Specification of core competence and associated components

A proposed model and a case illustration

Urban Ljungquist
Växjö University, Växjö, Sweden

Received October 2005
Revised February 2006,
December 2006
Accepted January 2007

Abstract

Purpose – To outline a core competence model by exploring links between core competence and the associated concepts of competencies, capabilities, and resources, and by proposing refinements to the characteristics of these concepts.

Design/methodology/approach – A case study based primarily on personal interviews.

Findings – The findings suggest that competencies, capabilities, and resources are all linked to core-competencies; the first two continuously, and the third intermittently; motivate refinement of the competence concept, by adding adaptation competence as governing customer loyalty, and transfer competence as managing transcendental integration; and motivate refinement of the capability concept, by adding capacity as a quality characteristic, and communication as a characteristic that can actively initiate organizational change.

Research limitations/implications – The paper outlines a core competence model and propose refinements of the characteristics and links of the concepts, contributing to both core competence theory and resource-based theory.

Practical implications – This work informs managers of the details of the core competence concept, of particular interest to managers with a customer-focused standpoint. An empirical core competence exemplifies the importance of knowing the characteristics of competencies, since they encapsulate the power of organizational development. Managers also need to pay attention to the influences of capabilities, since they not only support organizational processes (if up-to-date), but also initiate change.

Originality/value – The development and specification of the core competence concept.

Keywords Competences, Skills, Resources

Paper type Research paper

Introduction

Core competence is a concept well known to academics, business practitioners, and consultants in strategic management. It was originally invented as a tool for justifying business diversification at large companies, and for supporting internal processes such as product development (Prahalad and Hamel, 1990). Scholars have acknowledged the importance of the concept by advancing it in multiple directions: by connecting it to conceptual notions of learning (Lei *et al.*, 1996), by suggesting core competence models to sustain competitive advantage (Petts, 1997; Hafeez *et al.*, 2002), by building on the concept's basic notions to invent similar concepts (Sanchez and Heene, 1997; Eden and Ackermann, 2000; Sanchez, 2004), and by developing processes for its identification (Javidan, 1998; Eden and Ackermann, 2000). The importance of the concept is also acknowledged when testing the implementation of core competence as strategy (Clark, 2000; Clark and Scott, 2000). However, it has recently been suggested that there is a

European Business Review
Vol. 20 No. 1, 2008
pp. 73-90

0955-534X
DOI 10.1108/09555340810843708

lack of knowledge about the concept, since only a few empirical studies exist (Wang *et al.*, 2004).

One category of existing studies focuses on ways of identifying core competencies empirically, using company task-forces, and using the associated concepts (resources, capabilities, and competencies) as part of the identification process (Javidan, 1998; Eden and Ackermann, 2000). The concept is often perceived as vague, and it is mixed up with other strategic concepts (Clark, 2000); there is, therefore, a need for scholars to focus attention on improving the clarity of the concept. One major benefit for the identification process is that employees survey the organization's different parts, which increases organizational awareness of ongoing and latent activities. A setback in the process is the indistinct use of the associated concepts. For instance, their characteristics are not kept separate, either in conceptual discussions or in practical actions. This is unsatisfactory to those interested in core competence matters, since the characteristics of the associated concepts may enhance our comprehension of the core competence conceptions. The present paper contributes to this gap in knowledge by investigating those characteristics which discriminate between and signify the associated concepts. In addition, while the identification process *per se* and the label "associated" imply links between the associated concepts and a core competence, these links are still only assumptions in existing research; theoretical and empirical discussions and validations are lacking. Such links, however, are of major importance, since they involve potential influences. The purpose of this paper is to outline a core competence model by exploring links between core competence and the associated concepts of competencies, capabilities, and resources, and by proposing refinements to the characteristics of these concepts.

This study was conducted in a single case; a Scandinavian company which is especially well suited for studying core competence matters due to its diverse product and market mix. The company's products originate from several significantly different core competencies. This study focuses on a particular core competence, selected for several reasons: it is generic and has been established for more than 50 years; it is essential to all company divisions and business undertakings; and it is familiar to the employees and customers of the company. By basing the study on this core competence, it was made possible to identify and separate the associated concepts and their characteristics, as well as their links to the core competence.

This study contributes to resource-based and core competence-based theory firstly by outlining a core competence model, and secondly by proposing specific and significant characteristics of the concepts of competence, capability, and resource which have significance both for research matters and for practical matters, in developing and specifying the concept of core competence.

The paper is structured as follows. An initial model is introduced together with the theoretical presentation of the focal concepts. Next follows a discussion of the method by which the empirical data were collected. The data are then presented and discussed along with proposed refinements, suggested by the discussion, of the initial model. The paper ends with conclusions, managerial implications, and suggestions for further research.

The initial model

In this paper, core competence is defined as a competence that fulfils three criteria (Prahalad and Hamel, 1990): contributes significantly to the customers' benefit from the product, is competitively unique, and provides potential access to a wide variety of markets. There are several benefits of selecting these criteria as a definition: they are part of the concept's original notions, and they conceptually link a core competence to a competence, deferring the necessity to empirically identify both.

There are nearly as many definitions of the associated concepts as there are scholars in the domain of strategic management research. This dilemma has recently been acknowledged by researchers (Hafsi and Thomas, 2005); it poses a major problem for practical issues such as operationalization: which definition is most accurate? Definitional issues are pertinent to the present paper, since the characteristics of the concepts are dependent on them. Thus, there now follows a discussion of the definitional issues, starting with competence, which is already conceptually linked to a core competence. For the other two concepts, capability and resource, we have to take a step back and first discuss whether they can be linked to a core competence at all.

