

14. COORDINATION OF KNOWLEDGE AND COMPETENCE

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Abstract

Knowledge and competence as well as organisational values and culture are concepts related to a resource-based view of the firm. These factors acquire more power in global corporations using an organisational structure of leveraging. The main purpose of the present paper is to elaborate and specify the role and framework of coordination in leveraging of knowledge and competence. Knowledge and competence coordination is the determinant factor driving efficiency and profitability of knowledge-based innovation in the company. Leverage of competences is described by means of the model of overlapping divisions' competences. The meaning of leverage can be different for core, key and general competences. The main tasks of coordination are maximising leverage efficiency, identifying the right competence to leverage over the corporation, creation the infrastructure for leveraging and renewal of competences.

Coordination of knowledge and competence is considered to be one of the main compliments to management competences.

Introduction

In the conditions of new ‘click-economy’ (*click of the mouse*), technological achievements have become accessible to most companies. As a result of this, information-communication technology (ICT) is no longer a strong enough competitive advantage. Success factors based on organisational culture, knowledge and competence are more difficult to replicate by competitors than exploitation of ICT. Competence and knowledge as well as values and culture of organisation acquire more power in organisational structures using the mechanism of leverage. Leverage is defined as “the extent to which profits can be increased when revenues and capacity utilization rise” (Crainer, 1999: 882). Leverage is related to the exploitation by an organisation of “its resources to their full extent” (Thompson, 2001: 1126). Often the concept of leverage is linked to the idea of stretching financial as well as nonfinancial resources (Hamel, Prahalad, 1993). Leverage intangible resources on the persons’ level is the effect reachable as a result of multiple repetition of the work process, which creates higher skills and performance – described by the learning curve, but it also means creating and developing such skills. On the company level, that means extending the skills and performance over the all parts of organisation to every person engaged in the process. Knowledge sharing, transferring and combining are considered to be leveraging factors, a more complete list of which is available in several publications (Hamel, Prahalad, 1993; Lengnick-Hall, Lengnick-Hall, 2002). The leverage mechanism can be noticed in many fields, including competence, technology, know-how, innovation, explicit and tacit knowledge (Goldstein, 1998; Gupta, Govindarajan, 2001), organisational learning and knowledge are the most generalising and joining concepts of the field (Bartlett, Ghoshal, 2002).

The potential to leverage competencies is very high in global firm structures built up on the principles of entrepreneurial corporation (Ghoshal, Bartlett, 1999). In the global competition context, it provokes to discuss the scale of added value by culture, competence and knowledge leverage as well as the scale of realisation of a management model enabling leverage.

The same authors “describe the process and mechanisms of coordination through which transnational managers can retain control” of these complex global organisations (Bartlett, Ghoshal, 2002: 182). The main management tools used for coordination are centralisation, formalisation and socialisation (Bartlett, Ghoshal, 2002).

T. Mets (2003) has described the potential effect of leverage knowledge-investment in the subsidiaries of a global corporation via a simple mathematical model. The model points to the aspect that investment into knowledge-concentrated field increases the corporation’s investment profitability in proportion with the number of subsidiaries and the rate of knowledge and coordination investment. The leverage effect has more power at low coordination costs. As a consequence from the model we can claim that the cost of knowledge coordination is the determining factor driving the efficiency and profitability of knowledge-based innovation in the company. The author’s preliminary empirical study has identified the attributes inherent in the entrepreneurial (leveraging) corporation structure represented by the Estonian subsidiaries of global companies (Mets, 2002). In the global corporations studied, the core business processes were more specialised and concentrated in one business branch than in other international corporations. The findings of the study point the importance of technological, financial and management variables for leverage as a success factor in competition between international and global companies. Both studies – the mathematical model as well as the empirical findings emphasise the need to elaborate the function and role of coordination in leverage of knowledge and competence. Another task of the current paper is concretisation of the culture, knowledge and competence coordination framework in multidivisional corporation. Both aspects are considered to be the subject for further studies of knowledge and competence leverage mechanisms in various organisational structures.

Knowledge and competence

Information, knowledge and competence are concepts related to a resource-based view of the firm. Since the paper by C. K. Prahalad and G. Hamel (1990) was published, the idea of core competence as a strategic resource has been emphasised by many authors (Markides, Williamson, 1996; Kubr, 2002; O’Driscoll, Carson, Gilmore, 2000 and others). Connections between these concepts and hierarchy are explained by means of a so-called competence ladder (Kubr, 2002) in the next succession from a lower to a higher level: symbols – data – information – knowledge (know what) – know-how – actions – competence – competitiveness.

