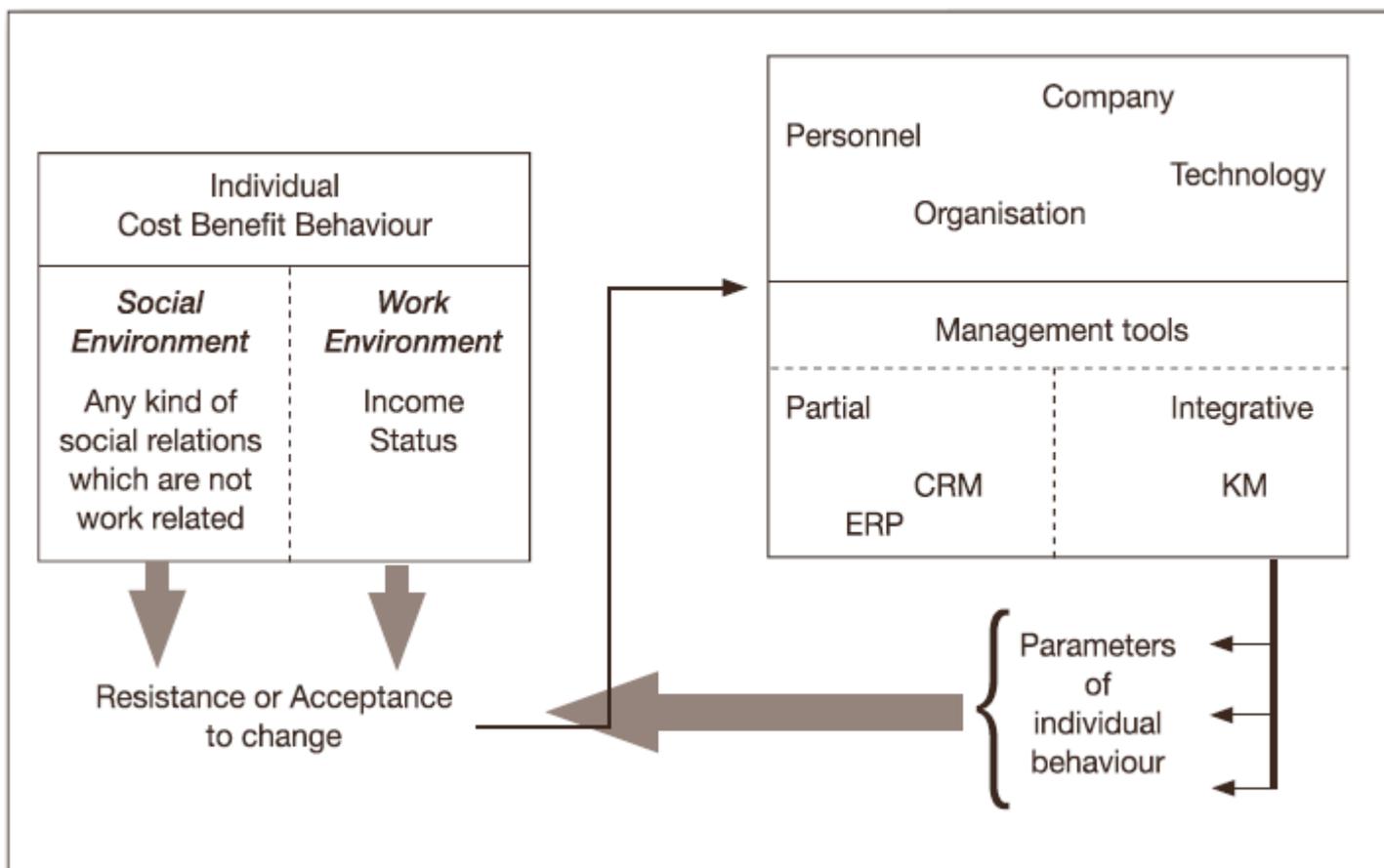
THE CONCEPTUAL APPROACH

The conceptual starting point of this research is the economic theory of human behaviour. According to this theory, individuals are rationally maximising beings within an institutional framework of norms and rules, which determine the individual activity scope (Kirchg?sner 1993). Rational choice theory makes the point on three issues: Rationality, evaluation and maximisation. Within the theoretical context, individual rationality is the ability to learn from mistakes and to avoid repeating the same error consistently. "Rationality [...] means the mistakes that people make are random and not consistent over time." (McCormick 1993: 117). A second point is that individuals weigh the pros and cons of alternatives and choose those alternatives that give them benefit, "... people do not act capriciously and reflexively." (Mc- Cormick 1993: 117). Finally, maximisation is the decision rule that brings the decision process to an end. The rule is result oriented and its purpose is to increase the individual's welfare. Maximisation is the most exclusive rule in individual behaviour, because the only authority on this decision is the individual him or herself and his/her understanding of personal welfare.

Due to the underlying assumption of rationality, this approach provides some clear decision rules and contributes to identifying cooperative or uncooperative behaviour. Modifications of this approach by Thibaut and Kelley (1959) underline the need to understand behaviour within a social context. Bounded rationality or rank happiness deal with the limits of individual maximisation capacity (Selten & Tietz 1980). Utility maximisation is relative instead of absolute. It is the individual benchmark compared to others, which defines the degree of personal satisfaction.

The individual environment consists, on the one hand, of people surrounding the individual, and on the other hand, of rules, standards and norms, which coordinate the interaction between the members of a group, organisation or society. These institutions limit the individual activity scope, but also provide security and stability for individual decision making. Figure 1, the research model, focuses on the individual, whose behaviour is driven by rational calculations of their own self interest (Becker 1976). Independent of the type of environment (social or work environment), individuals behave like investors, who spend their scarce resources on the economically most attractive alternative. Individual decision making follows the economic philosophy of utility maximisation under the restrictions of limited resources and the social conditions of the environment.