Competence

The three criteria given above make competence a central concept in core competence issues. Competencies are crucial in general too, since they play a major part in organizational developments. Javidan (1998) has suggested a "competence hierarchy," in which the competence concept is of greater value to a company than (in decreasing value order) the capability concept and the resource concept. Javidan's research is important to this paper, since it is he who suggested the associated concepts as being fundamental to core competence issues. The hierarchy notion, however, is discarded here, since Javidan discusses neither its conceptions nor its implications.

Discussion of the theoretical ideas behind the competence concept has already been dealt with in more detail by others (Bogner *et al.*, 1999; Danneels, 2002; Sanchez, 2004). The primary signifying characteristic of a competence, apart from its being inherent in individuals and teams, is development. The concept is generally separated into functional competencies and integrative competencies (Henderson and Cockburn, 1994). The former are used in daily activities, and the latter to integrate and develop new competence components. From a technology perspective, scholars suggest that product innovation, facilitated and improved by competencies, is a driving force of firm renewal (Danneels, 2002). Three types of competencies are distinguished: first-order competencies, which comprise customer and technological competencies; integrative competencies, or the ability to combine first- and second-order competencies, or the ability to build first-order competencies. Danneels' typology is based on the same fundamentals as the division into functional versus integrative and exploitation versus exploration (March, 1991), and is relevant to the concerns of this paper since he studies manufacturing companies with a focus on technology, which is appropriate for the empirical case. Here, we follow the lead of Danneels (2002), and define a competence as residing in individuals and teams with development as its general characteristic. However, since core competencies are key ingredients in organizational success, they are already highly developed, which implies that minor competence developments are unlikely to have any impact on them. Consequently, only major developments (i.e. improvements) are included here.

Capability

Scholars have separated the capability concept into operational and dynamic capabilities (Collis, 1994; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003). Operational capabilities include all the routines generally involved when performing an activity such as manufacturing; dynamic capabilities, on the other hand, build, integrate, and reconfigure operational capabilities (Teece *et al.*, 1997). Dynamic capabilities also encompass an organization's capacity to adjust to a dynamic (fast-changing) environment.

It has also been suggested that capabilities are locally defined either as normal routines or as "activities to support change": the former are "zero-level capabilities" and the latter are "first-order dynamic capabilities" (Winter, 2003). Capabilities are also defined as "the capacity for a team of resources to perform some task or activity" (Grant, 1991, p. 119). The latter definition implies a notion of capacity. The concept has also been suggested as being a mix of routines, tacit knowledge, and organizational memory (Nelson and Winter, 1982).

In this paper, a capability is defined in accordance with Winter (2003), as systems and routines. The capacity notion is too vague and difficult to identify and measure empirically, and so is disregarded here in terms of the definitional issues. Systems play critical roles in many company undertakings, such as structuring core competencies, and routines too are essential to bring order to activities and processes. These critical functions suggest a link of support between a capability and a core competence. Accordingly, capabilities and core competencies are here proposed to be linked by support from routines and systems.

Resource

Resources are among the most basic elements in a company, and they are natural objects to study since they are input to a company's value process (Grant, 1991; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003). Here, a resource is defined as an input to the value processes, as suggested by Grant (1991). Core competencies take part in the value processes, occasionally by managing them. In other words, core competencies are utilized in the value process. However, it is not the case that every resource is active in every value process that a core competence takes part in, nor vice versa, which implies that a resource is not always linked to a core competence. However, in congruence with the capability concept, we propose that a resource is linked to a core competence, since core competencies are utilized in the value process.

Interim model

To sum up, this paper's basic notion is that a core competence is a competence fulfilling three criteria. This implies that competence, indicated by improvements, is linked to a core competence. From the theoretical discussion, we can also propose that a capability, indicated by the support it supplies, is continuously linked to a core competence. Resources, however, seem to not always be linked to a core competence. Here, we propose that a core competence is generally utilized in the value process, that is, by resources, and so, accordingly, they are linked. Figure 1 shows an interim model that summarizes the framework by proposing how the characteristics of the associated concepts (routines/systems, development, and input to the value process) are linked to the core competence concept via support, improvement, and utilization.

Method

This exploratory study was conducted in one company, which facilitates a deeper understanding of the context (Yin, 2003) and is crucial for general core competence

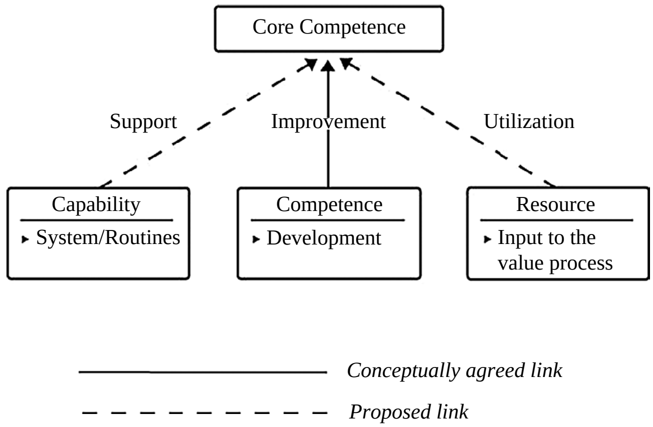

Figure 1.
Interim model: associated concepts linked to the core competence concept

comprehension (Eden and Ackermann, 2000). The context is also critical to the associated concepts: scholars have demonstrated them to be context-specific, and shown that in-depth empirical studies are needed to characterize them at a micro level (Ethiraj *et al.*, 2005). Researchers also emphasize the importance of making the research methodology slice vertically through the organization, to capture data and perspectives from different levels and perspectives (Leonard-Barton, 1995); an approach similar to the survey process recommended for core competence identification (Prahalad and Hamel, 1990; Javidan, 1998; Eden and Ackermann, 2000).