In the hierarchy schema of concepts, we cannot meet complete congruence between the definitions: lower levels of the “ladder” are objects of operational management, but higher levels – are objects of strategic knowledge management. Competence, which is on a higher level than knowledge in the meaning hierarchy, is itself the subject of the management of knowledge, i.e. *knowledge management*, positioned lower. This causes the need to use both terms in this paper where relevant.

Knowledge is a conjugation “of experience, values, information, insight and strategic awareness” and “it can be a valuable source of competitive difference and advantage” (Thompson, 2001: 1126). This is the main generalised interpretation of knowledge concept.

In some cases, knowledge and intellectual capital are understood as synonyms: “Anything valued by the organisation that is embedded in people or derived from processes, systems, and the organisational culture – individual knowledge and skills, norms and values, databases, methodologies, software, know-how, licenses, brands, and trade secrets” (Bukowitz, Williams, 2000: 2).

Knowledge management (KM) is defined as “the process by which the organisation generates wealth from its knowledge or intellectual capital” (Bukowitz, Williams, 2000: 2).

Hereby we must note that not every item of intellectual capital as a brand or software is always embedded in people and not every item of individual knowledge can be owned by an organisation. The term *knowledge* is preferable when describing internal processes of an organisation.

Some authors consider knowledge creation to be an important aspect in its management. “Knowledge is dynamic, since it is created in social interactions amongst individuals and organisations” (Nonaka, Toyama, Konno, 2002: 42). The model is describing tacit and explicit knowledge mutually transforming each other. It is one of the process aspects (sides) of KM.

Knowledge and competence are concepts that are in close connection with each other. Effective KM relates to management competences. We have several definitions, one of them: competence – “the quality or state of being functionally adequate or having sufficient knowledge, judgment, skill, or strength; range of ability or capability” (Webster’s ..., 1993: 463).

Generally the word *competence* “is used to describe a person’s potential and ability to carry out certain activities”. It takes “other factors into consideration, such as” (The European ..., 1995: 89):

- skills,
- experience,
- personal contact network,
- attitudes.

Some authors differentiate between the meanings of *competence* and *competency* (McConell, 2001: 14): “Competence refers to an individual’s capacity to perform job responsibilities. Competency focuses on an individual’s actual performance in a particular situation.” We can meet similar use of these words in many sources (e.g. Thompson, 2001; Zwell, 2000; O’Driscoll *et al*, 2000). In general linguistic dictionaries the meaning of words is the same: *competence* = *competency* (Galperin, 1979).

On the other hand, only the word *competence* (without using the word *competency*) is used in some special literature to explain “the kinds of skills and/or knowledge that an individual or

organisation possesses in a specified area of performance (Baker, Mapes, New, Szwejcowski, 1997). The authors point to another aspect of competence in the sense of sufficiency. They use the word “congruence to denote the matching of abilities with requirements”.

In the current paper, the words *competence* and *competency* denoting different aspects of competence are considered as synonyms. Here in the meaning of individual and collective competence as defined by Webster’s Dictionary mentioned above prevails.

A link between individual and collective competence should be created, for example, in the following fields (The European ..., 1995: 92):

- co-operation,
- commitment,
- creativity.

Three “cornerstones that form the foundation for organisational success” (Zwell, 2000: 9):

- 1) the competence of its leadership,
- 2) the competence of its employees,
- 3) the degree to which the corporate culture fosters and maximises competence.

Zwell gives a special meaning to culture, as “a successful culture ... fosters employee development and encourages employees to maximally impact the organisation” (2000: 12), provides perspectives for highly competent employees, creates challenging and motivating environment with respective compensation and reward. E. Schein warns against overexploiting the meaning of culture in KM. He asserts that the only way to succeed in KM is linkage to business objectives. The same has to be said about organisational culture (Schein, 2000).

Structures and methods of coordination and leverage

Global corporations have the need to manage efficiency, market responsiveness and knowledge simultaneously (Bartlett, Ghoshal, 2002). The dilemma in this aspect, as the authors consider, arises from the way of conjoining and coordinating these aims inside the structure of the corporation. The main organisational characteristics determining the coordination:

- 1) configuration of assets and capabilities,
- 2) role of overseas operations,
- 3) development and diffusion of knowledge.

Three distinctive mechanisms for coordinating resources and activities in global corporations (Bartlett, Ghoshal, 2002) are:

- 1) centralisation, historically inherent in Japanese corporations;
- 2) formalisation – more inherent in American-based companies;
- 3) socialisation – mainly heritage of European-based companies.

