Measuring Organizational Renewal Capability

Case Training Service Business

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Abstract

Organizational ability for constant renewal is one of the main success factors of business competitiveness in the knowledge economy. The topic of renewal has been increasingly dealt with by the research traditions of intellectual capital, knowledge management and strategic management. However, even if several relatively consolidated theories about the composition of intellectual capital or competitiveness have been presented – renewal being one of the components – the operational and measurement perspectives of continuous renewal have mainly been neglected. Most of the research on renewal capability is based on case studies, and there is still a lack of quantitative measures that would enable inter-firm comparison and external communication of renewal.

In this paper, we demonstrate a method of how renewal capability can be shown in organizational level and measured. The approach is based on systems thinking, but it also has boundary surfaces with the knowledge-based theory of the firm, dynamic capability approach, and intellectual capital research. We present a tool for analyzing and measuring organizational renewal, called KM-factor®, and the theoretical model behind it. To make the tool more concrete for the reader, we also describe a case organization with the measurement results and conclusions.

Key words: renewal capability, dynamic intellectual capital, measurement of renewal, systems thinking, dynamic capability
Introduction

To achieve a competitive advantage in the global (and often turbulent), business environment, companies must have capability for continuous adaptation to the markets and for renewal capability. Recently, the topic of renewal has been increasingly dealt with by the research traditions of intellectual capital, knowledge management and strategic management. During the last decade, the focus of these research traditions has changed from technology and process development to the overall agility and (self)renewal capability of companies (Hong & Ståhle 2005). However, even if several relatively consolidated theories about the composition of intellectual capital or competitiveness have been presented – renewal being one of the components – the operational perspective of continuous renewal has largely been neglected. Most of the research on renewal capability is based on case studies, and there is a lack of quantitative measures that would enable inter-firm comparison and external communication (Pöyhönen 2004).

Renewal has been recognized to be an increasingly important element of intellectual capital and companies’ competitive advantage, but the function and dynamics of organizational renewal has had little consideration. In addition, the operational meaning with respective measures has usually been missing. There are only two academically documented measurement methods for organizational renewal: KM-factor® (Ståhle et al. 2004) based on a systems approach, and a survey instrument for measuring organizational renewal capability by Kianto (see Pöyhönen) that analyses organizational performance from six different renewal-related dimensions (Pöyhönen 2006).

In this paper, we present KM-factor® as a measurement tool for organizational renewal capability and describe the theoretical approach behind it. To make the tool more under-
standable for the reader, we also describe a case organization with the measurement results and conclusions. (In addition to this case, hundreds of other companies and organizations have also been measured by different versions of KM-factor®).

There are three main questions to be answered in this paper: 1) What is organizational renewal capability and what are the antecedents for it? 2) How can renewal capability be measured in a reliable and meaningful way? 3) How can a company benefit from the measurement of renewal capability?