Data collection

Data was collected from different sources and by different methods in a single case company, here called "the Transfer Company" and made anonymous by respondents' request. The company is described below. The data collected covers multiple countries, all available hierarchical levels of management, all divisions, and multiple functions among the employees in a case company. This heterogeneous approach enhances multiple facets and facilitates comprehension and analysis, and has a twofold purpose: firstly to enrich the empirical case with thick descriptions, which improves the case's trustworthiness and enhances content validity (Rouse and Daellenbach, 1999), and secondly to enhance reliability by triangulating the data and method (Creswell, 1994).

The main data sources of this paper were of two types: primary data (interviews) and secondary data (annual reports). Data collection, verification, and analysis took place during 2002-2004. Initial interviews were conducted with top managers and key-function employees to give basic information about the case. Annual reports for 1992-2004 were studied before and after the interviews took place.

A company's employees are best suited to assess core competence characteristics (Prahalad and Hamel, 1990; Eden and Ackermann, 2000). To increase motivation to participate in the study, prior to start-up the case company's CEO sent out a PM describing the purpose of the study to every manager and all employees in key positions. This verified the author's full access to the case company, and emphasized the magnitude of the study. Respondents were suggested by the CEO and two division managers using criteria formulated by the author, namely that they should hold a strategically informed position or have a key position in any of the following functions: marketing, manufacturing, research and development, administration, and management. In total, 20 respondents were interviewed. The meetings lasted from one to three hours and mostly took place at the company plants. The interviews had an informal character, and the interview guide consisted of open-ended questions. Respondents were, for instance, asked to describe the Transfer Company's main business, from both technology and market perspectives, and from retrospective and contemporary perspectives. They were also asked to describe the Transfer Company's most important competencies and resources: how they had developed, and to what extent and how they were linked. The interviews also included questions regarding the most fundamental changes in the company over the past decade, and their causes and implications. The majority of the interviews covered the past ten years of the company history, but the time-frame depended on each respondent; three informants with long tenure provided information about the past 30-50 years. All interviews were recorded, transcribed, and sent out to the respondents for correction and verification.

Analysis

The annual reports were used in an iterative process: they prompted questions to the respondents, and simultaneously they were compared with findings from interviews, which triangulated the data. The interview transcripts together with the annual reports and internal memos and other archival documents were thoroughly analyzed and read through looking for "patterns and themes" (Miles and Huberman, 1994). Initially, the author looked for "strategic events," by which is meant internal and external occurrences of major importance to the case company. Occurred strategic events were selected because they were most likely to be remembered by the respondents and also to be mentioned in archival documents.

To bring structure to the analysis, the identified strategic events were first arranged by year and by company division. Further, refinements were achieved through identification and categorization of the strategic events' antecedents (task environment, general environment, and internal environment) (Bourgeois III, 1980; Garg *et al.*, 2003), which progressed the analysis towards more detailed comprehension and structure. Some of the strategic events were found to have caused other strategic events, which were accordingly linked and clustered. This wide frame of analysis was quite work-intensive; it was adopted to avoid excluding potential associated concepts and phenomena. After the initial analysis, all data were iteratively compared, refined, and clustered using the theoretical framework; competencies were identified through improvements, capabilities through supports, and resources through utilizations.

Using the three criteria previously mentioned, ten potential core competencies were identified among the empirical competencies. The one selected for this study was chosen because of its generic application within the case company. This paper includes the identified competencies, capabilities, and resources with links to the focal core competence.

For validity reasons, the findings were written up in a chronologically-ordered interim case report, of which the next section of this paper is an excerpt.

Three respondents independently read through and corrected this report. The findings were also verbally presented to the operational board of the company.

The case

The Transfer Company

The Transfer Company is located in Scandinavia and has approximately 2,000 employees and a turnover of M€340 (The Transfer Company, 2005). The company consists of three divisions, each with its own markets, competitors, products, and manufacturing plants. Traditional goods, which is concerned with producing printed media, is the company's main division in several aspects. It is the largest (50 percent of turnover), the oldest (established in the early twentieth century), and the most manufacturing-intense (large plants). The division's strategy is to have a presence in niche markets with worldwide potential, and products are sold in large quantities to major European customers such as governments, the drug industry, banks, and insurance companies. The second division, with a turnover of 25 percent of company total, is new products. Its products consist of complex logistics solutions, for instance serving the customers' customers. The division's strategies focus on innovative product development in collaboration with its main customers, which are major public companies. Systems is the third division, accounting for the remaining 25 percent of the company's turnover. Its products consist of amalgamated goods and services that are customer-initiated by individual demand, often as a result of the products from the other two divisions.

The core competence

Creating loyalty among the major customers has long been the guiding light for all business undertakings in the Transfer Company. In the interviews, a general manager emphasized that the loyalties are crucial to the Transfer Company, and that they are mainly based on individual product adaptations. Throughout the years, the Transfer Company has developed technologies and products together with customers, which is a "win-win situation," as customers obtain individually designed solutions and the Transfer Company develops products for existing demands.