Figure 1 Research Model



Changes in the work environment initiate a process of individual reflection concerning expected costs and benefits. Depending on the result, the individual accepts or resists change. From this moment, the individual decision shifts to the organisational level and the process affects the organisational dimension. The company, which consists of personnel, a technological and an organisational structure, has to manage individual reaction to change. In the case of a negative attitude towards change, reasons can be found by applying the conceptual logic of economic theory of human behaviour to the specific situation. This received information can be used to improve the matching of individual preferences and work environment. Knowing individual parameters of behaviour within the work environment allows for the discovery of uncooperative behaviour. In contrast to the traditional KM, the modified, extended KM model also responds to uncooperative behaviour, which arises when the individual's preference function is not in line with organisational objectives. Among the multitude of different management tools (i.e., CRM, ERP), an extended version of KM is considered to be integrative because it manages knowledge and behaviour without examination at the hierarchical or competence area.

This research is founded on two fundamental assumptions. The first assumption of this research is that corporate change raises a conflict if it damages the agreed equilibrium between company and employee. Kubr (1993) points out that people are prepared to cope with organisational change if they see the benefit and purpose. The second assumption is that an extended concept of KM is a tool for reducing resistance through identifying and analysing tangible and intangible parameters of individual behaviour. In doing so, KM becomes a management tool with a broad scope of application. The integration of parameters of individual behaviour extends the concept from the organisational knowledge perspective to the broader view of individual decision making. KM evolves into a holistic strategy tool which helps to identify cooperative and uncooperative behaviour.

ECONOMIC HUMAN BEHAVIOUR AND CHANGE

Within the process of change and innovation, a crucial element of success is the commitment of all involved (Oxtoby, McGuinness & Morgan 2002). The willingness to support change is the first predictor of every organisational change process and depends on whether the utility of change is perceived favourable or unfavourable. The perception of change is related to the performance of a number of determinants the individual considers relevant to achieve his/her goals. Following the conceptual approach of this study, these determinants affect the economic calculus positive or negative. The individual attitude towards change reflects the expected performance after change (Montalvo 2004).

Apart from personal outcomes, people also care about processes. This approach follows Hayek's theory of mind, which explains behaviour as a consequence of perception. According to Hayek (1952), the way something is perceived depends on a process of cognitive reflection and involvement. Essential components of this process are

interpretation, which is based on personal interests, and categorisation, which puts the decision object into a contextual framework. The important point is that decisions are not only defined by the result of rational choice behaviour, but also by procedural rule behaviour. Rule behaviour means identifying the context in which something happens and connecting the actual event with the environmental configuration. In this sense, decision making is a holistic process of perception, interpretation and evaluation within a framework of rules.

Tangible Costs of Change

In line with the economic theory of human behaviour, individuals evaluate alternatives before taking decisions to reach a satisfying utility level. For instance, people often undertake decisions to provide the individual with tangible (financial reward) or intangible benefits (prestige). Looking at the tangible income dimension, the way people behave in processes of change, depends on realised current and expected future income. If the individual objective is to reach a satisfying level of annual or lifetime income, then the conclusion is that every change which puts this objective at peril is likely to be rejected. Following the logic of rationality, employees are open to change if they see what is in it for them and if they can be sure that they are going to benefit from change. In contrast, change is considered negative when disadvantages predominate the individual perception. Within the context of cost benefit, disadvantages determine the cost-side of change. Two types of costs can be identified.

- tangible costs, which affects directly the level of tangible income, and
- intangible costs, which refer to the negative outcome on the cognitive or emotional level and which may have an indirect impact on the tangible income level.

Two knowledge related determinants of income, specialisation and experience, need to be considered, due to the fact that corporate change may influence the importance of both. Knowledge specialisation is an investment in specific human capital which is difficult to use outside the company, if the specialisation is highly firm oriented. Only the company, for which the knowledge investment was made, can guarantee the return on knowledge investment, therefore, every change which puts the future use of firm specific knowledge in danger, is likely to be rejected. The extreme situation is human capital, which cannot be used in activities outside the company, and, therefore, has no market price, because there is an absence of market. The employee is in a monopolistic position, but then so is the company. According to Williamson (1999), the income of a specialist is entirely rent income, if the specialisation is only valuable for the company, but not for the market in general. For the employee it is impossible to recover his salary in another company. If the share of rent income on total income compared to market income is high, a negative individual attitude towards change, which puts the level and stability of income in danger, can be expected. The conclusion is that, firstly, organisational change has a negative effect on those employees whose human capital becomes devaluated through change, and secondly, it threatens the expert more than the generalist.

Expertise results from explicit and tacit knowledge generation. The main characteristic of the latter is that it is a knowledge asset which grows over time. Tacit knowledge, generally called experience, cannot be learned by theory, but is positively related to age. The fact that companies place emphasis on experience and are willing to pay for it, demonstrates the importance of this type of knowledge. This means that if experience becomes useless because of change, the employee loses a strong asset and needs some time to build up new experience. Older people particularly are not in the situation to do this, due to their limited potential of work years. As a consequence, these employees often remain unemployed once they lose their job. It can be expected that employees who are threatened by the devaluation of experience, will be in a strong opposition towards change and that opposition is positively correlated with age.