**What is organizational renewal capability?**

Organizational renewal has mainly dealt with three research perspectives, intellectual capital (IC), knowledge management (KM) and strategic management. IC and KM researchers have studied renewal both as a static asset and as a dynamic capability; several measurement models of the latter have been presented (Edvinsson & Malone 1997, Roos et al. 1998, Sveiby 1997). Pöyhönen analysed the models from the renewal perspective and concluded that all the models seem to focus on the proxies and outcomes of renewal instead of dealing with the accurate renewal capability of the organization (Pöyhönen 2004). Within strategic management literature, renewal has been at core of such approaches as knowledge-based theory of the firm and the dynamic capability approach (e.g. Teece et al. 1997 and Teece 2003). Even if the approach has created much interest it also has been criticized for the confusion and emptiness of the concept (e.g. Pöyhönen 2004, Ferdinand et al. 2004). The dynamic capability approach has nevertheless increased understanding of renewal dynamics in organizations, and it also has many similarities with the systemic view for organizational renewal as presented in this paper (Stähle et al. 2003).
Organizational renewal as a concept has been characterized from various different perspectives from maintenance to radical innovation. The main focus has shifted over the time from strategy formation, knowledge processes and organizational routines. Also, the theoretical roots of the approaches vary from cognitive social psychology to systems theories (Pöyhönen 2004, see Table 1).
<table>
<thead>
<tr>
<th>Renewal capability conceived as</th>
<th>Key assumption</th>
<th>The main focus</th>
<th>Type of renewal considered</th>
<th>Theoretical roots</th>
<th>Representative author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge conversion capability</td>
<td>Renewal is achieved by knowledge conversion between tacit and explicit knowledge, which takes place in various ba’s</td>
<td>Process of knowledge conversion</td>
<td>Incremental development</td>
<td>Polanyi’s idea of tacit and explicit dimensions of knowledge; organizational theory</td>
<td>Nonaka &amp; Takeuchi, 1995; Nonaka &amp; Konno, 1997; Nonaka, 1995; Toyama &amp; Konno, 2000</td>
</tr>
<tr>
<td>Continuous replenishing of core capabilities</td>
<td>Constant updating of core capabilities via knowledge-building activities keeps organizations renewing</td>
<td>Core capabilities and supporting knowledge-building activities</td>
<td>Radical innovation</td>
<td>Organizational theory, especially technology management and new product development</td>
<td>Leonard-Barton, 1992a; 1992b; 1995</td>
</tr>
<tr>
<td>Mindfulness of the organizational system</td>
<td>Mindful operational mode enhances organizational capability to repair and replenish system functioning and contain change</td>
<td>Collective enactment of organizational processes supporting mindfulness</td>
<td>Maintenance</td>
<td>Cognitive social psychology</td>
<td>Weick, 1996; Weick &amp; Sutcliffe, 2001</td>
</tr>
<tr>
<td>Strategic capability for containing and creating change</td>
<td>Semicoherent strategic direction and its implementation by means of semistructures, links in time and time pacing</td>
<td>Strategy formation and implementation</td>
<td>Incremental development</td>
<td>Strategy, complexity and evolutionary theory</td>
<td>Brown &amp; Eisenhardt, 1997; 1998; Eisenhardt &amp; Brown, 1998</td>
</tr>
<tr>
<td>Systemic power of the organization to form knowledge environments which support its strategy</td>
<td>Dynamics of the organizational system create knowledge environments within the organization, each of which leads to different type of renewal</td>
<td>The capability of the organization to function as a coherent knowledge system according to its strategy</td>
<td>Maintenance, incremental development and radical innovation</td>
<td>Systems theories</td>
<td>Ståhle, 1998; Ståhle &amp; Grönroos, 2000; Ståhle, Ståhle &amp; Pöyhönen, 2003</td>
</tr>
<tr>
<td>Continuous innovation</td>
<td>Continuous innovation requires synergistic combination of operational effectiveness, and strategic flexibility</td>
<td>Routines for innovation and learning</td>
<td>Incremental development and radical innovation</td>
<td>Industrial process management</td>
<td>Boer, forthcoming; Boer &amp; Bessant, forthcoming</td>
</tr>
<tr>
<td>Understanding and supporting the autopoietic nature of the organization</td>
<td>The sensory function of organizations enables creation of new knowledge, while the memory function enables maintenance of existing knowledge; both are needed for continuous self-production of the organization</td>
<td>Autopoietic nature of organizations</td>
<td>Maintenance and radical innovation</td>
<td>Theory of autopoietic systems</td>
<td>Maula, 1999</td>
</tr>
<tr>
<td>Dynamic capability</td>
<td>The organizational capability to leverage, develop and change its competencies is the key to success in rapidly changing environments</td>
<td>Firm-specific routines and capabilities</td>
<td>Incremental development and radical innovation</td>
<td>Resource-based and capability-based views of the firm</td>
<td>Teece et al., 1997; Eisenhardt &amp; Martin, 2000</td>
</tr>
<tr>
<td>Ability to manage the organizational renewal cycle</td>
<td>Crisis, value-based leadership and creative networking are necessary for radical organizational renewal</td>
<td>Renewal cycle</td>
<td>Radical innovation</td>
<td>Organization theory, ecology</td>
<td>Hurst, 1995</td>
</tr>
</tbody>
</table>

Table 1. Overview on Models on Renewal capability of Organizations (Pöyhönen 2004)
In the systemic view of organizations as presented by Ståhle and her colleagues the definition of renewal consist of the following:

1. Renewal is a multifaceted concept consisting of three dimensions of renewal referring to either maintenance, adaptation or innovation type of change (Ståhle & Grönroos 2000, Ståhle et al. 2003, Pöyhönen 2004).

2. Organizations are hypothetically seen as three dimensional systems with mechanistic, organic and dynamic features.¹ The quality of organizational renewal capability depends on the bias of these features (or organizing principles), e.g. mechanistic systemic bias leads to rigid knowledge and action processes that support more maintenance than innovativeness (Ståhle 1998, Ståhle et al. 2003).

3. The main focus of renewal is the organization’s capability of functioning as a coherent system according to its strategy. This means, for instance, that organizations aiming at efficiency must have completely different organizational dynamics (internally organizing principles) than organizations aiming at innovations or radical change. For efficiency, organizations need to emphasize their function as mechanistic systems and for innovation or radical renewal as dynamic or self-organizing systems.

In Ståhle’s model, organizational renewal is seen as a three-dimensional phenomenon that covers three types of performance within the organization: 1) effective standardization, replication, routines, implementation and maintenance of the existing knowledge base and activities, 2) continuous, feedback-based and incremental development of knowledge base, processes and service, 3) enhancement and invention of radically new knowledge, modes of action and innovations. Each of these types of performance requires distinct operational

¹ The hypothesis is based on analyses of systemic research traditions. The analyses resulted in characterization of three systems paradigms and the functional antecedents of dynamic systems (Ståhle 1998).
modes and management processes, and thus the question of prioritisation among them is essential from a strategic point of view. *Organizational renewal capability* is dependent on a) the ability of the organization to implement the knowledge processes from replication of existing know-how to quantum-leap innovations, and b) the balance of the three processes according to the strategic intent of the organization as well as the external demands posed by its environment (Stählé et al. 2003).