A general manager admitted the inherent difficulties in obtaining new customers. For the Transfer Company, it is simpler to develop new products and solutions for existing customers; the company's other divisions can then introduce their products as well. However, as an employee in one of the manufacturing departments explained, this approach is not always possible, since some customers dislike single-market suppliers; also, as some divisions' products are unique, it is sometimes literally impossible for other divisions to sell to particular customers. A sales employee considered the Transfer Company's strong focus on existing customers to be a disadvantage. At the same time, a general manager felt that it is definitely a strength that many of the customers have been doing business with the Transfer Company for the last 30-50 years; this also pinpoints why the search for new customers is not supported internally.

Thus, the Transfer Company has been successful in relationship marketing, defined here as "the task of creating strong customer loyalty" (Kotler, 2000, p. 49). The competence of creating customer loyalty was suggested as a core competence by several employees and major customers. Since, previous studies have reported confusion over terminology (Clark, 2000), this suggestion of a core competence requires verification.

By testing this customer loyalty competence against the three criteria, it can be determined whether or not it is a core competence. The first criterion, that of significantly contributing to customer satisfaction, is met, since customers take part in product development and receive in return an individually developed product. This also verifies the third criterion, that of providing potential access to new markets, since the new product generates new markets. For this study, these two criteria were verified by customer interviews. The second criterion, that of being competitively unique, is met as long as customers remain loyal to the Transfer Company, because most of their customers prefer signing contracts with single suppliers. This is, therefore, a core competence, and it will represent the empirical core competence in this paper.

Customer loyalty initiated

For the first 50 years of its life, the Transfer Company manufactured only commodity goods. Eventually, in the mid-1950s, some customers asked whether the company could supply them with more innovative products, as well as the current ones. The Transfer Company's managers scanned Europe and the USA for joint operations with original manufacturers, to no avail. They then decided to produce the goods themselves: second-hand manufacturing equipment was purchased, and much time and effort was put into product development in an attempt to improve on the competitors' products. Next, manufacturing and marketing of their own-developed products was initiated. Since, it was mainly major customers that had demanded the new products, in major quantity, the new product was a tremendous success. This exemplifies how customers' demands became a driving force of not only technological developments and market developments, but also, later, of customer loyalty.

As a top manager in the Transfer Company explained, another significant feature of this time period was that customers were getting tired of the large suppliers' bad attitudes towards customers. This was a market opportunity for the company to start taking better care of its customers' needs. A general manager described how, within a short time, the Transfer Company had acquired 60 percent of the total market for its own-developed product. This initial breakthrough was essential, because the product was generic and accordingly developed further into various products in all divisions of the company, several of which products are still being produced. The computer departments of the customers were the main purchasers and users of the generic product. At that time, computers were not very common, and the computer department had an unfamiliar function, at least compared to the more established functional departments such as accounting, sales, and so on. The department's employees became "kings of the company," as a top manager put it. This had two implications for the Transfer Company. Firstly, being "kings" meant not being questioned by other departments as long as their internally delivered products were continuously maintained and improved. Secondly, being the newest department of the organization also meant that the computer department had the power to decide on corporate adaptations to new technologies. For the Transfer Company, this was an opportunity to develop innovative products in order not to miss out. A top manager explained the corporate notion:

> I had established a relation based on trust with many of them [the customers] so when I introduced a new product to them, they trusted me. They put trust in me that the products were accurate and good for them ... we started out building good relations [with the

> customers] . . . it is very, very important – that relation. It made it possible for me to introduce product after product [to them]. Therefore, to establish a customer relation based on trust, that is the core thing for the future [success for the company].

These two implications further strengthened the customers' loyalty. The company's business portfolio was also enhanced and developed with new products which already had customer demand.

Customer loyalty enhanced

The Transfer Company's focus on large customers was due to the fact that these customers purchased large volumes. The same idea is evident in its approach of focusing on existing customers rather than searching for new customers to buy the same product. Furthermore, it was important to have an attitude of serving the current customers. This was indicated by the demand for a non-existent product in assortment being seen not as an obstacle, but as an opportunity to sell more to existing customers, and reinforce their loyalty, while simultaneously learning about a new product. A general manager claimed:

> It was basically the customers' need for new products that brought life to this company. From the 1950s to the present day, the Transfer Company has been good at listening to the customers and fulfilling their needs. But we have done it in a manual way, and not a very well-organized one. Through the contacts established with major customers, we have paid attention to the signals and ideas they give to us, a pattern we believe other companies will follow in the future.

A top manager explained that historically, the Transfer Company had been good at protecting innovations. Nowadays, it is much more difficult to protect products by patents and smart technological solutions, since solutions contain more services and fewer goods. A top manager said:

> For [the Transfer Company], being unique is not about making a one-of-a-kind screw, but delivering a customer-specific solution or product. [In fact] we almost adapt ourselves to the customer.

This adaptation to customers may be seen as an ordinary market competence; however, this viewpoint is flawed, since the adaptation is a part of the products supplied by the Transfer Company, amalgamating competencies, technologies, and products into a single, individually designed customer solution. This competence in adaptation is one major reason for the company's success. In the interviews, a general manager emphasized the importance of adaptation competence for all business undertakings, to which current and future improvements are and will be directed, and described the systems that future competitiveness is based on.