Following economic theory, the income of the production factor 'labour' is linked to its productivity which is a function of knowledge specialisation and experience. Organisational change which depreciates knowledge specialisation or experience reduces the labour productivity of the employee, and according to theory, has a negative impact on income. The marginal productivity shrinks over time. If

(1) $P = f\{SK, E\}$ then (2) $dP/dT < 0$ with: P = productivity, SK = special Knowledge, E = experience, and T = time

Graphically, the marginal productivity of an employee whose specialist knowledge and experience is depreciated turns downward. The slope of the curve depends on whether the organisational change is radical or incremental. Due to contract conditions, the employer is not free to reduce wages. Therefore, income will hardly follow the marginal productivity curve. This creates a gap between the level of income and labour productivity. This gap grows over time and increases the risk of dismissal for the employee. In this situation, the employee can choose between two alternatives: a) cooperative or b) uncooperative behaviour. In the case of uncooperative behaviour, the change process can be damaged if the employee is still in a powerful position. He/she can use this power in order to slow down the change process and to diminish the income labour productivity gap. Mathematically, this means that the second deduction of marginal productivity is positive.

(3) $d^2P/d^2T > 0$

Often, change in the company requires management or staff training in order to familiarise employees with the new external (regional markets) and/or internal (process innovation) environment. These costs are tangible and directly related to the change process. Provided the company assumes these costs, the risk of uncooperative behaviour is low, because costs are externalised to the company.

Intangible Cost of Change

Beyond tangible costs there are individual adjustment costs, which result from changes in responsibilities, habits and routines and are internalised by the employee. Some typical reasons for this type of costs are mentioned by Kanter (1995). Most of these costs are intangible and are related to a) a misfit between actual perceptions and expectations concerning status and prestige, and b) the personal status compared to others.

The first impact of organisational change is emotional, which can have negative or positive connotations. Moreover, this phenomenon is characterised by stress and anxiety, or happiness and satisfaction. The principal reason for a misfit between perception and expectation results from a lack of involvement of the employees in the change process. In top down change from management the created work environment leads to the perception that change is made to the employees instead of made by them. From the employees' perspective, an authoritarian style of change management includes an unpredictable component. The employees are informed later about decisions that have already been taken, without really knowing the context which influenced decision making. This raises uncertainty and generates a lack of security.

The personal status within the organisation is affected, if a change in process or organisation is perceived as a loss of face by those who were responsible for the situation before the change. Especially in static organisations without a culture of continuous innovation, changes may appear as a correction of policies, which are considered to be wrong. A further point is related to the aspect of responsibility. In a change process an employee can get more or less responsibility. A typical case is that of an organisation that plans to flatten its organisational structure and eliminate one hierarchical level. The question rises, what happens to the employees, who worked on this level? Do they ascend or descend in hierarchy?

Apart from intangible direct costs, intangible indirect costs of change arise, when the employee is tied to an activity which results from the change process and hinders him/her from pursuing alternatives. The cost of not being able to follow an alternative because of being involved in the change process, describes the opportunity costs of change. An example of private opportunity cost is the cost of not being with the family, because of management training that takes place over the weekend. Even in the case that direct tangible costs of change are paid by the company (training), the individual is charged with indirect costs, which are the opportunity costs of change. And intangible costs result from processes which move the individual in absolute or relatively new positions in comparison to others, and, therefore, have their impact on individual wellbeing because of inter individual effects. According to Kim and Mauborgne (2003) these costs produce resistance if the individual has not been involved in the decision making process. Not only the result of change, but also the process of change is perceived as being unsatisfying. Kim and Mauborgne (2003) call negative impacts resulting from processes procedural injustice.

Rules and Change

The impact of rules is on the organisational and individual levels. On the organisational level, rules specify the norms of behaviour that must be adhered to in interaction with others. Any ignorance of norms bears the cost of non observance. Institutional economics define this type of regulation (rules, norms, standards, habits) such as formal or informal institutions which standardise processes, create routines, reduce insecurity and increase organisational stability (Alchian 1978, Neale 1988).

The economic game theory, and in particular the prisoner's dilemma, underline this issue by analysing opportunistic behaviour (Rapoport & Chammah 1965, Axelrod 1984). Opportunism means that in an interactive situation between two people, at least one of them behaves different to the way formerly agreed, if defecting behaviour generates higher benefits than costs. With no rules, there is no possibility to sanction defecting behaviour and mutual trust would become the main driver of any transaction. But according to Jönsson and Christensen (2003), trusting somebody means to expose oneself to the risk of betrayal. Obviously, under these circumstances, some transactions would never be undertaken. The conclusion is that regulation increases organisational efficiency, because it generates an institutional framework in which transactions take place at lower costs. Frameworks define the individual activity scope and must be taken into account when analysing individual behaviour. In this sense, the individual activity scope is limited by the environment and every rational decision making takes place within the limits of rules.

At the individual level, institutions help to create cognitive schemes, which are used to classify situations. How a new situation is evaluated by the individual depends on how far the situation matches the existing cognitive and affective schemes. March and Simon (1958) argue that individuals respond to new situations (stimuli) with an

elaborated set of routine activities and only when a stimulus is truly innovative, will a more appropriate response to the specific issue be developed. According to Hayek (1952), individuals are looking for recurring patterns in separate situations. Innovations which do not require a change of habitual behaviour will be less probable to cause aversion, because of joint elements in both situations, before and after change which the individual is familiar. What people's minds are trying to figure out when faced with a new situation are elements that show some resemblance to those with which many have experience (Kaisla 2003). The fact that behaviour is a symbiosis of individual action and the related environmental context, in which action takes place, shows that experience is a construct of both. This means that recurring patterns which are used to classify different situations can be found in the similarity of actions and/or the similarity of rules and norms. Therefore, individuals do not respond to separate situations such as unique events, but look for similarities between the elements of the situations. There is no activity within a vacuum. "If sensory perception must be regarded as an act of classification, what we perceive can never be unique properties of individual objects but always only properties which the objects have in common with other objects." (Hayek 1952: 15). Drastic changes which affect action as well as rules and norms, reduce the probability of perceiving their impact on the employee and raising uncertainty. In contrast, smooth changes can avoid uncertainty by maintaining elements of the old situation, which makes it easier to interpret the new one. Within this context, rules are of special importance due to the fact that they come into existence because of their durable character. Individual choice within a set of rules means within a framework of stable elements, which helps to classify events.