As renewal capability is a multi-dimensional concept consisting of three types of renewal activities, this is also reflected in its measurement. The extent to which an organization needs each type of renewal depends on the strategy of the organization, and therefore *renewal capability is always a strategy-related issue*. This means that the measurement of renewal capability must be able to recognize various strategic foci and the implications of these to the optimal combination of maintenance, development, and radical types of renewal within the organization.

The systemic view has also been widely spread over the last decade in management and organization research (see for example Appelbaum, 1997, Benoit and Ramanujam, 1999; Sanchez and Heene, 1997a; 1997b). The approach of complex adaptive systems have been emphasised by Hamel, 1998, as well as Eisenhardt and colleagues: Eisenhardt and Tabrizi, 1995; Brown and Eisenhardt, 1997; Eisenhardt and Brown, 1999 and Maula 1999. In the context of renewal systems, theoretical roots are presented especially by Brown and Eisenhardt and Maula, as Table 1 shows. However, in intellectual capital and knowledge management literature, the systemic approach has been rather neglected.
The systemic research traditions, approaches and theories adhere to a wide spectrum of approaches and concepts formulated by scientists representing diverse disciplines. Even the definitions of the constituents of a system vary a great deal depending on the point of departure of the given author. Ståhle (1998) showed in her analyses that various systems approaches contain not only different and controversy definitions but also three distinct paradigms: a) closed or mechanistic, b) open or organic, and c) self-organizing or dynamic. For example, from the viewpoint of mechanistic tradition, systems are regarded as orderly and regularly functioning entities, while within the dynamic paradigm they are portrayed as complex, turbulent and self-organizing. Even if the qualifications and function of the three systems are more or less different, each of these system views is internally consistent. in conclusion, different kinds of systems exist; they behave differently and are capable of different kind of performances and objectives according to their internal nature.

Thus, organizational renewal can have different, even contradictory meanings depending on the circumstances and targets of the company. Organizational renewal capability is gained by different kinds of systemic dynamics within the organization. Table 2 clarifies these dimensions of renewal and systemic function.

<table>
<thead>
<tr>
<th></th>
<th>Mechanical</th>
<th>Organic</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market definition</td>
<td>Predictable</td>
<td>Predictable change</td>
<td>Unpredictable change</td>
</tr>
<tr>
<td>Pace of change in the market</td>
<td>Stable markets</td>
<td>Constantly changing markets</td>
<td>Highly turbulent markets</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature of Organization</td>
<td>Production oriented organizations</td>
<td>Customer service organizations</td>
<td>Innovative organizations</td>
</tr>
<tr>
<td>Ultimate goal</td>
<td>Constant quality and effectiveness</td>
<td>Adaptive and managed development</td>
<td>Radical renewal and change</td>
</tr>
<tr>
<td>Nature of organizational renewal</td>
<td>Maintenance</td>
<td>Incremental development</td>
<td>Radical innovation</td>
</tr>
<tr>
<td>----------------------------------</td>
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</tr>
<tr>
<td>Operational focus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution, production, fixed</td>
<td></td>
<td>Tailoring and development of service concepts</td>
<td>Innovative, radical renewal and/or growth</td>
</tr>
<tr>
<td>product lines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic objectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Building flawlessly functioning systems</td>
<td>-Quick reaction to customer needs and feedback</td>
<td>-Continuous innovation</td>
<td></td>
</tr>
<tr>
<td>-Maximizing the cost- and time-efficiency of systems</td>
<td>-Constant and systematic development of new services</td>
<td>-Quick reaction to changes in the market</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Support for creativity, risk taking and experimentation</td>
</tr>
</tbody>
</table>

Table 2. Characteristics of organizational renewal in different market environments
(Pöyhönen, 2004, originally based on Ståhle & Grönroos, 2000)

In recent literature, the systemic view emphasises the complex and self-organizing features of systems (dynamic) while the earlier approaches focused more on internal feedback (organic) and regulation processes (mechanical) (Ståhle et al. 2003).

**How to measure organizational renewal capability**

The measurement of renewal capability is an underdeveloped issue in the existing literature, and there has been only rare attempts in the area. Most scholars have concentrated on theory building, and the methodological emphases has been on case studies rather than on quantitative indices. Also, even if the renewal has been measured, the indicators tend to be oversimplified or lack ability to grasp the dynamics of renewal. For instance, no matter how much money has been spent on ICT (which has been used often as an indicator of
renewal in these measurements) there is not necessarily any evidence on how capable the company is to renew itself (Pöyhönen 2004).