There was a future-oriented view of building customer loyalty that was expected to have potential; if the customers grew, so probably would the Transfer Company's business. Through the expansion, resources and competencies were acquired and developed. A general manager explained why the acquisition of a transportation firm in the 1950s was crucial to and characteristic of the Transfer Company's way of thinking:

> We have always been very good at taking care of the customers, and paying attention to their being satisfied. And I imagine that a great deal of this being positive to the customer goes

> back to the period when [the former CEO] entered the market. And there was an evident signal: we decided to buy a transportation firm to guarantee that the customers received the goods. That event, I guess, as I interpret it – it was before my time – it was the explicit thought in the organization that the customers should have their products where they are situated. And we will not do as our competitors do: make it complicated for them to get the goods. I believe it initiated a driving force of getting the customer satisfied, which since then has been critical to the whole organization.

The main thought behind the technology approach was described by a top manager in the company; the benefit of an established and independent R&D department is that all development takes place within the Transfer Company, and builds on internal knowledge and competencies:

> When a situation or a problem emerges, you have competencies to put in. They have developed similar solutions before; they can analyze and synthesize different parts with good results. You [the company] have an internal bank of knowledge.

From a manufacturing perspective, the company's most important strength lies in being flexible and cost-efficient at the same time, according to a general manager, who explained that while this might seem a contradiction, it is according to customer demand. In the near future, he continued, customers will not be willing to purchase large quantities of goods, because of the inherent risk and cost of doing so. Instead, they will want more regular deliveries, which have already been realized in more cost-focused industries such as vehicle manufacture. It is a great challenge for the Transfer Company to become faster and more flexible in re-arranging production lines and so on, since it puts more pressure on manufacturing unit skills in producing the goods. Skill is a resource difficult to indicate and measure due to its intangible character. Yet, despite its intangibility, this particular manufacturing skill is highly regarded and was declared by customers and employees to be of major importance for the Transfer Company's development and success. Another example of the efforts made by the Transfer Company is their creation of a secure back-up system for manufacturing breakdowns. The company has built excess capacity into the manufacturing processes, due to the importance of delivery-safety for some customers with high time- and delivery-sensitive businesses. Another example is the company's financial strength, which is above average for similar industrial companies. That strength is of course, a resource – being an input to the value process with regard to both potential investments and company market endurance. Many interviewees emphasized this as a major market benefit, as it indicates stability and safety for the customer. That is, both resources are obvious inputs to the value process, and are connected to customer loyalty; they both deliver safety to the customer loyalty, the former in goods delivery and the latter in company market endurance.

Furthermore, the knowledge of the company's R&D staff is highly valued by customers; the skills of this group of employees have proven to be major resources when developing and solving customer demands. Another benefit of having an R&D department, the top manager said, is the possibility of developing non-standard products, or even setting new standards with inventive products:

> If you only use standard components or machinery that can be bought by anyone, it pretty much becomes an issue of who is selling at the lowest price. On the other hand, if you can improve the machine, or are able to perform more advanced adaptations to the machine that

> your competitors could not accomplish, then you have that premium development as a benefit for premium price. And you achieve competitiveness without dumping prices; this has been my ambition. Further, if you can gather and hire competent personnel for your own company that can achieve what you want them to achieve, it is a great source of development for yourself as well – to use them as speaking partners and so on. The thing that matters is to make the group work together as a team, and to ensure that everybody feels he or she belongs to the group.

In the Transfer Company, competence integration is almost taken for granted, since the company has several complex products and specific customer solutions that constitute multiple competencies. This notion is further supported by the fact that all division sales forces are strongly encouraged to sell to other divisions' existing customers. A top manager stressed that the Transfer Company contains many well-developed competencies. But, he said, when it comes to the package that satisfies the customer, the important issue is how to combine and make the competencies work together in that solution:

> The strength [we have] is really to be able to combine these competencies. If we pinpointed each and every competence in this company, there would be many to be found, and for each and every one perhaps with some exception, you would find that we are not [competitively] alone; but that is not really an issue, since the main thing is the way they are combined. It is the total that makes us [competitively] unique.

Thus, integration is not a problem when it has an aim: to develop a new product, or to set up a task force to develop an existing customer. Still, the integration could be implemented further, especially cross-division. The problem is that integration is not transferred from one customer or technology or product to another. One example of a successful integration which was not transferred took place in the 1990s. The Transfer Company had developed an innovative and very advanced product at the request of a customer, by combining competencies from all divisions. In this special case, the customer company was not willing to let the Transfer Company produce the product; they wanted to supervise the manufacturing processes themselves. However, the customer was not able to accomplish it by themselves. The Transfer Company therefore developed, designed, and built the machinery equipment for manufacturing, and still maintains the plant and the machines on a continual basis; yet, the daily operational processes are managed by the customer. This success story has a flip-side. Even though the technology behind the special product was patented in 25 more countries, not one of them was entered. One critical hindrance to market expansion is country-specific legislation, but this issue has been managed and solved in other markets for other products. The problem is that only current customers are prioritized. Furthermore, technology, products, and competencies are not transferred if there is no explicit demand for them, either external (from customers) or internal (from project leaders).

Changes in customer loyalty

Customer loyalty was fundamentally changed in the 1990s, due to the increasing focus on efficiency in customers' organizations. The customers focused on efficiency by centralizing logistics, which decreased the power of the computer departments, which in turn undermined the long lasting loyalties to the Transfer Company. Initially, this customer transformation was devastating for the Transfer Company. The powerful purchasers in the computer departments had their "wings cut off," and the close and mutually beneficial relations built up for many decades immediately became redundant: trust, loyalty, and personal liking were disrupted. The Transfer Company no longer had the advantage, and the situation became more competitive. Customer adaptation and product development also changed; while previously both were primarily initiated by the customer, now customers expected the suppliers, among them the Transfer Company, to initiate the developments in competition with other suppliers. This transformation forced the Transfer Company to update and renew its routines and systems, and its individual and team competencies in the sales and R&D departments, and also to establish new customer loyalty.