CATEGORIES OF DECISION PARAMETERS

Individual decision making contains the three steps perception, interpretation and evaluation. Figure 2 shows that changing environments have an impact on decision parameters, which can be classified into three categories:

- parameters referring to the individual himself/herself (individual level),
- parameters referring to the relation between people (inter individual level) and,
- parameters describing the institutional environment (environmental level).

These features are displayed in Figure 2.

Figure 2 Influencing Parameters in Change Behaviour

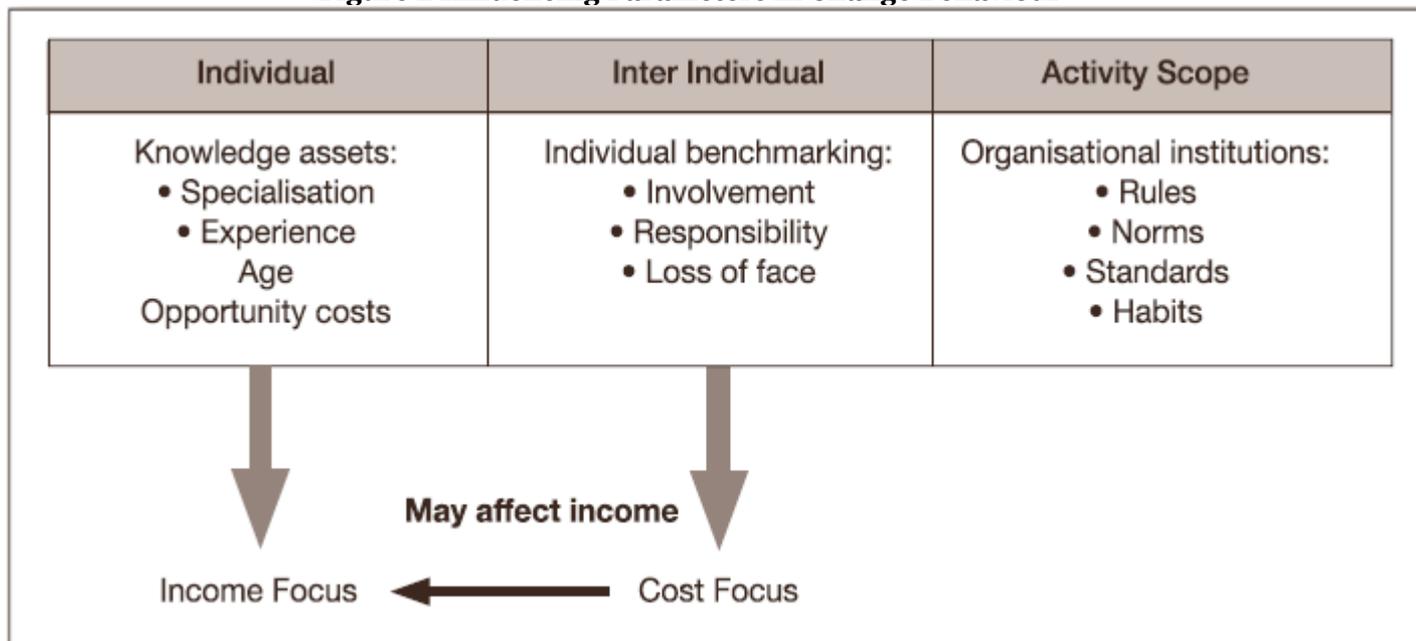


Figure 2 also shows the parameters of behavioural change. For instance, the category of individual parameters consists of elements which describe the personal characteristic of the individual knowledge asset. Knowledge specialisation and experience are components of the human capital which determines the value within the corporate value chain. According to the employee's marginal productivity, he/she is a strong or weak asset for the company. Although there is considerable debate on the domains of knowledge company and knowledge economy, the KM literature refers basically to organisational aspects, without putting emphasis on the integration of the smallest and decisive unit concerning knowledge – the individual. Figure 2 also illustrates the relevance of age for situational change. Apart from the importance of knowledge specialisation and experience, age is a factor which needs to be considered, when investment in human capital is expected. Following the economic approach, the age of an employee defines the remaining period necessary to calculate the return on knowledge investment. A further element, belonging to the individual category, in opportunity costs. It is also presented in Figure 2. To take a

decision means to choose between different opportunities. Following maximisation behaviour the benefit from the chosen alternative should be higher than the cost of the second best opportunity. Any commitment which hinders the selection of first best alternatives reduces motivation and personal involvement processes.

The second category, shown in Figure 2, refers to the relationship between individuals and contains elements which are related to management styles or personal benchmarks. While the management aspect focuses on the issue of uncertainty due to a lack of involvement in corporate decision making, personal benchmarks deal with the issue of responsibility, image and prestige and how somebody is socially and economically ranked compared to others. Increasing uncertainty, or a descent in ranking, raises intangible costs, which once may have had a direct impact on individual income and, therefore, may turn into tangible costs.