One of the most difficult challenges concerning renewal capability is practical, e.g. how to concretize it. The work of Ståhle and her colleagues offers a method called KM-factor®. for understanding, analyzing and measuring an organization’s renewal capability from a systemic perspective. KM-factor® is an analytic tool for measuring renewal capability based on the interpretation of organizations as differently functioning knowledge systems as described above (Ståhle & Grönroos, 2000; Ståhle et al. 2003). The systemic methodology of KM-factor® has a well-grounded theoretical background and it has been developed in close collaboration with practitioners over a period of eight years. Hundreds of organizations have been measured by it.

In KM-factor® analyses, the organization is examined as consisting of three interrelated knowledge environments (systems) that form a basis for organizational knowledge creation: The mechanistic environment represents value creation from standardized operating models and processes. The organic environment is the platform for mutual learning and incremental development. The dynamic environment is the sphere where spontaneous information flow and potential knowledge is cultivated into radical changes and innovations.

Both the theoretical model of organizational renewal capability and hundreds of company measurements show that in most organizations all three types of renewal processes are in use. They can often be functionally separated so that, for example, research and service product development unit focuses on innovation capabilities, where as service and product delivery functions might concentrate on effective distribution. In measurement, the organi-
zation is analyzed as a whole for finding renewal characteristics of all three; all of them are needed to support the right operational mode of the organization according to the stated strategy. Maintenance renewal is most efficiently achieved by a mechanistic hierarchical top-down management style and strictly defined organizational structures. Development renewal is based on dialogue and interactive, empowering organizational culture in organic environment. Radical renewal is based on mastering of complexity, and it is characteristic for dynamic organizations. According to the overall dynamics, we can identify different systemic functions and different knowledge environments within the organization. Table 3 summarizes their essential features.

<table>
<thead>
<tr>
<th>Organization as 3D system</th>
<th>Mechanical</th>
<th>Organic</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td>Cost efficiency on rather stable markets</td>
<td>Gradual development Adaptation to the changes of the market</td>
<td>Continuous innovation Proactive creation of new markets</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td>Defined, explicit, documented</td>
<td>Experiential, hidden, tacit, dialogue based</td>
<td>Intuitive, potential future oriented</td>
</tr>
<tr>
<td><strong>Relations</strong></td>
<td>Determined by the organizational hierarchy</td>
<td>Reciprocal, trust based, organized by the target</td>
<td>Spontaneous, networked, multidimensional expertise</td>
</tr>
<tr>
<td><strong>Information flow</strong></td>
<td>One-way, top down</td>
<td>Multi-way, horizontal</td>
<td>Complex and chaotic</td>
</tr>
<tr>
<td><strong>Management tool</strong></td>
<td>Formal authority</td>
<td>Self directive teams, common agreements, self-assessment</td>
<td>Portfolio-based, network-based resources, visionary</td>
</tr>
<tr>
<td><strong>Leadership method</strong></td>
<td>Prescriptive</td>
<td>Coaching style</td>
<td>Power transfer, individual support</td>
</tr>
</tbody>
</table>

Table 3. The characteristics of the organizational system classes and constituents (based on Ståhle & Grönroos, 2000).
Renewal capability in the systemic context can be defined as a company’s ability to create and maintain different knowledge environments in line with the firm’s strategic intent. In this theoretical frame, renewal capability can be measured by KM-factor®, which has been built on theory, modelling and questionnaire-based on the three dimensional systems view.

The data for the measurement is gathered with a web-based questionnaire that is based on the three dimensional systems view described above. The questionnaire contains 72 statements, and the response format is a 5-point Likert scale anchored by ‘I totally disagree’ and ‘I totally agree’. The statements reflect the four system components: knowledge, information flow, relationships and management – both at the present and the goals of the respondents in the same areas. Based on these four perspectives, any organization can be analysed as a system.\(^2\) The data that depicts the systemic function of organizations is then analysed further, and the results are described both in graphs and indexes.

The basis for the KM-factor–questionnaire is a two-dimensional model that contains characteristics of the three system classes (A, B, C) and four system constituents (1-4). Together they form 12 intersections, i.e. system components\(^3\) (A1-C4). Each component is a set of 3 basic statements (connected to system classes and system constituents) concerning the participants’ estimates of 1) the present situation and 2) a preferable target situation.

\(^2\) For a full development of this argument, see Ståhle et al. 2003.
\(^3\) Every organization can be analysed as a system based on these four dimensions, even though also other dimensions could be chosen.
Every organization is a mix of the three system classes, and thus, the system characteristics of an organization include mechanical, organic and dynamic features. The balance between the three kinds of system characteristics can be visualized in a systemic profile. The systemic profile in Figure 1 demonstrates a company that fulfils quite coherently its organic customization service strategy in its performance by its different units (subsystems).