Developments of the last 10–15 years have led the corporations to adopt different combinations of coordination mechanisms.

The key attributes appearing common to the companies of this new management model (Ghoshal, Bartlett, 1999; Mets, 2003b):

- support to entrepreneurship of subsidiaries;
- relatively small size of the company (subsidiary), on the average 200 employees per company;
- open-minded communication and free reach of innovative technological and management competence inside the corporate network;
- stimulating teamwork and facilitating the process of shared learning;
- continuous operational improvement of processes;
- scorecard for (not only financial) comparison of single enterprises between each other within the corporation;
- leveraging knowledge and competencies, incl. innovation, from an enterprise to all the other branches of corporation and vice versa;

- system for coaching and mentoring subsidiaries' leaders-entrepreneurs.

The managers who are able to build up corporate organisations using the described management model are considered “to be the winners of tomorrow” (Ghoshal, Bartlett, 1999: 62).

Many of these global firms' structures are built up following the principles of entrepreneurial corporation. This management model includes three core processes (*Ibid*):

- entrepreneurial process – opportunity-seeking, externally-focused to create new businesses,
- integration – allows to link and leverage corporation's resources, incl. knowledge and competencies,
- renewal process – maintaining capacity to meet challenges, rationalisation and revitalisation, developing an enduring institution.

The characteristics of the model are inherent in transnational corporations in the typology of global companies by Bartlett and Ghoshal (2002), where:

- assets are dispersed, interdependent and specialised;
- role of overseas subsidiaries is with differentiated contribution by national units to integrated worldwide operations;
- knowledge is developed jointly and shared worldwide.

These are factors related to leverage and coordination of knowledge assets. Implementation of “a very simple yet effective knowledge-focused business process and cultural management techniques” is the main prerequisite for creating a knowledge-sharing culture at the company.

Critical question in KM on the company level is sharing and transformation of knowledge between persons, groups and divisions. The character of KM processes depends on the age of the organisation (Schein, 2000; 2002). To overcome the inertia and stagnation of aged organisations the majority of large corporations had adopted a multidivisional structure by the mid-1980s (Ghoshal, Bartlett, 1999). As a result of the process, a new transnational corporation management model and learning culture are created (Bartlett, Ghoshal, 2002).

As *competence* has mainly a more generalised meaning, the term *knowledge* will be used in our further discussion about leverage and coordination in case we need to specially stress it.

Leverage and coordination of competences

The company's competitive position according to J. L. Thompson depends upon three groups of competencies: the content of actual strategies, strategic change, and learning competencies (Thompson, 2001). After the publication of the concept of core competence by C. K. Prahalad and G. Hamel in Harvard Business Review, the strategists of many companies have found core competencies, most of which, however, in the opinion of several researchers, are not the right ones (Coyne, Hall, Clifford, 1997).

Therefore the general definition of competence according to literature (Thompson, 2001; Prahalad, Hamel, 1990; Markides, Williamson, 1996; Coyne *et al*, 1997) should be adjusted to different resource levels. Here these aspects and context are considered in the following definitions:

Core competence – allows the company to obtain preferential access to strategic assets in a special field of business (market), imperfectly tradable, hard to copy by competitors, gives competitive advantage.

Key competence – prerequisite for being in the special field of business; can be achieved also on the open market (through licensing, consultancy, agreement for technology transfer, etc.).

General competence – presumption for general functioning of the company, as accounting, marketing, planning, personnel management, decision making, IT, etc.

All these types of competences can be inherent in the corporation, aggregating competences of its units (divisions, subsidiaries). An analogous process can be mentioned between employees (individuals) in the company's organisation. This schema is used by Paul Trott to show how individual knowledge bases are embedded into a collective knowledge base (1998).

Hereby the author is introducing his model of competence/knowledge/culture leverage and coordination in a multidivisional corporation. The framework and mechanism of coordination and leverage of competences between subsidiaries as well as subsidiaries and headquarter are described and explained using the chart shown below (Figure 14.1).

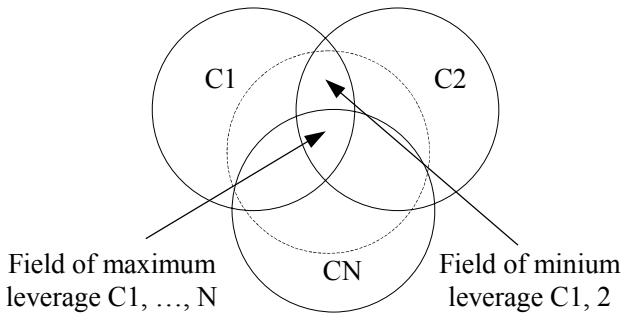


Figure 14.1. Framework of competence leverage and coordination in multidivisional corporation.