Since, the mid-1990s, the internet revolution has meant that the Transfer Company, like companies in many industries, has been under transformation from a goods-producing to a service-producing company. As a sales employee said, this transformation has put a heavy pressure on the competencies of the sales unit. However, the newly acquired and developed internal system has supported the transformation. A manager described a system for current and future business, one which is directed towards the satisfaction of customer needs. The system makes it easier for employers in sales and marketing departments to manage the ways in which communication with the customers is maintained and developed, by sharing information across divisions and departments, by managing major customer projects, and by keeping track of the customer's product portfolio. The general manager emphasized that the system is crucial to customer loyalty, providing that two conditions are satisfied. Firstly, it is vital that the system is accurately maintained with relevant and up-to-date customer information. Secondly, the system must be easy to use; if information systems are difficult to use, or if they contain redundant information, then employees become reluctant to use them, and may even ignore them altogether.

A new higher-management team entered the Transfer Company around the time of the new millennium, and their explicated visions and major change programs have since been implemented. One of these programs was explicating a change in market focus from single products to total solutions. This was initiated to strengthen the customer loyalty focus, and to increase the internal integration of competencies. This program is explicated in written documents and also verbally, and it therefore represents a communicated capability.

The proposed model

The findings from the empirical case suggest refinement of existing characteristics and core competence links. Existing competence theory focuses merely on development characteristics: functional competencies belonging to markets and technologies, and integrative competencies. Since, almost all empirical competencies in the case company could be categorized as functional and integrative competencies, there was a clear need for refinement. Adaptation is proposed as a new characteristic; it explains how it is possible to initiate, maintain, and develop customer loyalty. A second proposed new characteristic is transfer, by which is meant internal transfer of competencies, for instance between divisions. The capability concept is linked to the core competence concept by support from systems and routines, a linkage which was also emphasized by the empirical case. The assumed capability characteristic of systems and routines was insufficient to describe their support for the empirical core competence. A capacity characteristic is therefore proposed, along with a communication characteristic. The former refines the capability concept by adding accuracy; the latter refines the same by adding an active direction for the support. Finally, it was not possible to refine the resource concept in itself; all we were able to add was the proposed intermittent link to core competence.

The empirical core competence

The creation of customer loyalty has functioned as a catalyst for both technological and market developments. Customer loyalty originates from a desire to satisfy customers' actual needs and demands instead of merely selling products currently in stock, by developing customers instead of markets, and by the inclusion of customer representatives when developing and adapting products and solutions. The creation of customer loyalty has shaped the structure and culture of the whole corporation, but has also functioned as a vision in need of maintenance and improvement. That is, by acknowledging the creation of customer loyalty as a major catalyst for corporate renewal, it has become possible to focus organizational processes in competencies, capabilities, and resources towards the same goal. Usually, the direct focus has been on, for example, the development of particular competencies and technologies, and focus has fallen on the empirical core competence only indirectly.

Competence improvements

The Transfer Company's competence in creating customer loyalty has boosted its technological development. Effects are also apparent in the other direction: the ability to individualize products and to set new industrial standards in technological development has reinforced both customer loyalty and market competence. In fact, the Transfer Company's chief components are a combination of market and technology competencies. This finding supports Danneels' (2002, p. 1104) categorization of first-order competencies, which he argues are fundamental: "New product development requires bringing together two competences: competence relating to technology and competence relating to customers." Furthermore, the case description also informs us that the marketing and technological competencies are not only first-order; but they also explore and exploit new competencies, and are usually integrated from the outset. Thus, all of Danneels' (2002) three categories were identifiable in the empirical case.

However, integration at higher organizational levels and transfer of competencies from one division to another are major problems for the Transfer Company. The reason why technologies are seldom transferred is the low level of cooperation between the different divisions. Thus, cross-division cooperation does not happen spontaneously; it must be initiated and implemented by top managers. Furthermore, when a product or technology is developed, it is seldom transferred to new markets, products, or technologies, even though it might be generically applicable, possibly due to the major focus on existing customers. Another hindrance to transfer may be the trial-and-error spirit supported by the corporate rationale, which primarily supports revolutionary and not incremental developments. Thus, we can propose a refinement to the existing competence theory, e.g. Danneels (2002). Furthermore, the transfer characteristic also stresses an aspect of competencies that has previously been handled only implicitly: it describes a direction of the transfer; towards a division, market, etc.

The Transfer Company's focus on the creation of customer loyalty acknowledges competence adaptation as a critical source for competitive advantage, an aspect which is not sufficiently emphasized in the existing market competence characteristic. Within the Transfer Company, the importance of this adaptation was accentuated in the mid-1990s: the macro-industrial switch to more service-centred products diminished the opportunities to patent technologies and products. The adaptation characteristic not only stresses the importance of understanding customer demands and needs, which strengthens customer loyalty in itself, but also acknowledges the increasing pressure put on suppliers to tailor-make customers' individual solutions by handling the delivery of goods and services, including the individualization aspect of development. Thus, we can propose refinement of the competence concept by adding an adaptation characteristic.