Figure 1. An example of a system and its subsystems that emphasize organic and dynamic characteristics
The mathematical analysis of the data results in 10 indexes, i.e. figures that describe and depict the behaviour and potential of the organization as a system. In a systemic mathematical analyses, the focus is in coherence and relations more than on the total amounts. Renewal capability is concretized into 10 measurable indexes (see Table 4). Each index is reported by a number ranging from 0 to 200. Together, these indexes form the so-called DIC-index (= Dynamic Intellectual Capital or Renewal capability; the latter is used in Finnish version), which illustrates the organization’s systemic coherence and overall renewal capability. Indexes 1-5 form the first sub-index of Renewal capability, labelled Strategic Capability. These indexes show the systemic coherence of the organizations and how well its systemic function is in line with the chosen strategic focus. Indexes 6-10 form the second sub-index, Power to Change, which brings supplementary information to system-based data, e.g. level of motivation and networking indexes.  

<table>
<thead>
<tr>
<th>Basic index</th>
<th>Interpretation and main parameters used</th>
</tr>
</thead>
</table>
| 1. Unanimity regarding the current situation | 1. Low standard deviation of items concerning present within components  
2. High consistency within components |
| 2. Unanimity regarding objectives    | 1. Low standard deviation of items concerning targets within components  
2. High consistency within components |
| 3. Strategic fit of objectives       | 1. High consistency between constituent- and class-averages  
2. Low standard deviation of change compasses  
5 The change compasses illustrate the gap between the strategic foci of an organization and its actors’ goals. Their calculation is explained in Ståhle et al. 2003. |
| 4. Strategic fit of operational profiling | 1. High consistency of strategic foci stated in all constituents  
2. Low standard deviation of correlated change compasses |

4 For a full description of the methodology, see Ståhle et al. 2003.
| 5. Sensitivity to weak signals | 1. High standard deviation of present items  
|                              | 2. Low standard deviation of target items |
| 6. Challenge presented by the target level | 1. High gap level  
|                                             | 2. High consistency between present and target items within components |
| 7. Innovation potential | 1. High gap level on high level of present  
|                          | 2. High standard deviation of targets  
|                          | 3. High levels of innovation questions |
| 8. Commitment to objectives (management <-> staff) | 1. High consistency between management and staff |
| 9. Internal networking | 1. High double contingency  
|                          | 2. High levels of networking questions |
| 10. Motivation level | 1. High levels of motivation questions |

Table 4. The calculation principles of KM-factor indexes (Ståhle et al. 2003)

The results of a measurement do not provide much information unless they are compared against a benchmark. For this reason, the KM-factor indices are presented as relative figures that depict renewal in relation to; a) other firms with a similar strategic focus, i.e. external comparison (100 = overall average of all measurements in KM-factor® databank); and b) previous measurement results of the same organization, i.e. internal change. In other words, the average of measured companies is taken as a yardstick, e.g. Renewal-index 120 means that the level of renewal capability of the organization is 20% higher than the average of the comparison group. In the Report of Results of KM-factor®, all the renewal indices are scaled in this way.

In the Report of Results, there are the indices for the renewal capability of the organization. These are further demonstrated with graphs illustrating renewal indices of management and personnel. The report also includes tables that pinpoint the areas with the biggest problems.
In the following example, we describe how KM-factor® was used in a training service unit of an international company.

**The case organization**

The case corporation operates in the mobile communications industry. In the strategic statements of the company, the customer is seen as the top priority. The case organization’s business group provides network infrastructure, communications and network service platforms, as well as professional services to operators and service providers. The case organization belongs to the Services business unit under the business group that focuses on *customer training services*. The training organization’s service product portfolio consists of Training services, Coaching services, E-learning and published materials services as well as Competence planning, evaluation and testing services. The strategic intent of the case organization is “to enable all our customers to gain the maximum performance from their people, through investment in our innovative learning solutions.” The focus of business development is to change from “off the shelf” course centric offerings to customer centric solutions.

The case organization is global with a staff of about 200 employees, and it is divided into different geographical areas that have the business responsibility of their regions. In addition, there is one global development unit, which is responsible of portfolio, processes and tools development. The successful business and strategy implementation requires the right functioning balance between these units, especially when the training services business is in the strongly competitive market concerning generic technology and training support
products. The pressure to remain cost-competitive in the eyes of customer and maintain operational efficiency in the own organization is huge. At the same time, the case organization is looking for a change towards innovative solutions delivery, which requires costly and time consuming investments for developing totally new innovation capabilities and competencies. Over the long run, operational pressures may jeopardize the strategic capability of the organization if organization is not able to act as a coherent system towards its strategy.

**Measurement**

During autumn of 2006, the case organization conducted KM factor® measurement to get insight in the current status of the organization’s renewal capability. In order to further analyze dissimilar functions, five operational units of the organization were analyzed. The units differed from each other by global location, customer segments and expectations. In the end, there were four different group results and the results for the organization as a whole. To share the results of the measurement, discussion sessions were arranged both for the management team (12 persons) and for the rest of the organization. In addition, detailed interviews were arranged for the current and previous heads of the organization. Finally, the summary of the results was provided to everybody interested in the organization in order to increase awareness and understanding of renewal related findings of the case organization.