Note:

C – elements of competence, knowledge or culture of divisions 1, 2, ..., N

The headquarters and every subsidiary of 1, 2, ..., N from the total number of units N has its own field (range) of competences/knowledge/culture C1, C2, ..., CN inherent in their business model. These competences can be location-, knowledge-, technology-, corporation-specific and general. Some competences are characteristic of the uniqueness of the unit (division).

The divisions can have overlapping (shared) fields of competences, for example, the overlapping field of competences C1 and C2 is C1, 2. In the same way, one can determine overlapping competences of 3, 4, etc divisions. Overlapping field of all the N subsidiaries' competences is C1, ..., N.

Leveraging means creation of competences' overlapping by transferring (sharing) the latter and exploiting the overlapped

competences. The function of coordination is the management of overlapped and individual competences of the units in a corporation. Maximum leveraging can be achieved if there is 100% overlapping of the units' competences. This situation is not achievable in practice as besides the competences common to the whole network every division probably has its own specific competences not inherent in the others. The possibilities and potential for leverage depend mostly on the rate of overlapping of the competences and the number of divisions. Consequently, maximum leverage can be achieved in the field C1, ..., N of joint and shared competences of all subsidiaries (Figure 14.1). It is reasonable to leverage competences whose coordination costs are lower than those of the same competence obtaining expenses from outside. Using coordinating forces makes it possible to increase the field of overlapping competences. Finally this is the question of rationality, what competencies to coordinate and which level of coordination is needed.

As outsourcing of competence and knowledge is a way to save resources (Markides, Williamson, 1996), it is not possible to outsource organisational culture. The culture has a determining role in the coordination process, it has a strategic meaning for the company and should be controlled by the management. Another thing is also clear – the competences of a strategic meaning – core competences, must be submitted to corporate control.

The role of organisational culture in the coordination and leverage process has a multiple meaning: both elements of culture as well as elements of competence are coordinated according to the model in Figure 14.1. Culture is also considered to be the foundation and precondition of creating competence and knowledge transfer (Zwell, 2000; Cook, 1999). This means – organisational culture has dimensions of infrastructure in KM.

As a conclusion from the above analysis and the described model, the tasks (functions) of coordination in corporations from the strategic management viewpoint are:

1. Maximising (optimising) efficiency to leverage the existing resources (competences). Here the question can arise: whether to leverage the existing general and key competences or to obtain them from the open market.
2. Identifying the right resource (competence) of a subsidiary to leverage over the corporation, creation of new (core) competences on corporation level.
3. Creation of the infrastructure (organisational culture of/and learning, management model, networking, structure of the company, ICT, etc.) for leveraging.
4. Renewal of (core) competences.

It should be mentioned that coordination has a normative character. The right balance between coordination and support to divisions' entrepreneurship in corporation must be established. Here we can conclude that knowledge and competence coordination belongs to the management's special competences. Consequently, coordination of culture and (core) competences can itself be a core competence of the organisation and its management, i.e. a strategic resource.

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KOKKUVÕTE

Teadmuse ja kompetentsi koordineerimine

Tõnis Mets

Teadmus ja kompetents, nagu ka organisatsiooni väärtused ja kultuur on mõisted, mis seonduvad ressursipõhise firmakäsitlusega. Teadmus-tegurid omandavad enam jõudu korporatsioonis, mis kasutab kordistamise organisatsioonistruktuuri.

Artikli eesmärgiks on täpsustada ning konkretiseerida koordineerimise rolli ja raamistikku teadmuse ja kompetentsi kordistamisel. Teadmuse ja kompetentsi koordineerimine on ettevõttes teaduspõhise innovatsiooni efektiivsust ja tasuvust määrav faktor. Kompetentsi kordistamist on kirjeldatud, kasutades korporatsiooni divisjonide kattuvate kompetentside mudelit. Eristatakse tuum-, võtme- ja üldkompetentsi. Koordineerimise peamised ülesanded on kordistamise efektiivsuse maksimeerimine, korporatsioonisiseseks kordistamiseks sobivate kompetentside tuvastamine, kordistamise infrastruktuuri loomine ja kompetentside uuendamine. Teadmuse ja kompetentsi koordineerimine on üks täiendavatest juhtimiskompetentsidest.