Capability supports

The dynamic and fast-moving market transformation, including changes in customer demand, has also influenced capabilities. The transformation put pressure on individuals and teams to obtain new competencies and to update existing ones. Both individuals and teams must now handle more advanced and complex activities and processes, a situation which sheds light on the additional necessity for more advanced systems and routines, to guide and to provide structure. Capabilities support not only competencies, but also daily activities. They support all types of competencies: market development (e.g. the maintenance of customer loyalty), technology development (e.g. procedures and standardizing processes), adaptation (e.g. adaptation to customers systems), and transfer (e.g. standardizing internal procedures using ISO certification).

The empirical findings stress the importance of keeping the capabilities accurate, with relevant and up-to-date customer information, and easy to use. If information systems are difficult to use, or if they contain redundant information, then employees become reluctant to use them, and may even ignore them altogether. If this happens, it is possible that the support function of a capability may become unproductive and eventually obsolete; both imply that a system will not be used by employees. This suggests that the concept of organizational capabilities should be supplemented by a characteristic concerned with accuracy: measuring to what degree the support is redundant. The concept described here as accuracy shares its basic notion with the capacity characteristic of the capability concept (Grant, 1991; Javidan, 1998). This finding alters the theoretical framework adopted by us for this study, and adds to existing theory of the capability concept by proposing that the routines/systems characteristic should be combined by the capacity characteristic.

Furthermore, the capability concept seems to have a third characteristic: the initiation of change. This characteristic is different from the other two: dynamically, since the communicated capability is an active influencer; and in means, since it is communicated both verbally and in writing. Both represent a third new characteristic of the capability concept.

Resource – utilizations

Resources belong to the basic entities of an organization; not only as tangible input of raw material, machinery, and plants, but also as intangibles such as manufacturing know-how, as shown in our case study. Resources can have major importance for critical processes, for example when core competencies are utilized in the value processes.

Figure 2 shows the core competence model that summarizes the discussion.

Conclusions

This study was conducted in a single case; a Scandinavian company especially well suited for the investigation of core competence matters due to its diverse product and market mix, which originates from several significantly different core competencies. The study contributes to resource-based and core competence-based theory by outlining a core competence model and proposing specific and significant characteristics of competence, capability, and resource concepts which have significance both for research matters, in refining current characteristics and links, and for practical matters.

We propose that competence is linked to the core competence concept not only theoretically, but also empirically. It was not necessary to separate competencies into first-order and second-order characteristics; competencies in the empirical case were both the former and the latter. Competence adaptation and competence transfer are therefore proposed as supplementary characteristics. We also suggest that capability is theoretically and empirically linked to the core competence concept. In accordance with the discussion, we propose a refinement to the capability concept: its characteristic involves routines/systems and capacity in combination. Further, a communicated characteristic, which can initiate organizational change, should also be included. Resources are of importance, via the value process, to a core competence, both in theoretical and empirical regards. The link, however, is merely of intermittent character.

Implications and further research

The findings in this paper can help managers more fully understand the concept of core competence. The empirical core competence exemplifies the importance of knowing the characteristics of competencies, since they encapsulate the power of organizational development. Transfer competencies have the potential to leverage market or technology competencies into new contexts. Adaptation competencies are of critical

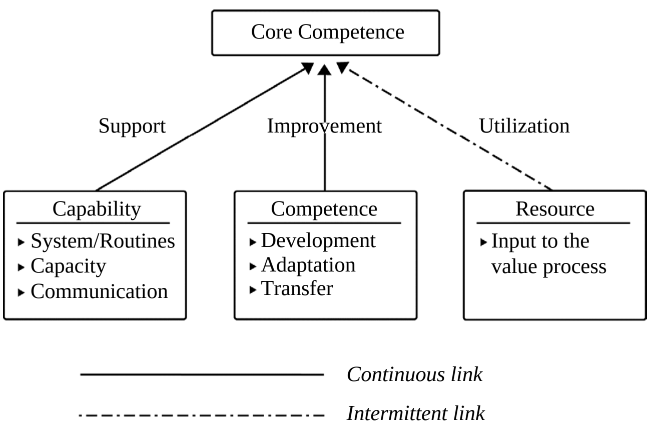

Figure 2. The core competence model: proposed refinements to the characteristics of the associated concepts when linked to a core competence

concern for organizations having creation of customer loyalty as catalysts, but also for those having difficulties achieving differentiation in products and markets. Managers also need to pay attention to the influences of capabilities: capabilities not only support organizational processes (if up-to-date), but can also initiate change. The most critical issue concerning resources is not to neglect their importance to the value process.

The findings from this paper highlight primarily the importance of competencies, but also that of capabilities. In the case company, it was apparent that adaptation competence boosted some competence development, such as technology, but it also seemed to hinder others, such as competence transfer. Thus, we lack understanding of how the different characteristics of a competence can influence organizational processes: to what extent do competencies hinder or reinforce organizational development? Furthermore, a capability's support notion is proposed as having a more active conception: the initiation of change. Thus, there is a need for more research on how the characteristics influence core competencies: to what extent can capabilities be used to manage core competencies?

Our findings would preferably be enhanced using quantitative methods of analysis, with large-sample cross-industry studies, an approach that will further test and refine the characteristics of the concepts. Development of hypotheses is a related approach that will refine the categories further. Furthermore, this study focused on one core competence only; future studies need to incorporate several core competencies in order to study how the links of the associated concepts vary. It was not possible to refine the characteristics of resource, and this concept therefore needs attention in future research.

This study has empirical limitations, since the only identifiable phenomena of the associated concepts that were detected as data were those of strategic concern, which implies that redundant, tacit, latent, and operational phenomena were ignored. Future studies would preferably fill in this shortage by using a different empirical approach.