The questionnaire was addressed to about two hundred people. The common **reply rate** was 56% (management 87%, personnel 50%). The total reply rate between units varied from 74% to 43%.
The total renewal capability analysis (the *Report of the Results*) of the whole organization and all units consists of a) Strategic focus of the organization, b) Operations emphasis for current and target situation, c) *Strategic Capability* indexes, d) *Power to Change* indexes, e) Change Compass for management and personnel, that shows how well the organization operates (as a system) according to its strategy on the four areas of performance (competence, information flow, relationships, and management/leadership).

The organization’s *strategic focus* as defined by management is (colored areas in Figures 2 and 3): The preliminary focus was stated as *Flexible organization focusing on service concepts and customization* (organic). The secondary focus was stated as *Innovative organization capable of managing radical renewal and/or growth* (dynamic).

*The operation profiles* show the organization’s emphasis on production, service and development at the current and target levels (Figure 2). *Management strategy emphasis* visualizes the management’s target orientation; i.e. where the organization should go. *Current situation* shows both employees and managers’ operational focus at the moment; i.e. how the current action and operation is being emphasized in daily work.
Figure 2. Current and target orientation of organization’s performance in accordance to the stated strategic focus

Figure 2 shows that the current state of the organizational operation is not quite in line with the strategic focus. According to the strategy, service centred (organic) operations should be emphasised more than the developmental (dynamic) orientation of behaviour.

When looking at the profiles separately for management and personnel, we notice that the personnel act in the current situation largely by dynamic orientation (Figure 3). The orientation of the management is more emphasised on organic behaviour – although according to the aimed strategy organic action should be even more emphasised, which means that there is still too much bias on production-based mechanistic orientation.
Figure 3. The comparison between management and personnel

According to the stated strategy, operational emphases of the organization should be on service-centred operations. This means capability of continuous and incremental development of processes and products according to customer needs and market changes. In the current situation, too much emphasis on development (as personnel has done) means a loss in business effectiveness and resources. Too much emphasis on production (as management has done) makes the organization too slow for adaptation. In the case of organization, the situation for management is more in line with the strategy than it is for personnel.
Renewal capability

To understand the renewal capability of the case organization, *Strategic capability* and *Power to change* indexes need to be viewed in more detail. These indexes are calculated as shown in Table 5. Strategic capability includes the indexes 1-5 and power for change includes the indexes 6-10. Renewal capability is the composite index based on these two. The key ratios of all indexes are percentages that scale the results to the average of the comparison group, which is always 100. The comparison group consists of the data bank of the all previously measured organizations having the same strategic focus than the case organization. If the index ratio of the case organization is under 100%, the organization’s performance is weaker than for the reference group. If the value is 100%, the ration is the same as the average value of measured organizations..

According to KM-factor®-analysis, the case organization’s *Renewal capability* is 115, *Strategic capability* 110, and *Power to change* 120. These general results of the organization as a whole indicate comparatively good ability for renewal, and show that the general level of renewal capability is 15 % higher than that of the reference group. The ability to change is embedded in the organization; basically the good result refers to the systemic capability of the whole organization; e.g. how people work together in line with the stated strategy. The sub indexes for *Strategic capability* and *Power to change* are as presented in the table below (Table 5):

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewal capability</strong></td>
<td>115</td>
</tr>
<tr>
<td><strong>Strategic capability</strong></td>
<td>110</td>
</tr>
<tr>
<td>Unanimity regarding the current situation</td>
<td>120</td>
</tr>
<tr>
<td>Operational profiling according to strategy</td>
<td>109</td>
</tr>
<tr>
<td>Unanimity regarding objectives</td>
<td>104</td>
</tr>
</tbody>
</table>
Strategic fit of development challenges 96
Sensitivity to weak signals 112
**Power to change** 120
Challenges presented by target levels 144
Innovation potential 109
Level of motivation 108
Commitment to objectives (management <-> personnel) 129
Internal networking 108

| Table 5. The total scores of sub indexes for renewal capability of the case organization |

The organization’s detailed results are above the average level of the benchmark group, and contain no significant weaknesses. However, *Strategic fit of developmental challenges* is below the average level (96%). This result indicates that the future challenges and targets of the organization should be discussed more widely and thoroughly in the whole organization, since people’s orientation does not totally fit with the aimed strategy of the organization. In this organization, management wants to emphasise more cost efficiency and mechanistic mode of operating, and the personnel is too oriented in innovative development of their work (see Figure 3, target situation). According to the stated strategy they both should be focusing on continuous and client-centred development of services. This means *organic operating logics*, e.g. applicative (re)use of knowledge and competence, increased cooperation both within the organization and with the clients, flexible relationships and responsibility sharing as well as coaching type leadership and empowerment.

**Strategic capability**

The strategic capability of the organization consists of five indexes. The results show management, personnel and comparison results in relation to four areas of organizational be-
behavior (system constituents): competence, information flow, relationships and control (management/leadership) (see Table 6). The indexes in the strategic capability area describe both the skills of the organization to perceive its current situation consistently and to act coherently according to the strategy. The indexes in the table are built by comparison with the benchmark group, as explained earlier.