The third category of Figure 2 refers to the environment which surrounds the employee and which is determined by formal and informal institutions. In change processes, organisational institutions, which regulate the relationships between employee and company, can be affected. Typical areas are internal communication, training standards, job evaluation, job description, selection criteria of personnel, financial remuneration system, planning of staff, leadership and the organisation of work. Changing or disappearing rules in these areas contribute to individual uncertainty and make it difficult to interpret and evaluate the new situation after change.

The identified elements of the three categories, displayed in Figure 2, influence individual decision making in change processes and need to be integrated in the KM model in order to identify cooperative or uncooperative behaviour. In doing so, KM turns into a broad management tool, not only for knowledge generation and dissemination, but also for the management of change and innovation.

DEVELOPING THE NEW MODEL

Traditional KM Models

Previous models of KM differ, on one hand in their practical approach, and on the other hand, on the bandwidth of distinguished perspectives on the topic. A practitioner focus, however, with a narrow perspective on the evaluation of intellectual capital, is the Skandia navigator. The Swedish company became an example of how to identify the value of knowledge in relation to five key areas of success: Finance, customers, process, innovation and human resources (Edvinsson & Malone 1997). Similar to the Skandia Navigator, the Balanced Scorecard follows the idea of analysing corporate vision and strategy from the different perspectives of finance, customer relations, internal processes, and learning and growth (Kaplan & Norton 1996). Concentrated on human resource management, communities of practice put emphasis on the creation of focus groups for problem solving. The purpose of these groups is to deepen knowledge and gain expertise in concrete fields (Wenger, McDermott & Snyder 2002). A practical, but more holistic model of KM is developed by CIDEM, the Centre of Corporate Innovation and Development in Catalonia, Spain. The model integrates the different elements of organisational culture and strategic vision, people, technology and knowledge processes and recognises them as fundamental for the implementation of KM (CIDEM 2003). The 'Two Cycle Paradigm' of Riverola (1999) combines the corporate learning process with the process of problem solving, stating that people learn when working on specific problems. A stronger academic focus looks at the knowledge conversion model of Nonaka and Takeuchi (1995), which describes the process of knowledge creation by passing through the different types of knowledge. Finally, Zahra and George (2002) emphasise the importance of knowledge for the potential capacity of a company and they have developed the absorptive capacity model. The central point is that due to frequent changes in the corporate environment, knowledge potentials maintain the organisation's strategic flexibility, and in so doing support the ideal of competitive advantage.

Despite each model having a different focus, their commonality is a lack of acknowledgement of individual behaviour. This raises the problem that the application of KM techniques can fail due to uncooperative behaviour of employees and that the KM tool cannot be used for the management of staff in the innovation processes. This seems to be contradictory, considering knowledge as a key element of innovation and having KM tools available. Thus conceptually, the existing KM must go beyond current concepts in order to extend managerial applicability.