References

Bogner, W.C., Thomas, H. and McGee, J. (1999), "Competence and competitive advantage: towards a dynamic model", *British Journal of Management*, Vol. 10 No. 4, pp. 275-90.

Bourgeois, L.J. III (1980), "Strategy and environment: a conceptual integration", *Academy of Management Review*, Vol. 5, pp. 25-39.

Clark, D.N. (2000), "Implementation issues in core competence strategy making", *Strategic Change*, Vol. 9 No. 2, pp. 115-27.

Clark, D.N. and Scott, D.N. (2000), "Core competence strategy making and scientific research: the case of HortResearch, New Zealand", *Strategic Change*, Vol. 9 No. 8, pp. 495-507.

Collis, D.J. (1994), "Research note: how valuable are organizational capabilities?", *Strategic Management Journal*, Vol. 15 No. 8, pp. 143-53.

Creswell, J.W. (1994), *Research Design: Qualitative and Quantitative Approaches*, Sage, Thousands Oaks, CA.

Danneels, E. (2002), "The dynamics of product innovation and firm competences", *Strategic Management Journal*, Vol. 23 No. 12, pp. 1095-121.

Eden, C. and Ackermann, F. (2000), "Mapping distinctive competencies: a systemic approach", *Journal of the Operational Research Society*, Vol. 51 No. 1, pp. 12-21.

Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10/11, pp. 1105-21.

Ethiraj, S.K., Kale, P., Krishnan, M.S. and Singh, J.V. (2005), "Where do capabilities come from and how do they matter? A study in the software services industry", *Strategic Management Journal*, Vol. 26 No. 1, pp. 25-45.

Garg, V.K., Walters, B.A. and Priem, R.L. (2003), "Chief executive scanning emphases, environmental dynamism, and manufacturing firm performance", *Strategic Management Journal*, Vol. 24 No. 8, pp. 725-44.

Grant, R.M. (1991), "The resource-based theory of competitive advantage: implications for strategy formulation", *California Management Review*, Vol. 33 No. 3, pp. 114-36.

Hafeez, K., Zhang, Y. and Malak, N. (2002), "Core competence for sustainable competitive advantage: a structured methodology for identifying core competence", *IEEE Transactions on Engineering Management*, Vol. 49 No. 1, pp. 28-35.

Hafsi, T. and Thomas, H. (2005), "The field of strategy: in search of a walking stick", *European Management Journal*, Vol. 23 No. 5, pp. 507-19.

Helfat, C.E. and Peteraf, M.A. (2003), "The dynamic resource-based view: capability lifecycles", *Strategic Management Journal*, Vol. 24 No. 10, pp. 997-1010.

Henderson, R. and Cockburn, I. (1994), "Measuring competence? Exploring firm effects in pharmaceutical research", *Strategic Management Journal*, Vol. 15, pp. 63-75.

Javidan, M. (1998), "Core competence: what does it mean in practice?", *Long Range Planning*, Vol. 31 No. 1, pp. 60-71.

Kotler, P. (2000), *Marketing Management*, Prentice-Hall, Upper Saddle River, NJ.

Lei, D., Hitt, M.A. and Bettis, R. (1996), "Dynamic core competences through meta-learning and strategic context", *Journal of Management*, Vol. 22 No. 4, pp. 549-69.

Leonard-Barton, D. (1995), "A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites", in van de Ven, A.H. and Huber, G.P. (Eds), *Longitudinal Field Research Methods – Studying Processes of Organizational Change*, Sage, Thousands Oaks, CA, pp. 38-64.

March, J.G. (1991), "Exploration and exploitation in organizational learning", *Organization Science*, Vol. 2 No. 1, pp. 71-87.

Miles, M.B. and Huberman, M.A. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Sage, Thousands Oaks, CA.

Nelson, R. and Winter, S. (1982), *An Evolutionary Theory of Economic Change*, Belknap Press, Cambridge, MA.

Petts, N. (1997), "Building growth on core competences: a practical approach", *Long Range Planning*, Vol. 30 No. 4, pp. 551-61.

Prahalad, C.K. and Hamel, G. (1990), "The core competence of the corporation", *Harvard Business Review*, Vol. 68 No. 3, pp. 79-92.

Rouse, M.J. and Daellenbach, U.S. (1999), "Rethinking research methods for the resource-based perspective: isolating the sources of sustainable competitive advantage", *Strategic Management Journal*, Vol. 20 No. 5, pp. 487-94.

Sanchez, R. (2004), "Understanding competence-based management: identifying and managing five modes of competence", *Journal of Business Research*, Vol. 57 No. 5, pp. 518-32.

Sanchez, R. and Heene, A. (1997), "Competence-based strategic management: concepts and issues for theory, research and practice", in Heene, A. and Sanchez, R. (Eds), *Competence-based Strategic Management*, Wiley, Chichester, pp. 3-42.

Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-33.

(The) Transfer Company (2005), Annual Report.

Wang, Y., Lo, H-P. and Yang, Y. (2004), "The constituents of core competencies and firm performance: evidence from high-technology firms in China", *Journal of Engineering & Technology Management*, Vol. 21 No. 4, pp. 249-80.

Winter, S.G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, Vol. 24 No. 10, pp. 991-5.

Yin, R.K. (2003), *Case Study Research: Design and Methods*, Sage, Beverly Hills, CA.

Corresponding author
Urban Ljungquist can be contacted at: urban.ljungquist@vxu.se