<table>
<thead>
<tr>
<th>Management</th>
<th>Unanimity regarding the current situation</th>
<th>92</th>
<th>139</th>
<th>129</th>
<th>125</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operational profiling according to strategy</td>
<td>89</td>
<td>118</td>
<td>93</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Unanimity regarding objectives</td>
<td>114</td>
<td>110</td>
<td>122</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Strategic fit of development challenges</td>
<td>86</td>
<td>109</td>
<td>97</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Sensitivity to weak signals</td>
<td></td>
<td></td>
<td></td>
<td>114</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Unanimity regarding the current situation</th>
<th>99</th>
<th>123</th>
<th>117</th>
<th>139</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operational profiling according to strategy</td>
<td>99</td>
<td>132</td>
<td>113</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>Unanimity regarding objectives</td>
<td>90</td>
<td>86</td>
<td>117</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Strategic fit of development challenges</td>
<td>86</td>
<td>114</td>
<td>99</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Sensitivity to weak signals</td>
<td></td>
<td></td>
<td></td>
<td>112</td>
</tr>
</tbody>
</table>

* The key ratios of strategic capabilities given in tables are percentages that scale the results to the average of comparison group. If the figure is under 100% = key ratio is weaker than in reference group, 100% = same as the average value of measured organizations etc.

<table>
<thead>
<tr>
<th>Skills / Management</th>
<th>the master and development of management and leadership work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills / Personnel</td>
<td>the master and development of one’s own work</td>
</tr>
<tr>
<td>Information flow</td>
<td>the availability and exploiting of information</td>
</tr>
<tr>
<td>Relations</td>
<td>co-operations, responsibilities and influence channels</td>
</tr>
<tr>
<td>Management</td>
<td>the support systems of technology, processes and employees.</td>
</tr>
</tbody>
</table>

The tables present the weaknesses of strategic competence in sectors (skills, knowledge flow, relations and leadership). Weakest areas (index less than 90 and max. 5 areas) are marked in grey.

Table 6. The strategic capability of the organization
The challenge in the case organization seems to be the area of *competence*. For both management and personnel, the stated development challenges do not fit very well with the aimed strategy. According to the strategy, the organization should emphasise the capabilities and competences needed in client centred service, but instead the orientation of the organization is directed to innovative problem solving (personnel) and cost effectiveness of production (management) as seen also in Figure 3. For management, the problem also concerns current operative action: its use of managerial competence does not support the organization’s performance in service in the best possible way. (See the coloured areas in Table 6, the column of *Competence*).

The results suggest that management and the personnel could consider using some mechanisms to evaluate the function of leadership, together with management, work in the light of the stated strategy, and also consider using a more flexible and systematic development. Service-centred strategy requires empowering and coaching type leadership to support the organization to manage customer service both flexibly and effectively. Mechanistic, production-based management orientation is not the best way of developing the needed capability in the organization. This should be taken under consideration for organization, otherwise there is a threat for the strategic bias getting worse, i.e. creative, ad hoc problem solving mentality of the personnel decreases cost effective behaviour. As a counterpart, the management may increase emphasise on authoritarian production-based leadership.

**Power to change**

Power to change consists of five different indexes. The indexes measure the resources that the organization uses to archive and maintain change and renewal. Based on the results in
this area, the organization shows high capability for change and flexibility, and no clear weaknesses exist. Clearly, the highest score from the whole measurement was *Challenges presented by target levels* (144%, Table 5). Indeed, the whole organization’s emphasis on the target setting based on current challenges and the information, management of setting targets and supporting systems are in place. The whole organization is also very *committed to objectives*; information about objectives is on hand, management, processes and responsibilities in relation to objectives and setting are very good. *Innovation potential* and *internal networking* ability are clearly above the average level of benchmark group. (Although a more detailed analyses shows some challenges in the area: *personnel and management concerning the area of relationships*, indicating that more trust and effective co-operation and organizational support are needed across hierarchical and unit boundaries.)

The *Change Compasses* of KM-factor® suggest that discussion, communication and interaction mechanisms should be further developed for the whole organization, within and between the units and management/personnel to achieve better unanimit for organizational goals. *Level of motivation* is on a good level and gives a good starting point for organizational change; change resistant is not expected to be high since the organization has an excellent built-in ability to change. In fact, renewal is one of the company’s core values, and it shows in the results.

**Comparison between units**

The comparison between different units provides further details to overall scores (Table 7).
Table 7. The index summary of all the units

Overall, Strategic capability shows good total results in all the units. However, the indexes of Strategic fit of development challenges is below or near one hundred in most units. Based on these results, improvements could be made including the proper and more influential co-operative discussions about the strategic goals and targets inside and between different units.

The unit scores in the area of Power to change are also very good. As an example, there is an interesting ratio between different customer markets and Organization’s innovation potential. For example, the extraordinary market in the area of unit 1 creates innovation pressure since there is a need to invent continuously new solutions for the customers. Simplified markets in the area of unit 3 do not expect new innovations and therefore these will not come up. Different results of the innovation potential may indicate that customer inter-
face and the expectations directly influence the innovation capability of the serving organization.