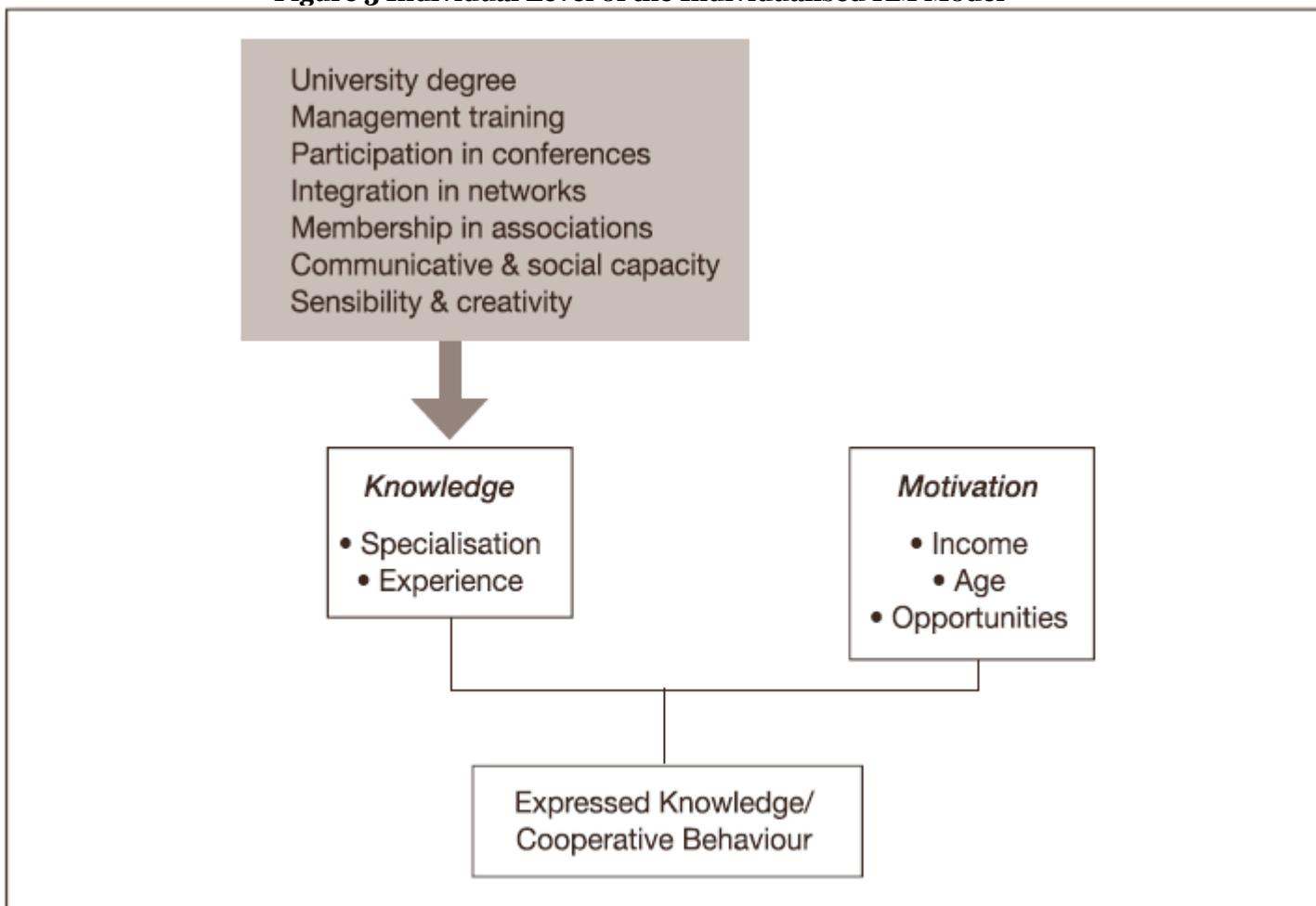
The Individualised KM Model

To meet the challenges of change processes with KM, the traditional KM perspective has to be partitioned from the organisational to the individual level. This means integrating individual behaviour and decision making, the asset aspect and the meaning of individual roles in organisations into an individualised concept of KM. The basis of the new model is given by Chandler (1991), who indicates knowledge and motivation as the central figures of individual competence and contends that knowledge has to be managed in such a way that the employee can achieve his/her own objectives and that the company can benefit from this synergy. The art of management is not to motivate

people but to awaken their individual motivation by creating an environment in which people identify themselves with the company. This is an ambitious goal, especially in changing organisations, and requires information about what drives people and in which direction. Within the economic reasoning of this study, the individual income-cost-balance is the key issue of motivation. Indeed, the quality of knowledge, defined by knowledge specialisation and experience, is a direct influence on income, and, therefore, also on motivation. The conclusion is that the core element of an individualised KM model is the quality of individual knowledge, its use in organisational processes and the income it produces for the knowledge owner. At the individual level, the task of KM is to define the individual knowledge performance through an analysis of specialisation and work experience. Measuring indicators refer to professional, communicative and social competence as well as to observed abilities and incorporate all aspects which provide speciality in the employee.

Figure 3 succinctly illustrates individual competency indicators in a knowledge paradigm. As indicated in Figure 3, some typical examples of indicators are a university degree, management training, participation in conferences, integration into networks, membership of associations, communicative and social capacity, sensibility and creativity. The expected performance of these competencies by the competence owner during and after a process of organisational change influences the motivation to cooperate or not. Motivational triggers of behaviour are income, age and opportunities. Generally, income consists of tangible and intangible benefits, resulting from individual knowledge performance. Age affects human capital investments by determining the return on knowledge investment. Furthermore, the existence of opportunities shows to what extent professional alternatives or private constellations influence the individual commitment to a company.

Figure 3 Individual Level of the Individualised KM Model

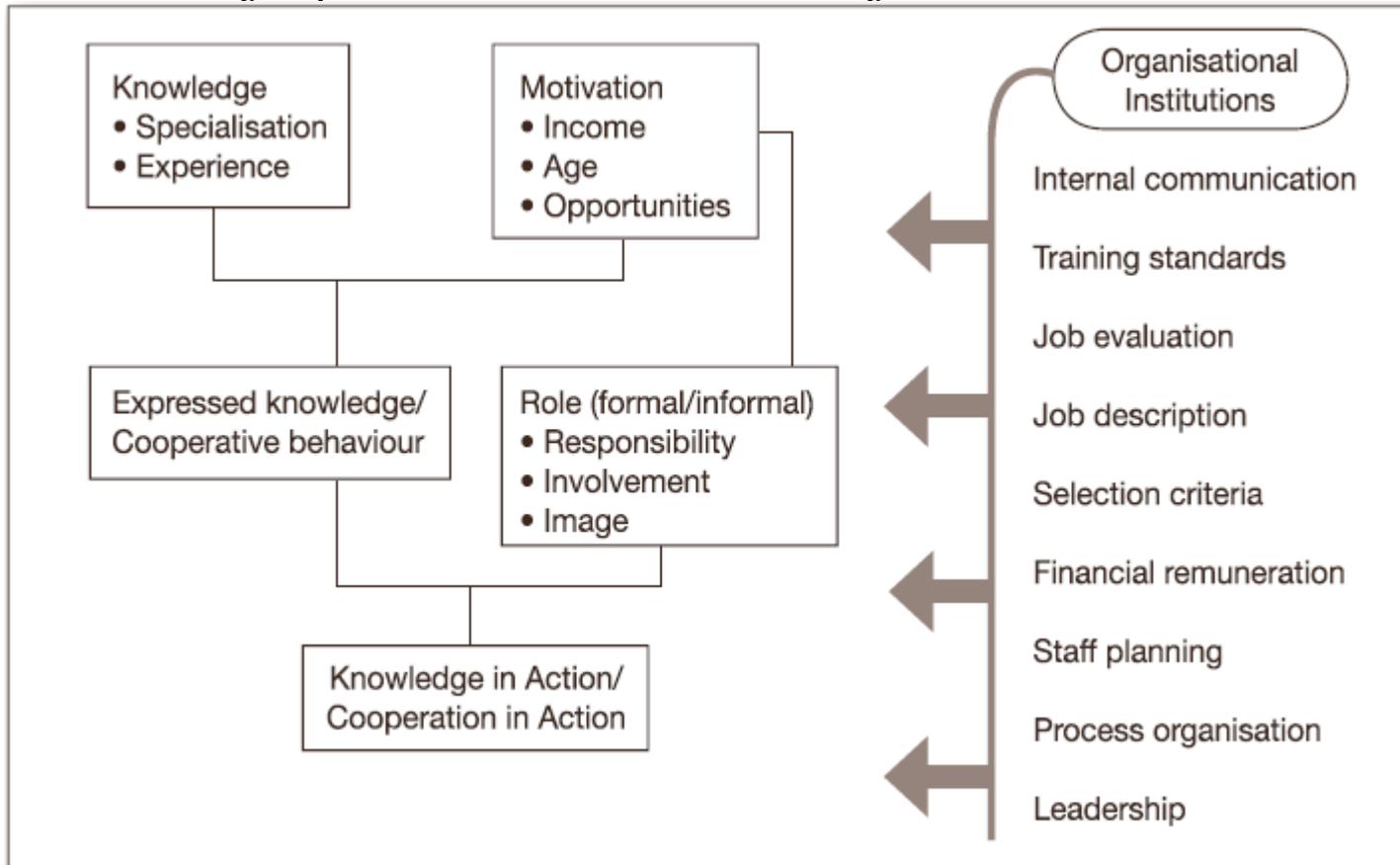


Arguably, Figure 3 provides fundamental elements for assessing relativities of individual factors and change. As a first step, KM has to analyse the influence of organisational change on individual competencies, and in a second step, should investigate to what extent an observed influence may affect the individual's motivation. Even if knowledge is the central component in KM, the relationship between knowledge performance and motivational triggers is bidirectional and marked by mutual influence. The combined performance of knowledge and motivation indicates whether the employee is a special knowledge owner or not and whether he/she is willing to offer his/her knowledge to the company. Offering and sharing individual knowledge in the company means to express knowledge through active participation and to introduce individual knowledge into the management process.

Whether the employee is willing to express his knowledge and then is also encouraged to do so, depends on his formal and informal role in the company. Figure 4 shows that the employee's role is defined by responsibility, involvement

in decision processes, and image, which is surrounded and influenced by general organisational institutions. Roles are important in inter individual behaviour, because they define the individual scope of activity within the organisation and influence intangible assets such as prestige, reputation and social acceptance. Formal roles result from rules and norms defined by the company in order to give a clear idea of what is expected from an employee in a certain position and how processes are managed in general. Formal roles are workplace and task related, and are not bound to a specific individual. In contrast informal roles evolve over time and are strongly connected with the individual's ability. A typical example is somebody who becomes the speaker or representative of personnel, due to his/her good communication skills.

Figure 4 Individualised KM Model within the Organisational Context



The integration of the role component in the individualised KM model is important, because it is directly related with individual motivation. Two examples may underline this assumption.

First, a given formal role can ignore the employee's willingness to cooperate and share knowledge, if the employee's involvement in certain management processes is not intended; and, feeling like an outsider can reduce the individual interest in cooperation. A second example is that of role reduction after a process of change which depreciates the individual's position in the organisation. Here, change is perceived as threat, which raises costs. Any change of roles which reduces the activity scope is considered negative, creates aversion and reduces the employee's willingness to cooperate. In contrast, any positive configuration of knowledge, motivation and role encourages cooperation in the company.

The organisational context of rules, norms standards, and habits must be observed concerning changes, due to their importance on the evaluation of situations. Even if not important for the individual role in the company, general rules create a framework under which the different production and management processes take place. This framework gives institutional stability and is the reference point for the evaluation of any institutional change. The replacement of a wide set of rules creates uncertainty, instability and inconvenience among those who lived well under the old conditions. Change management has to take into account that depending on the individual evaluation of the several key factors, employees will either follow or resist change. The conclusion is that only the concerted acting between individual willingness and role giving can turn knowledge and cooperation into action. Both issues need to be considered when evaluating successful innovation and change management.