**Conclusions**

The main strategic focus of the case organization was defined by management as *flexible organization focusing on service concepts and customization, i.e. organic focus*. There was a difference between the action mode of the personnel and management according to the *current operational focus* of the organization. There seems to be too weak of emphases on service orientation and too much emphases on production based effectiveness in management’s behaviour, while personnel emphasises in the current situation is mainly development-centred action. This contradiction may affect understanding and implementing the strategic development goals of the whole organization.

The case organization received very good results for both sub indexes *Strategic capability* and *Power to change* which describe the overall renewal capability. In general, the case organization did not have significant weaknesses in its renewal capability. Figure 4 gives a high level summary of development directions in relation to different elements inside the three knowledge environments. There is a clear need to direct organizational renewal capability more towards incremental development and towards customer service operations.
Figure 4. The summary of the change directions of the case organization

Competencies and skills or capability to develop either own work (personnel) and leadership (management) towards the required strategic direction is clearly the area to be developed.

The processes, new methods and solutions taken into use in the units must be more applicable, having collaborative development and implementation focus. Competence development should be driven by customer input, performance evaluation and reporting results. At the same time, more focus should be put into skill and competence development, making it a continual and systematic process.

The measurement results also indicate that efforts must be made to improve the interaction and co-operation of both the management and employees inside and between units. The
case organization must concentrate to have a clearer understanding of the role of each member for the operations as a whole and activate co-operation, inspire people to work together and make continual evaluation and development of operations possible.

Clearly, especially for the personnel, increasing development focus towards organic knowledge environment is needed. The feeling and operations for the personnel in the dynamic environment is overemphasized when compared to strategic direction. For the management, the stress for cost-efficient production should be reduced. Organization should move to increase the dynamics to support better customer service centric operations by delegating power and supporting self-directedness of the organization. However, it is good to remember that all the different operational modes are needed in the organization. The key is to find the right balance between these operational modes and address the right renewal needs and the means to support the aimed strategy.

As a next step, the case organization should focus on developing the processes and dynamics to support capability building, management and leadership as well as relational issues for more flexible, empowered and applicative direction. Luckily, there were no critical alarms according to the survey; therefore, the first concentration point could be to achieve better strategic fit and understanding of development challenges in strategic development projects. It is recommended that the pilot development project concentrates on studying and developing mechanisms in key areas, such as leadership, communication and information sharing and transformation, interaction formation, authorizing and empowering project members.
Although the personnel answering rate was a bit low, the overall reply rate for the survey (56 %) provided a good basis to analyze the case organization further. For the future research in the area, the personnel needs to be better committed to the survey. The case organization got very valuable information about its renewal capability: The differences between strategic and operational focuses of the management and personnel requires sharpening strategy message. Dissimilar customer markets got distinct results from each other guiding local organizational development accordingly. Detailed change directions gave valid input to plan the required change programs of the case organization, and for example, the results in the area of competence development challenges were a real eye opener. The organization is going to continue with the measurement and consider using it as one key performance indicator for capability development efforts.

Reflections

KM-factor® has been developed by close cooperation with academic and industrial parties, originally to support enterprises’ competitiveness in knowledge and innovation economy. Hundreds of organizations have been measured with different versions of the method during the eight past years, and not only companies but also public organizations have been interested in using it.

KM-factor® is based on the following hypothesis:

1. The core of organizational renewal is three functional: maintenance, adaptation and radical change. The importance of each for a company’s competitiveness depends on the aimed strategy.
2. The organizational renewal capability is a systemic characteristic. When the organization acts as a coherent system, the more its systemic mode of operation fits with its strategy, and the more renewal capability it has.

3. Organizations can be analyzed as three dimensional systems according to their operational mode and function. The data gathered by the questionnaire (that identifies the modes of operation based on three dimensional systems view) can be refined by mathematical analyses to numerical indexes describing the renewal capability of the organization.

Scientific validation of these hypotheses is difficult, since the measurement concerns complex reality with many influencing variables. This is the reason why KM-factor® has been developed over the years in close connection with companies’ practice, and its usefulness and advantage for organizations has been the first goal of validation. So far, KM-factor® has passed the constructive validation, since its theoretical basis is solid and hundreds of organizations have been measured by it, and the benefit has been evident in practice. The preliminary analyses also indicate that the indexes of KM-factor® correlate strongly with the future financial success of the company (Pöyhönen et al. 2004). Thus the results refer to the fact that companies with (system based and strategy connected) renewal capability have more competitive advantage than others. However, the correlation analyses must still be further studied and conclusions must be scientifically reported in detail to be able to draw reliable conclusions. And even after the validation has been reliably conducted, the conclusion can only culminate on the fact that KM-factor® and the systemic view it is based on, is only one beneficial possibility to concretize and measure organizational renewal. It can probably be conducted on other kind of theoretical and empirical bases as well.
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