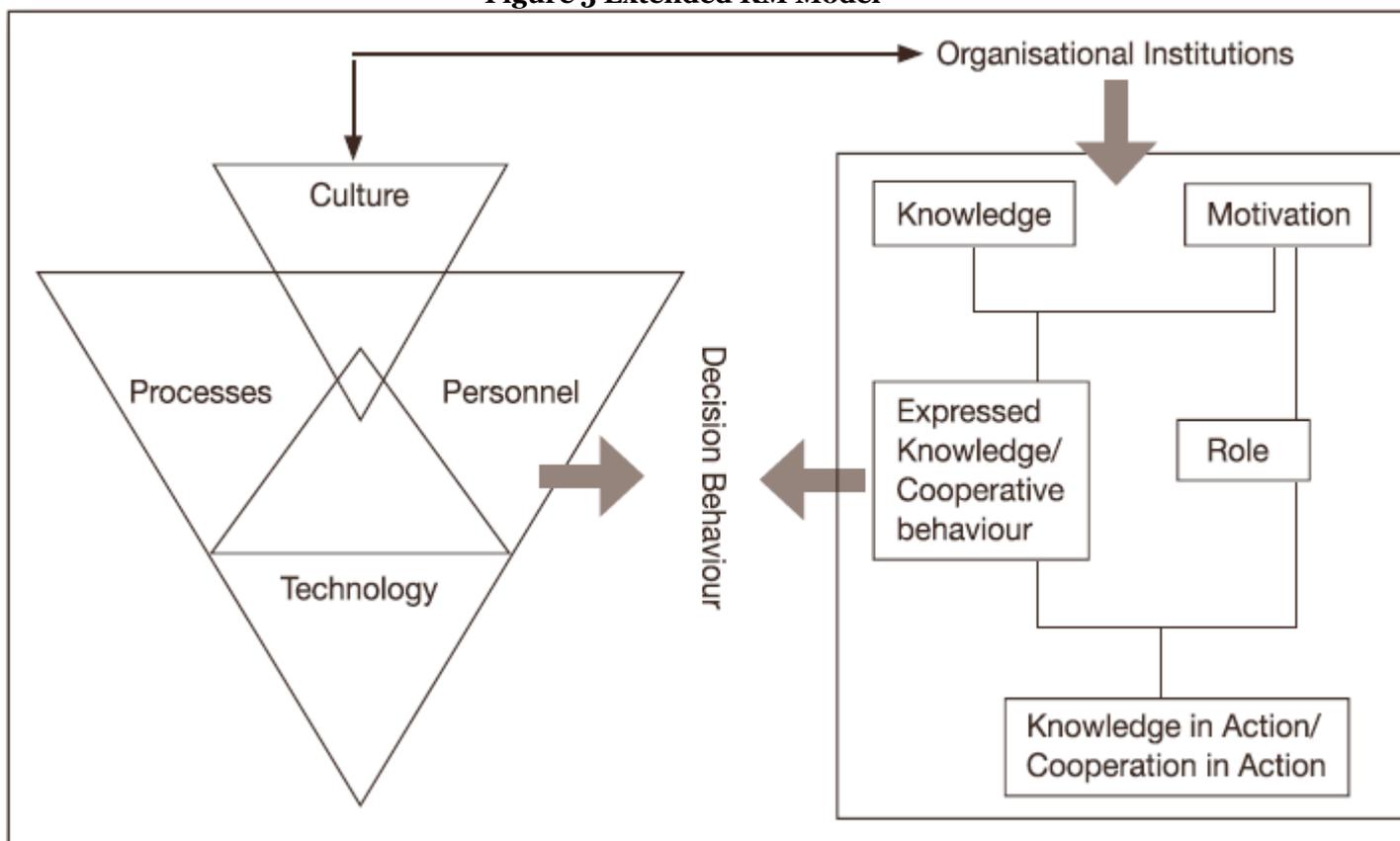
The Extended KM Model

Traditional KM models such as the organisational component oriented model proposed by CIDEM make their point on the importance of culture, personnel, technology and processes for knowledge creation and knowledge sharing.

Frequently asked questions are: Is the organisation prepared to share knowledge? Does knowledge acquisition benefit the organisation? (CIDEM 2003) Confidence and trust are recurring answers to the question of how to stimulate knowledge sharing. To create the right atmosphere, individual willingness to collaborate in KM is expected, which, additionally, can be awarded so as to motivate people. Although motivation is considered, there is no analytical view on individual decision behaviour. In this sense, the individualised KM model contributes with a new perspective to the discussion and also opens the way for applications in change management and turns the focus from the organisation to the individual. The innovative approach arises from the importance given to the individual.

Figure 5 presents the framework for the extended KM model. If management success is considered to be a dependent variable on workforce behaviour, then it would appear problematic to develop management tools on the organisational level without taking into account individual behaviour. This is even more problematic if the company focus is on proactive management, such as Change Management or Innovation Management. The successful implementation of innovation and change needs to be accompanied by a concept that analyses individual decision behaviour in order to avoid individual resistance to change. Considering individual knowledge, motivation and individual roles in organisations as key drivers of behaviour, traditional concepts of KM create the basis for an advanced model which incorporates individual behaviour. Referring to the four component model of CIDEM, the component 'personnel' must include the decision scheme that was developed in this paper. In addition, the component 'culture' can be enriched with hard facts like rules and norms, and generally, defined as organisational institutions. These institutions have also a direct impact on individual behaviour. Finally, the extended KM model helps a) to organise knowledge (traditional approach) and b) to identify resistance to proactive management (new approach). A further advantage is the possibility of discovering resistance in advance.

Figure 5 Extended KM Model



CONCLUSION

If changing environments become a habit and knowledge turns into a critical success factor for companies, then corporate change and corporate knowledge need to be combined in a holistic view in order to develop KM as an adequate tool to manage both. While traditional KM places emphasis on the organisational perspective, change and innovation have a strong individual focus. In this sense, holism means to open traditional KM to decision theory and integrates components of this theory into KM. In doing so, the limited view of KM as a concept to generate, administrate and disseminate knowledge in organisations, shifts to a broader perspective of knowledge and behaviour management in changing environments. The management of knowledge as an asset on the one hand and individual behaviour on the other hand is crucial to successfully implementing new processes and to withstanding global competition.

This research delivers an extended model of KM which combines both levels and enables the drawing of conclusions concerning cooperative or uncooperative behaviour. According to the first assumption of this paper, parameters were identified which affect the main drivers of behaviour. Due to economic theory, the decision in choosing one alternative and rejecting another depends on the expected benefits. Although simple, this approach provides a clear decision framework and helps in interpreting behaviour. Influencing key parameters of behaviour exist on the individual, inter individual and institutional level.

By integrating this approach into KM, the paper shows that KM becomes a serious instrument for Human Resource policies to manage knowledge and behaviour in times of innovation and change. The issue is that knowledge is considered to be a substantial part of the individual. This means that if the company wants to have access to this knowledge, individual cooperation is required. Extending KM onto the individual perspective by integrating decision behaviour into the concept requires the analysis of the employee as a firm asset. Acknowledging the criticism to the economic approach, it treats the employee from the resource based view as what he/she is – an asset. The important point is that the individual is the most important asset in the company and he/she behaves according to his/her motives. The extended KM model takes into account the meaning of the human asset and delivers a paradigm for corporate management. In this sense, the extended KM model is consistent with concepts such as the balance scorecard or the Scandia Navigator, but in contrast to them, the extended KM model places emphasis on the individual and is thus, a HR tool rather than a strategy.

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